

DEVELOPING RESOURCES:
INDUSTRY, POLICY, AND MEMORY ON THE POST-INDUSTRIAL IRON RANGE

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

JEFFREY THOMAS MANUEL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

LARY L. MAY, PHD

JULY 2009

ACKNOWLEDGEMENTS

It is a pleasure to thank the many people and institutions that helped transform this dissertation from idea to text. The University of Minnesota's Graduate School and Department of History have generously funded my research and writing. The Norman Johnson DeWitt Fellowship allowed me to conduct fine-grained municipal research in 2007 and 2008. A Doctoral Dissertation Fellowship in 2008 and 2009 offered crucial support while writing. A Dissertation Research Grant from the University of Minnesota's College of Liberal Arts and a Graduate Research Partnership Program Summer Research Grant were also essential in funding travel and research expenses.

Several individuals on the Iron Range have been indispensable while conducting research. Deb Fena helped me to locate material at the Iron Range Research Center when I began the project. Scott Kuzma and Philip Deloria offered particularly valuable help in digging up archival material later in my research. Jennifer Rian at Ironworld made the museum a friendly home for a visiting researcher. At Iron Range Resources, Sheryl Kochevar gave me access to all of the Iron Range Resources and Rehabilitation Board's biennial reports and meeting minutes. She and commissioner Sandy Layman generously opened up their facilities for my use, allowing me to look through their file cabinets and set up in a conference room. Although this dissertation is occasionally critical of past decisions at Ironworld and IRRRB, this in no way reflects on the professionalism of the staff at either facility.

The archivists at the Minnesota Historical Society are uniformly excellent, but I am particularly grateful to Debbie Miller for talking with me about the available Iron Range materials and suggesting new leads during my research. At the University of Minnesota's wonderful and often overlooked archives, Lois Hendrickson, now with the Wangensteen Library, was my invaluable partner in researching Edward W. Davis and the Mines Experiment Station.

This dissertation is the culmination of my years as a graduate student in the University of Minnesota's Department of History, with close collaboration with faculty and students from the Department of American Studies. I am grateful to everyone in these departments—faculty, students, and staff—for their support and proud to be a “product” of this program. Several faculty members stand out for special thanks. First and foremost, this project is the result of many years of advice and collaboration with my advisor, Lary May. Lary is the epitome of a senior scholar who retains a relentless curiosity and the wonder that comes with new ways of understanding the world. Thomas Wolfe, an intellectual *sui generis*, has been a constant presence throughout this project, balancing practical suggestions with deeply philosophical insights. Elaine May consistently offered me the best advice about writing and becoming a successful scholar while remaining reasonably normal. Other faculty at the University of Minnesota shaped this dissertation at crucial moments, especially Tracey Deutsch and Tom Misa. Conversations with Bruce Braun, Jennifer Pierce, J. B. Shank, and Hoon Song helped to make the dissertation more interesting than it otherwise might have been. I would also like to thank Steven High for reading an early proposal, Judith Stein and Tammy

Friedman for sharing thoughts about researching the history of steel, and Josef Barton, who was the first person to ask me about the Iron Range and deindustrialization.

My friends in the graduate program at the University of Minnesota were constant companions and my best critics. Andy Urban deserves special thanks as my long time collaborator. Thanks as well to Lisa Blee, Caley Horan, Danny LaChance, David LaVigne, Rachel Neiwert, N’Jai-An Patters, Eric Richmyer, Tim Smit, Jason Stahl, and Brian Tochterman. My parents, Kerry and Hilde Manuel, have been long time supporters of this project and the slightly more complicated project that is my life. Beyond my laptop and me, no one has lived with this dissertation longer than Susanne LeBlanc. She made the maps and has always made me a better person.

CONTENTS

ACKNOWLEDGEMENTS.....	i
LIST OF FIGURES.....	v
LIST OF ABBREVIATIONS.....	vi
INTRODUCTION.....	1
Chapter	
1. ENGINEERING TACONITE, ENGINEERING SOCIETY: EDWARD W. DAVIS AND THE CREATION OF TACONITE, 1913–1956	22
2. TAXING LABOR: THE 1964 TACONITE AMENDMENT AND THE CREATION OF A TAX CUT CONSENSUS ON THE POSTWAR IRON RANGE	90
3. DEVELOPING THE LOCAL ECONOMY: THE IRON RANGE RESOURCES AND REHABILITATION BOARD AND LOCAL ECONOMIC DEVELOPMENT POLICY, 1941-2000	171
4. CREATING HERITAGE ON THE IRON RANGE: IRONWORLD U.S.A. AND THE POLITICS OF INDUSTRIAL NOSTALGIA.....	228
CONCLUSION.....	305
BIBLIOGRAPHY	317

FIGURES

Figure	Page
1. The Iron Range Region of Minnesota	9
2. Minnesota's Three Iron Ranges	10
3. Iron Range Taconite Plants, 2008	309

ABBREVIATIONS

<i>BBHMC</i>	<i>Butler Brothers and Hanna Mining Company Records</i>
<i>EWD</i>	<i>Edward W. Davis Papers</i>
<i>FC Papers</i>	<i>Fred Cina Papers</i>
<i>IRR</i>	<i>Iron Range Resources</i>
<i>IRRRB</i>	<i>Iron Range Resources and Rehabilitation Board</i>
<i>IRRC</i>	<i>Iron Range Research Center</i>
<i>MES</i>	<i>University of Minnesota Mines Experiment Station</i>
<i>MIC</i>	<i>Mesabi Iron Company</i>
<i>MHS</i>	<i>Minnesota Historical Society</i>
<i>MRRC</i>	<i>University of Minnesota Mineral Resources Research Station</i>
<i>UMNA</i>	<i>University of Minnesota Archives</i>

INTRODUCTION

Sometime in the 1930s, a young sociologist named Paul Landis was conducting field work in several small northeast Minnesota towns that had been carved out of the forests north of Lake Superior. These towns existed, and the people Landis was studying lived in them, because there was iron ore beneath the ground in the region, which came to be known as the Iron Range. Yet Landis believed that just as this iron ore had created the towns, it also doomed them. Naturally, Landis thought, the Iron Range would enter a period of decline and eventual collapse. According to his theory, the Iron Range was no different than any other region devoted to the industrial exploitation of a limited natural resource. It would follow a three-part cycle of expansion, conflict, and eventual decline. “This third period in the history of these mining towns,” Landis argued, “will undoubtedly be characterized by abandonment and cultural decay. Industrialists will remove their enterprises and laborers will leave the scene when the basic resource can no longer be mined profitably. The non-mining public will be left behind. Members of this group will have vested interests in the continuation of the society. Their homes, fortunes, and emotional attachments will be tied up in the local community.” Despite the earnest efforts of these remaining residents, Landis knew that the Iron Range could not escape its ultimate fate of becoming a string of ghost towns along the mined out iron ore pits. He speculated that “wherever one places his estimate . . . it is obvious that the days of the Mesabi towns are numbered. The greatest iron range of all history will some day, perhaps

during the next generation, be worthless and desolate. Its technological culture will doubtless fade away gradually.”¹

This dissertation describes a half century’s efforts to prevent Landis’s ominous prediction from coming true. Working in industrial research laboratories, the state legislature, community economic development offices, and history museums, residents of the Iron Range waged a war against obsolescence in the second half of the twentieth century. In this battle they were caught between two conflicting beliefs about themselves and the region they called home. On the one hand, many were certain that the Iron Range, the steel industry it was part of, and the national industrial economy they contributed to were essential to the modern United States. It was impossible to imagine a modernizing America, they thought, standing astride the globe by the middle of the twentieth century, without their essential backbone of industrial labor, raw steel, and the tough towns where things were made. This vision of a vital, modern nation built on the labor and production of a patriotic working class was at heart of the New Deal era.² On the other hand, many residents acknowledged that the economics of the global steel industry did not bode well for their region. Many Iron Rangers knew the realities of new foreign ore fields that were twice as rich as theirs worked by miners paid half as much. They also saw a political culture moving quickly to distance itself from the gritty reality of blue-collar steel and

¹ Paul Landis, *Three Iron Mining Towns: A Study in Cultural Change* (Ann Arbor, MI: Edwards Brothers, 1938; reprint, New York: Arno Press, 1970), 47, 55. Following his work on the Iron Range, Landis went on to a career as a rural sociologist at Washington State University, where he specialized in family sociology.

² Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 1990); Michael Denning, *The Cultural Front: The Laboring of American Culture in the Twentieth Century* (London: Verso, 1996); Gary Gerstle, *Working Class Americanism: The Politics of Labor in a Textile City, 1914-1960* (Princeton, NJ: Princeton University Press, 2002); Lary May,

mining towns. Thus, many Iron Range residents faced the hard realities of globalization and marginalization during the second half of the twentieth century.³ The tension between these two magnetic poles—one honoring blue collar communities as central to the modern United States, and the other offering an increasingly small range of depressing options in the face of global competition and post-industrial culture—contains a crucial seed for understanding the history of the U.S. since 1945.

In barest narrative outline, this is a story about several thousand people living in towns strung across a frigid, hundred-mile arc of hilly, pine-covered land north of the world's largest lake. It is a story about these people and their struggle to dig soft red dirt and, later, blast hard gray rock out the ground beneath their towns and ship the dirt and the rock by truck, rail, and boat down the giant lake to the blast furnaces where it was turned into iron and steel. It is a story about what these people built to make that work possible: the machines they invented to dig, haul, and crush the rocks, the towns they built to house and feed them, the institutions they fostered to hold those towns together, and the ideas they created to make sense of it all. And, maybe most of all, this is a story about their struggle to keep the system they created running, even when it seemed like the whole thing was about to fall apart. This is therefore a story about stabilizing, about surviving, and about holding things together. Or trying to hold things together, and the rearrangements that happened as a result.

The Big Tomorrow: Hollywood and the Politics of the American Way (Chicago: University of Chicago Press, 2000).

³ Jefferson Cowie, *Capital Moves: RCA's Seventy-Year Quest for Cheap Labor* (Ithaca, NY: Cornell University Press, 1999); Thomas Dublin and Walter Licht, *The Face of Decline: Pennsylvania's Anthracite Region in the Twentieth Century* (Ithaca, NY: Cornell University Press, 2005); Judith Stein, *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism* (Chapel Hill: University of North Carolina Press, 1998).

But it is not just a story about these people, or people at all, for that matter. It is also a story of unforeseen consequences. The machines they invented to dig the rocks and haul them turned into tools for displacing workers. The institutions they created were used by outsiders for ends never imagined by the people living on the Iron Range. Their ideas of how the world works no longer squared with how the world in fact seemed to be working. This is also a story, then, of the ripples of consequence that spread from well intentioned efforts to hold together a world of industrial labor.

These broad narratives raise ethical questions that are, frankly, beyond the scope of a dissertation. Thus, this study focuses on several smaller and more technical questions that are of interest to historians of the modern United States and social scientists grappling with industrial decline, liberalism, public policy, and historical memory in the twentieth and twenty-first century. How did industrial regions such as the Iron Range respond to long term economic decline in the twentieth century? What options were available and how did officials and residents decide upon the eventual course taken? Most importantly, what were the consequences of fighting back against deindustrialization? Who gained and who lost in trying to keep the industrial economy going in the face of decline and globalization? In response to these questions, and others that are closely related, this dissertation makes four main arguments.

The first argument concerns the slow disassembly in the late twentieth century of a political culture best described as industrial liberalism.⁴ As depicted above, industrial

⁴ Historian Sarah T. Phillips uses the term industrial liberalism as the antithesis of agrarian liberalism, which, she argues, emphasized the role of farmers as the backbone of the nation. Sarah T. Phillips, *This Land, This Nation: Conservation, Rural America, and the New Deal* (New York: Cambridge University Press, 2007), 199, 223, 227. For an older use of industrial liberalism, see Donald R. Richberg,

liberalism imagined a modernizing United States built on a foundation of industrial products and labor. In few places was industrial liberalism as tightly connected as on the Iron Range, where residents vehemently argued that their iron ore, their votes, and their labor was at the heart of the United States' political and economic system.⁵ More than any other development, however, deindustrialization and long-term industrial decline on the Iron Range challenged the easy assumption that industry and liberalism fit together. Deindustrialization and industrial decline hollowed out older connections between industrial labor and liberalism. The result of this process was a postwar political culture that made industrial labor increasingly marginal as a vital contributor to the nation's future. Liberal politicians still made it a point to shake hands with union leaders, but they now met in front of closed factory gates.

The history of industrial decline on the Iron Range reveals the brittleness of industrial liberalism in the late twentieth century. Even in a region deeply committed to maintaining the connection between liberal politics and industrial labor, long-term decline corroded industrial liberalism. Challenges came from multiple directions. The miners and their families on the Iron Range proved to be far more pragmatic in their politics than many liberal politicians understood. When offered a choice between reigning in corporate power or protecting their paychecks or job security, the miners consistently chose the latter. In turn, liberal politicians, at both the federal and state

"The Industrial Liberalism of Justice Brandeis," *Columbia Law Review* 31, no. 7 (1931): 1094-1103. For uses in a European context, see Frank R. Dobbin, "The Social Construction of the Great Depression: Industrial Policy during the 1930s in the United States, Britain, and France," *Theory and Society* 22, no. 1 (1993): 1-56.

⁵ Once, while conducting archival research on the Iron Range, I overheard a woman pound her fist on the library table and yell, to anyone who could hear, "I'm tired of the Iron Range being defined as some backwater! This area is the heart of America's economic system!"

levels, had surprisingly few answers to deindustrialization. In the absence of tangible and widespread economic benefits for supporting liberal policies and politicians, industrial liberalism was soon hollowed out to a shell of itself. In historical perspective, industrial liberalism, once at the heart of America's political culture, proved a surprisingly fragile construction.

The second argument is closely related to the first and concerns the public policies pursued on the Iron Range in response to economic decline. Like many other American industrial regions during the decades after World War II, the Iron Range turned to economic development policy in the face of economic decline. By promoting economic diversification, luring new industries to a region, or financing innovative or entrepreneurial ventures, economic development policy offered a pragmatic policy toolkit for regions like the Iron Range. Unlike many other regions, however, the Iron Range received strong institutional support for its economic development projects through an active and well funded state agency, the Iron Range Resources and Rehabilitation Board [IRRRB]. Through the work of the IRRRB, economic development soon became the predominant approach to and framework for responding to industrial decline on the Iron Range. The IRRRB was not unique in this regard. Throughout the postwar era, economic development agencies proliferated within municipal, regional, and state governments and economic development became a central organizing principle of governmental action in many declining regions.

However, relying on regional development agencies such as the IRRRB to coordinate the response to deindustrialization had significant consequences. For the Iron Range, this local focus foreclosed national or even global responses to industrial decline

and ultimately limited the horizon of possibilities to a narrow band of local options. The local emphasis also inadvertently reinforced the problematic idea that industrial areas such as the Iron Range were organic working class communities, connected to national or global processes only to the extent of their victimization. The centrality and local focus of economic development policy also illustrates the noticeable lack of a national policy response to deindustrialization in the postwar United States. By relying on state and local agencies such as the IRRRB, planners and government officials during the postwar era left economic development—and thus the response to deindustrialization—off of the national agenda. The problems facing declining regions never became a sustained federal issue in the second half of the twentieth century, as they were during the New Deal era, and states and regions were left to pursue economic development projects as best they could given their available resources.

Third, this dissertation focuses on the role of technology in the political and economic history of deindustrialization. To fully understand what postwar deindustrialization was and where it came from, historians must open up the black box of technology. Doing so reveals that economic decline on the Iron Range did not just result from external forces such as global competition, but also emerged from *within* the mining industry itself, an example of what economist Joseph Schumpeter long ago called the “gale of creative destruction” at the heart of capitalism.⁶ On the Iron Range, the vehicle for technological dislocation was taconite. Originally created to save the Iron Range from the rapid depletion of high-grade natural hematite iron ore in the early twentieth century, taconite ultimately upended the area’s economy and recreated it in a dramatically new

fashion. In this way, taconite offers a useful reminder that technological innovations developed as a miracle cures for ailing industries or regions rarely deliver promised benefits without significant costs.

Nonetheless, planners and officials on the postwar Iron Range relied heavily on technological miracles to save the region from decline. The pursuit of economic development through technical innovation was one of the central, if often unacknowledged, goals of politicians and policy makers on the twentieth century Iron Range. By funneling money and other resources to industrial research laboratories and even private research and development, politicians hoped to achieve a “technological fix” that would allow them to avoid the messy debates over who should pay the costs of decline.⁷ Thus, the politics of technical innovation—technopolitics—permeated the political discourse of decline on the twentieth century Iron Range.

Fourth, this study emphasizes the crucial yet contradictory role that historians, especially public history professionals working in museums and archives, played in depoliticizing industrial decline during the last decades of the twentieth century. Across the Iron Range, perceptions of the iron mining industry gradually coalesced around a sense that industrial mining was somehow nostalgic by the end of the century. This did not happen by accident. By creating museums, collecting archives, and writing historical narratives, historians and heritage professionals wrapped the Iron Range’s mining industry in a rich patina of industrial heritage. As a relic of nostalgic heritage, iron

⁶ Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, 5th ed. (London: George Allen & Unwin, 1976), 81-86.

mining could be simultaneously honored in the past and ignored when planning a post-industrial future for the region. History and nostalgia proved particularly effective in overcoming the deep hostility and unease of many miners toward development plans that did not promote a continued industrial economy on the Iron Range. By promising to celebrate iron mining's rich history in the region, heritage professionals and historians soothed industrial workers' concerns about the future by honoring the past.

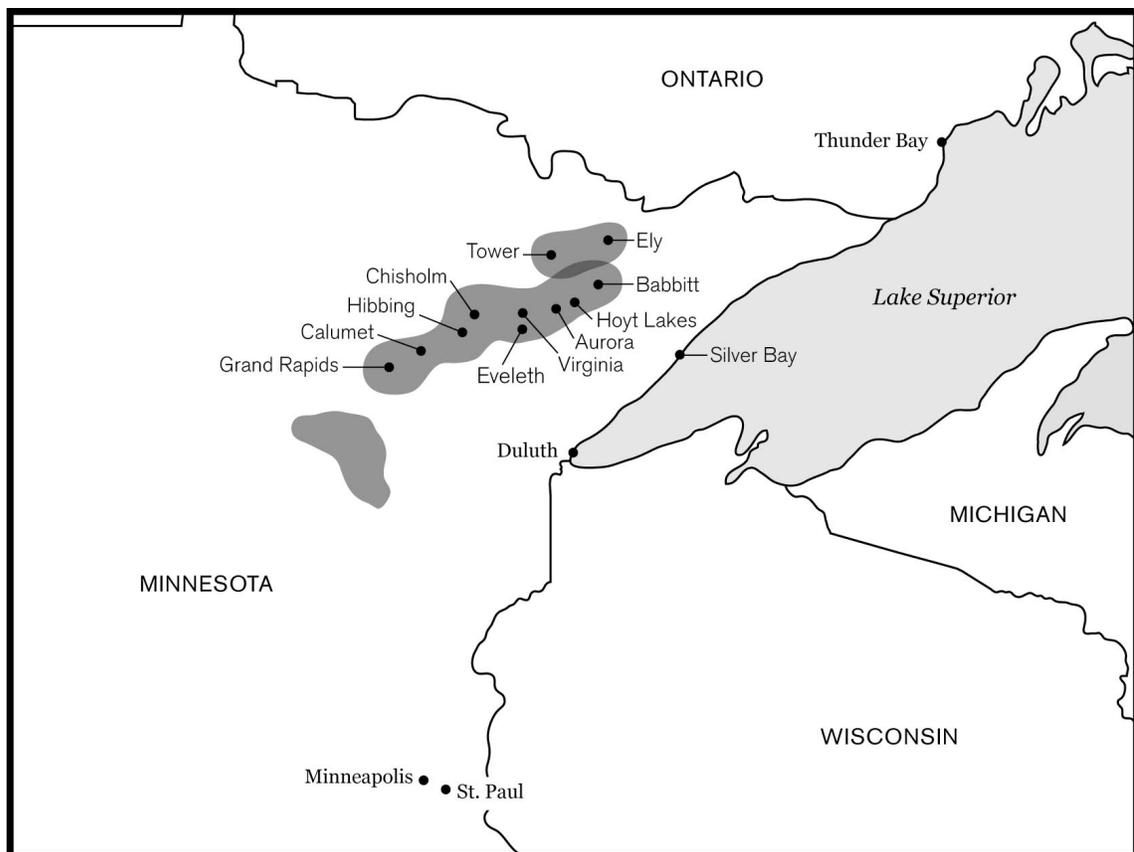


Figure 1. The Iron Range Region of Minnesota

⁷ See Linda Rosner, ed. *The Technological Fix* (New York: Routledge, 2004). For an older discussion of the technological fix in American political history, see David M. Potter, *People of Plenty: Economic Abundance and the American Character* (Chicago: University of Chicago Press, 1954), 122.

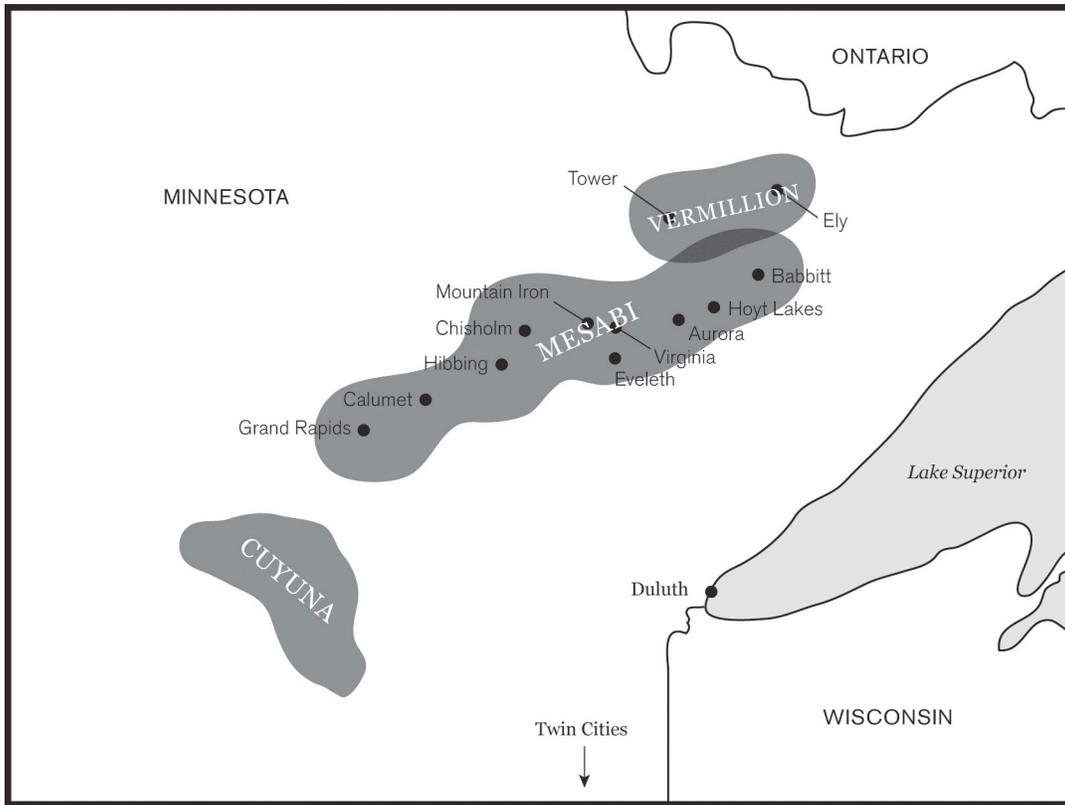


Figure 2. Minnesota's Three Iron Ranges

The Iron Range as a Case Study

The questions raised in this dissertation concern national and transnational issues that are admittedly broad. However, understanding the response to industrial decline in fine-grained detail requires a careful study of one particular location. For this study, that location is the Iron Range of northeast Minnesota. The Iron Range is an especially useful location for examining the political history of deindustrialization for a number of reasons. As a major supplier to the U.S. steel industry—the epitome of integrated industrial and corporate power throughout much of the twentieth century—and settled by a wave of

European immigrants who were active in radical, class-based politics, the Iron Range offers a premier example of how industrial liberalism worked and how it was dismantled in the era of deindustrialization.

A regional approach is particularly appropriate for understanding the political history of the postwar U.S. economy. Although common statistical tools such as the Gross Domestic Product [GDP] emphasize the overall national economy as a scale of measurement, such broad-brush measures do not capture the deeply uneven character of economic development in the postwar era. Different regions faced sharply different economic histories in the twentieth century and only local and regional histories can capture the specific nuance of a given region. The United States is a large and complex economy, making it difficult to draw generalizations across regions as divergent as Appalachia and Silicon Valley. Historians Thomas Dublin and Walter Licht argue that histories of economic decline, in particular, are best told through regional case studies. As they point out, “national economies are too large and complicated to support easy generalizations. Sectors or regions of economies are surer units for analysis.”⁸ By focusing on a fine-grained history of the Iron Range in the second half of the twentieth century, this study illuminates how the challenge of deindustrialization and industrial decline was defined and experienced as a regional dilemma throughout the postwar era.

The postwar history of the Iron Range is particularly useful for understanding the response to industrial decline. Although the Iron Range shared many characteristics with other Rust Belt areas in the Great Lakes region, the Iron Range was unique in its sustained and multifaceted commitment to avoiding economic decline and

deindustrialization. Residents and government officials on the Iron Range simply refused to admit that deindustrialization was inevitable and used every available tool to keep the region viable as an industrial center. The region thus offers a valuable example of the possibilities and limits available when responding to long-term economic decline.

Although this study focuses on the history of the Iron Range after its industrial peak during World War II, the region's history stretches back into the late nineteenth century. The area that would become the Iron Range was largely uninhabited as late as the early nineteenth century. Ojibwe people lived and hunted in the forests of what would become northeast Minnesota prior to the arrival of American industry.⁹ Lumberjacks in the white pine lumber industry cut the region's trees throughout the second half of the nineteenth century, with northeast Minnesota's vast pine forests providing the raw materials for Minneapolis's and Duluth's burgeoning sawmills.¹⁰ The region has a long history of resource extractive industry.

It was only with the discovery of valuable metals, first gold and then iron ore, that the modern Iron Range took shape. Prospectors arrived in northeast Minnesota in large numbers in the 1860s following reports of gold on the shores of Lake Vermillion. Once there, they noticed large iron deposits but found no gold. Gold prospectors quickly abandoned the region, leaving a handful of miners hoping to exploit the region's iron deposits. By the 1870s, the expanding and maturing iron and steel industry needed far

⁸ Dublin and Licht, *The Face of Decline*, 3.

⁹ David R. Wrone, "The Economic Impact of the 1837 and 1842 Chippewa Treaties," *American Indian Quarterly* 17, no. 3 (1993): 329-40. Wrone makes the important rejoinder that the later industrial wealth of the Iron Range was only legally possible because of a series of nineteenth century treaties that ceded the region to the U.S. government.

larger quantities of iron ore and the Iron Range's known deposits became far more valuable. An expedition led by former gold miners George Stuntz and George Stone in 1875 mapped the main ore deposits of the Vermillion range. They quickly enlisted the help of financiers, including the wealthy easterner Charlemagne Tower, to begin developing the area's iron deposits for commercial mining and shipment. By 1884, mines were operating at seven locations on the Vermillion range, which was connected to Lake Superior via a new railroad. Mining on the Vermillion range involved blasting hard rock iron ore in underground mines, a process similar to iron ore mining methods used previously in Michigan's upper peninsula.

It was only after several years of mining on the northern Vermillion range that explorers discovered the far richer Mesabi range to the south. Miners familiar with hard rock iron ore deposits in other parts of the country initially dismissed the soft, granular red dirt of the Mesabi range because they assumed it could not be iron ore. The failure to recognize the Mesabi range as valuable iron ore was widespread. When Henry C. Frick, chairman of Carnegie Steel, sent a trusted expert to the Mesabi range in the 1890s, the expert reported that the area's dirt could not be iron ore.¹¹ Nonetheless, a small group of Duluth businessmen, notably the Merritt family, moved quickly to take ownership of large tracts of land on the Mesabi range at the end of the century.

After the Merritts developed the initial mines of the Mesabi range and built a railroad to bring the ore to Lake Superior, their business interests were damaged by the

¹⁰ Agnes M. Larson, *History of the White Pine Industry of Minnesota* (Minneapolis: University of Minnesota Press, 1949).

¹¹ Thomas J. Misa, *A Nation of Steel: The Making of Modern America, 1865-1925* (Baltimore: Johns Hopkins University Press, 1995), 159.

Panic of 1893. The small independent mines were subsequently consolidated into several large corporations working with steel companies. By the late 1890s, the mines of the Mesabi range were held by corporations led by the titans of the industrial era, including John D. Rockefeller, Andrew Carnegie, James J. Hill, and Elbert H. Gary. When J. P. Morgan consolidated Carnegie Steel into the massive U.S. Steel in 1901, Rockefeller sold his Iron Range holdings to the new company, making the Iron Range the major supplier of iron ore for the U.S. steel industry in the early twentieth century. Thus, the Iron Range offers an excellent vantage point to examine the steel industry's fate throughout the century.¹²

The steel industry was at the heart of the postwar economic order in the United States and throughout the world. Steel was perceived to be so central to the U.S. economy during the years after World War II that business leaders, labor officials, and economic policy makers often used the steel industry as a barometer for the national economy as a whole, a policy that historian Judith Stein calls "steel fundamentalism."¹³ Since steel was

¹² The Iron Range's history during the late nineteenth and early twentieth centuries has been described by many authors. The most comprehensive study is David A. Walker, *Iron Frontier: The Discovery and Early Development of Minnesota's Three Ranges* (Saint Paul: Minnesota Historical Society Press, 1979). See also Donald L. Boese, *John C. Greenway and the Opening of the Western Mesabi* (Bovey, MN: Joint Bovey-Coleraine Bicentennial Commission, 1975); Paul de Kruif, *Seven Iron Men* (New York: Harcourt, Brace, 1929); Marvin G. Lamppa, *Minnesota's Iron Country: Rich Ore, Rich Lives* (Duluth, MN: Lake Superior Port Cities, 2004); Mary Lou Nemanic, *One Day for Democracy: Independence Day and the Americanization of Iron Range Immigrants* (Athens: Ohio University Press, 2007); Norman K. Risjord, *A Popular History of Minnesota* (St. Paul: Minnesota Historical Society Press, 2005), 136-40; and Gerald Ronning, "Jackpine Savages: Discourses of Conquest in the 1916 Mesabi Iron Range Strike," *Labor History* 44, no. 3 (2003): 359-82. Historical literature offering a general overview of the Iron Range during the middle and end of the twentieth century is scant. For brief introductions to the topic, however, see Arnold R. Alanen, "Years of Change on the Iron Range," in *Minnesota in a Century of Change: The State and Its People since 1900*, ed. Clifford E. Clark, Jr. (Saint Paul: Minnesota Historical Society Press, 1989), 155-94; Aaron Brown, *Overburden: Modern Life on the Iron Range* (Duluth, MN: Red Step, 2008), 10-15, 66-79, 153-162.

¹³ Stein, *Running Steel*, 7-36.

the basic building block of many of the postwar world's consumer goods—from automobiles to refrigerators to children's toys—and needed for productive industries such as construction, government officials believed that by working with the steel industry, the government could covertly shape the nation's macroeconomic fortunes. For example, Stein argues that for many politicians the postwar debate about capacity in the U.S. steel industry was more important for business and labor policy than the 1946 Employment Act.¹⁴ Through its connection to the steel industry, the Iron Range was central to postwar debates about America's overall industrial policy and the relationship between government and heavy industry.

Although the Iron Range is certainly an important site for understanding economic decline, a close focus on one particular region also opens up important new perspectives that can be obscured by broader national or transnational histories. Recent scholarship in many different disciplines suggests new interest in telling local stories not to necessarily fill in national frameworks, but instead to grasp the unraveling of certain overarching narratives by the end of the twentieth century. The problem for scholars in the twenty first century, as recently described by Clifford Geertz, is the challenge of writing histories that examine “the pervasive raggedness of the world with which, so suddenly, we now are faced.” For Geertz, the appropriate scholarly response to this challenge is to describe smaller stories, which, when put together, may uncover “new unities” revealed “via instances, differences, variations, [and] particulars—piecemeal, case by case.” As Geertz poignantly puts it, “in a splintered world, we must address the splinters.”¹⁵ The history of

¹⁴ Ibid., 13.

globalization and deindustrialization, if it is ever to be understood fully, will be grasped through many small examples of places like the Iron Range.

The Iron Range in the Context of Scholarly Literature

Taken as a whole, the Iron Range's experience in combating industrial decline in the postwar era adds several valuable insights to the broader history of deindustrialization and industrial decline in twentieth century America. The timing of decline on the Iron Range confirms the scholarship of several historians who have argued that deindustrialization began wracking United States industry well before the more publicized plant shutdown stories of the late 1970s and early 1980s. Like many industrial regions, the Iron Range's mining economy began declining immediately after the end of World War II, a reminder that for many industrial regions in the United States, the entire postwar era was a long, slow battle against decline.¹⁶

As a rural industrial area dependent on resource extraction, the Iron Range also breaks from much of the existing deindustrialization literature that has emphasized manufacturing and urban history. The Iron Range's rural location significantly altered the

¹⁵ Clifford Geertz, *Available Light: Anthropological Reflections on Philosophical Topics* (Princeton, NJ: Princeton University Press, 2000), 221. My thoughts on this topic have also been influenced by sociologist John Law, who argues for the value of "growing different stories alongside one another" as a useful alternative to master narratives. John Law, *Aircraft Stories: Decentering the Object in Technoscience* (Durham, NC: Duke University Press, 2005), 5.

¹⁶ The key text in the initial deindustrialization debate during the early 1980s is Barry Bluestone and Bennett Harrison, *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry* (New York: Basic, 1982). See also Terry F. Buss and F. Stevens Redburn, *Shutdown at Youngstown: Public Policy for Mass Unemployment* (Albany: State University of New York Press, 1983). Historians writing in the 1990s and 2000s have traced a longer history of deindustrialization during the postwar era. See Cowie, *Capital Moves*; Tami J. Friedman, "'A Trail of Ghost Towns across Our Land': The Decline of Manufacturing in Yonkers, New York," in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY:

calculus of planners responding to industrial decline, as the region could not rely on the more diverse industrial base often available in metropolitan areas. Its rural location did, however, allow the Iron Range to pursue wilderness tourism as a possible economic development policy, a route that was obviously not available in cities such as Detroit or Youngstown, Ohio.¹⁷ Understanding the nature of industrial decline requires attention to both urban and rural experiences.

Closely related, the Iron Range's history of industrial decline did not hinge on racial discrimination as did the postwar histories of Detroit and other Rust Belt cities. This is not to say that race was not an important issue on the postwar Iron Range, but it does offer a different lens for thinking about the effects of industrial decline on postwar political life.¹⁸ As historians such as Thomas Sugrue and Judith Stein have shown, the narrowing options for good-paying industrial jobs by the 1960s and 1970s often led to tremendous racial hostility in American cities.¹⁹ Racial hostility never fractured the labor movement on the Iron Range, but the region nonetheless faced the same challenges as cities such as Detroit. From the perspective of the Iron Range, historians have another

Cornell University Press, 2003), 19-43; Stein, *Running Steel*; Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, NJ: Princeton University Press, 1996).

¹⁷ Environmental historians have, however, noted that deindustrialization can return formerly blighted urban landscapes to a less polluted state. See Joel Tarr, ed. *Devastation and Renewal: An Environmental History of Pittsburgh and Its Region* (Pittsburgh: University of Pittsburgh Press, 2005).

¹⁸ Of course, the absence of African Americans on the Iron Range does not mean that race itself was absent, as the field of whiteness studies has powerfully demonstrated. See Richard Delgado and Jean Stefancic, eds. *Critical White Studies: Looking Behind the Mirror* (Philadelphia: Temple University Press, 1997); Matthew Frye Jacobson, *Whiteness of a Different Color: European Immigrants and the Alchemy of Race* (Cambridge, MA: Harvard University Press, 1998); David Roediger, *The Wages of Whiteness: Race and the Making of the American Working Class*, rev. ed. (London: Verso, 1999).

¹⁹ Stein, *Running Steel*; Sugrue, *The Origins of the Urban Crisis*.

vantage for understanding the intersection of race and deindustrialization in the political and economic transitions of the late twentieth century.

The Iron Range's history, and the related history of the iron ore industry in the twentieth century, also emphasizes the role of globalization in American histories of deindustrialization. Natural resource industries such as iron ore mining were harbingers of the new global economy that emerged by the end of the century. As early as the 1950s the iron ore industry was being upended by a wave of new foreign ore that undercut American and European sources. Thus, the Iron Range felt the effects of a new global industrial regime long before the advent of *maquiladoras* or the rise of China as an industrial powerhouse. For historians of postwar deindustrialization, the iron ore industry offers an early example of how regions throughout Europe and the United States confronted the realities of globalization.

The Iron Range's history also is a reminder that histories of industry and labor cannot be separated from the history of technology. More than any public policies or political decisions, changing technologies were central to the iron mining industry and the lives of Iron Range residents in the postwar decades. Technology created new jobs in the taconite industry, but it also cut out jobs in the obsolete natural ore mines. And even within the taconite or natural ore mining industries, technological innovation increasingly shifted work from human laborers to machines. Landis's 1930s study revealed how the mechanization of mining was driving unemployment. He noted how "mining technology has improved each year, resulting in fewer jobs and more unemployment. Practically

every improvement in machine technique has worked a hardship on some group of mine employees.”²⁰ Technology has been both devil and savior for industrial workers.

Adding the history of technology to the Iron Range’s history allows us to reexamine deindustrialization. From such a perspective, deindustrialization is not wholly an external development located in global processes of labor and capital, but also a development *internal* to modern industry. More broadly, the widespread reliance on technological fixes for the problems of industrial decline on the Iron Range challenges the usefulness of the politics/technology binary. As historians of science and technology have demonstrated, modernity draws a sharp boundary between the political and the technological, dividing the world into an inert, nonhuman nature and an active, human culture.²¹ Yet the twentieth century Iron Range was home to a rapid proliferation of hybrid, technopolitical projects that challenge the usefulness of this binary. For example, amid deep concern about labor strife and persistent unemployment, planners and politicians turned to scientists and engineers, who were asked to resolve these political problems through the innovation of a complicated process for crushing, separating, and re-forming former waste rock into a useful form of iron ore. This solution was so attractive to politicians because it promised to relieve these seemingly intractable political problems via technical—and thus non-political—means. Taconite was born out

²⁰ Landis, *Three Iron Mining Towns*, 106.

²¹ On the historical origins of modernity’s division of the world into a nonhuman nature and a human culture, see Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 1993). See also Thomas J. Misa, Philip Brey, and Andrew Feenberg, eds. *Modernity and Technology* (Cambridge, MA: MIT Press, 2003).

of a technopolitical desire for a mechanical solution capable of both solving the Iron Range's political problems while simultaneously shortcutting political processes.

Finally, this account of efforts to combat deindustrialization on the postwar Iron Range raises questions about the role that historians and heritage professionals play in the political landscape of post-industrial America. In our efforts to celebrate the legacies of heavy industry in the United States, what have historians implied about a possible future for industry and industrial workers? What is the relationship between historians, both public and academic, as service sector knowledge workers and industrial labor? This study joins the voices of Jefferson Cowie, Joseph Heathcott, Steven High, and David Lewis in calling for a more reflexive understanding of deindustrialization that does not allow historians to stand outside the subject.²² This study also contributes to a small but growing body of literature that offers a critical reading of public history projects and seeks to understand the political work performed by public history in the modern United States.²³

On the Iron Range and throughout the Rust Belt, residents continue to grapple with changes that are profoundly historical. How did heavy industry, once seen as a force for modernizing, come to symbolize pollution, decline, and decay? As High and Lewis note, "North America's manufacturing and resources towns have grown old . . . Industries that once symbolized modernity and progress have come to represent an antiquated and

²² Jefferson Cowie and Joseph Heathcott, "Introduction: The Meanings of Deindustrialization," in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003): 1-15; Steven C. High and David W. Lewis, *Corporate Wasteland: The Landscape and Memory of Deindustrialization* (Ithaca, NY: Cornell University Press, 2007).

polluted past that should be put behind us.”²⁴ The simple question is how did something that once portended the future come to symbolize the past? To understand this shift, historians must grapple with the work that their interpretations perform in the present.

Like the efforts to combat deindustrialization on the Iron Range in the postwar era, this dissertation does not move in a single direction. Rather, the story follows several different paths that each trace one way that the Iron Range responded to industrial decline. Chapter one offers a detailed history of the technological work required to create the taconite industry. Using taconite’s inventor, Edward W. Davis, as a focal point, it shows how the birth of the industry was built on dismantling the existing natural ore mines. Chapter two emphasizes the political culture of industrial decline. By passing an amendment to the Minnesota Constitution that lowered taxes on taconite, Iron Range residents abandoned their previous commitment to industrial liberalism. The institutional framework for economic development is considered in chapter three. By working through a state economic development agency, the IRRRB, the range of possible economic development efforts on the Iron Range was constricted. Finally, chapter four offers a more speculative account of how historical interpretations and heritage tourism were important factors in depoliticizing industrial decline on the Iron Range and turning the iron mines into objects of apolitical nostalgia.

²³ For an excellent example of just such a critical public history study, see Cathy Stanton, *The Lowell Experiment: Public History in a Postindustrial City* (Amherst: University of Massachusetts Press, 2006).

²⁴ High and Lewis, *Corporate Wasteland*, 7.

CHAPTER 1

ENGINEERING TACONITE, ENGINEERING SOCIETY: EDWARD W. DAVIS AND THE CREATION OF TACONITE, 1913-1956

In July 1915, a fellow mining engineer met with Edward W. Davis and wrote to a colleague of his new enthusiasm about taconite’s future prospects. “There is no doubt in my mind that this is a game worth playing and that it can be played to a successful finish,” the engineer claimed, “it now seems only a question of men, money, methods, and details.”¹ In other words, it was a question of everything. This chapter describes the history of the taconite project, an effort to turn an abundant flinty rock with a low iron content into valuable iron ore for use in the blast furnaces of the iron and steel industry, from the first experiments with taconite in 1913 through the construction of several enormous plants to mine and process taconite in the mid-1950s. At the core of the project were two historical actors: the rock, a stubborn and recalcitrant object requiring endless work across multiple fields to transform from a worthless rock in the ground to valuable iron ore in a blast furnace, and Edward W. Davis, an engineer and professor at the University of Minnesota’s Mines Experiment Station who coordinated taconite research for over forty years. More precisely, taconite’s history centers on the relationship between Davis and taconite—between a human and a rock—that is summarized by the nickname Davis acquired later in life, “Mr. Taconite.” As this chapter will demonstrate,

¹ Quoted in E. W. Davis, *Pioneering with Taconite* (Saint Paul: Minnesota Historical Society Press, 1964), 27.

over the course of several decades in the middle of the twentieth century Davis and taconite worked together to engineer a world where taconite—and Davis—could thrive.

In popular memory, taconite is often described as a “Cinderella story.” According to this narrative, through the miracles of modern technoscience and the dedicated work of a public-spirited professor, taconite was transformed from worthless rock to valuable iron ore just in time to rescue the Iron Range from socioeconomic despair in the 1950s and 1960s.² This context, which suggests that taconite was largely a technical project that luckily resolved social and economic problems, is misleading for several reasons. The technical problems associated with transforming taconite into iron ore were solved fairly quickly. The technical process, as Davis later described it, was “simple in theory but complex in execution. The extremely hard rock must be crushed and ground to a fineness resembling flour. This fine grinding liberates the small particles of high-grade magnetite [a magnetic form of iron oxide]. These are caught and removed (or concentrated) by magnetic separation. The particles must then be put back together (agglomerated or pelletized) to make pieces large and hard enough for shipping and smelting.”³ Perfecting

² Thomas E. Mullaney, “Science, Industry Master Taconite,” *New York Times*, June 12, 1955; “The State and Taconite,” *Minneapolis Morning Tribune*, September 30, 1957; Wendell Weed, “Minnesota Taconite: Nature’s Cinderella,” *Minneapolis Tribune Picture Magazine*, October 18, 1953. Taconite has received little attention from historians. Aside from Davis’s memoirs, the only full-length study of taconite’s creation found by the author is James Baker Ross, “Taconite: The Science of Design” (PhD diss., University of Minnesota, 1989). Ross describes Davis as “not a very astute political or social observer” for whom “political and social obstacles to the establishment of the taconite industry usually took . . . by surprise, if he recognized them at all, because they were foreign to his analytical framework” (19). This chapter moves in a different direction, arguing that taconite succeeded largely because Davis was able to engineer a sociopolitical world amendable to taconite. For a similar history of a different rock (dolomite), see Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999), 186-206.

³ Davis, *Pioneering with Taconite*, 69. Economist Nathan Rosenberg argues “no new fundamental knowledge was required” to create the process for taconite beneficiation, although “the solution of innumerable engineering and processing problems required many years of tedious experimentation.”

this process occupied Davis for many years, but the technical difficulties were largely resolved by the 1930s. Why, then, were taconite plants not built for several decades? The answer, described in this chapter, is that Davis not only had to perfect a technical process but also had to align social, natural, political, and economic problems on the Iron Range, in corporate board rooms, and in Minnesota's capitol with the rock being processed in his laboratory.

By opening the black box of taconite's technical creation, the inner workings of capitalism's creative destruction are revealed. The economic downturns that swept the postwar Iron Range did not arrive from nowhere. Specifically, the collapsing market for natural iron ore, or hematite, was directly related to Davis's technical innovations with taconite. Davis did not set out to harm the natural ore mining industry on the Iron Range. Indeed, he thought of his work with taconite as saving the Iron Range from decline. Yet he recognized that taconite's success required, at least in part, the end of natural ore mining. One industry's creation was another's demise, a process that often occurred through the mundane details of laboratory work.

Creating Taconite

Edward W. Davis arrived at the University of Minnesota in 1911 to work as a mathematics instructor in the School of Mines. Born in Cambridge City, Indiana, in 1888, he received an undergraduate and masters' degree in electrical engineering from Purdue University and briefly worked on "magnetic phenomena" for Westinghouse and General

Nathan Rosenberg, *Inside the Black Box: Technology and Economics* (New York: Cambridge University Press, 1982), 93.

Electric prior to his university appointment.⁴ Once at the University of Minnesota, John Williams, a university regent and Mesabi range landowner, introduced taconite to Davis. When they met in 1913, Williams told Davis that the Mesabi was filled with taconite and “locked up in the rock . . . was more iron than all the known deposits of high-grade ore in the state put together. It just remained for someone to find out how to extract this iron economically.”⁵ Not coincidentally, Williams’s land on the eastern Mesabi contained large taconite deposits. He stood to gain an enormous financial windfall if an engineer could economically extract iron ore from taconite. Williams sent samples of taconite to the School of Mines and Davis soon began his experimental work.⁶ Davis’s institutional home at the time—and throughout his long career—was in the Mines Experiment Station [MES]. The University of Minnesota’s School of Mines originally created an assay laboratory for testing gold in the late nineteenth century. Through contributions from local businesses, this small laboratory expanded into a larger Ore Testing Works and was renamed the Mines Experiment Station in 1911.⁷

Bringing the rock into his laboratory at the MES, Davis recorded his initial

⁴ Ross, “Taconite: The Science of Design,” 3; Davis, *Pioneering with Taconite*, v.

⁵ Davis, *Pioneering with Taconite*, 18.

⁶ R. L. Wiegel, “Taconite and the University’s Role in its Development,” unpublished manuscript, 1975, MES clippings folder, UMNA. Technically, this was not the first laboratory work done on taconite. Prior to Davis’s experimental work in the 1910s, Duluth mining engineer Dwight E. Woodbridge had done similar work with the concentrating of taconite. He sent a test sample of taconite to an Ontario mill where he tested crushing the rock to various levels. Davis, *Pioneering with Taconite*, 23-26. More famously, Thomas Edison spent much of the 1880s in a failed attempt to make magnetically-concentrated iron ore commercially viable. For Edison, magnetic iron ore proved, as one biographer puts it, a “leap into a dusty, frustrating, dangerous, bottomless, and expensive pit.” The engineering world’s fascination with taconite on the Mesabi range was fueled, in part, by Davis’s success where Edison had failed. Neil Baldwin, *Edison: Inventing the Century* (Chicago: University of Chicago Press, 2001), 213-219, 227.

⁷ Davis, *Pioneering with Taconite*, 19; Stanford Lehmborg and Ann M. Pflaum, *The University of Minnesota, 1945-2000* (Minneapolis: University of Minnesota Press, 2001), 42.

observation about taconite:

It was a hard rock, mottled in appearance, with a few narrow bands of darker material passing through it. Microscopic examination showed that the iron existed as small black particles of magnetite embedded in siliceous rock. . . . After breaking the sample into small pieces, I found that most of them could be picked up readily with a hand magnet. The pieces from the dark bands were attracted more firmly than those from the light areas, but a powerful magnet would pick up practically all of them.⁸

Davis later claimed that almost immediately after making this initial observation he realized that unlocking iron ore from taconite would require crushing the rock and using magnets to separate the iron from the non-iron rock: “To release any large percentage of the magnetite from the attached and included particles of rock would obviously require crushing to a very fine size . . . the rock would have to be crushed to a powder having no particles substantially larger than a hundredth of an inch in diameter in order to completely free any large percentage of the magnetite.”⁹ Davis’s decision to crush the rock and his use of a small hand magnet to separate the crushed taconite would, when paired with many later developments, lead to profound consequences.

Magnetism

From these moments of initial observation and experimentation, it is clear that a series of decisions made at the beginning of Davis’s taconite research would eventually shape not just his later laboratory work, but the eventual taconite industry and even the economy and geography of the Lake Superior mining region. Davis’s use of the magnet to separate the crushed taconite was a particularly significant event. Magnetism was a

⁸ Davis, *Pioneering with Taconite*, 20.

⁹ *Ibid.*, 20-21.

familiar and trusted ally of Davis's from his work with Westinghouse and General Electric, so it is not surprising that he reached for a hand magnet after crushing the first taconite samples. Edison's earlier magnetic separation of iron ore was certainly on his mind as well. Magnetism's allure for Davis was its simplicity. In a technical bulletin, he described magnetism as the key to concentrating crushed taconite. "Magnetism," Davis wrote, "is a pure force and once put into existence requires no energy for its maintenance. . . . When a piece of iron is placed against a horseshoe magnet, it is held to the magnet by a certain force that will exist as long as the magnet is not disturbed." Despite magnetism's seeming simplicity and purity, Davis admitted that it was still "not completely understood." For example, Davis knew of no explanation for why only a few specific elements were magnetic.¹⁰ Yet even if not totally understood, Davis's technique of magnetic separation proved to be an especially durable alliance between rock, magnets, and Davis that would form the core of Davis's research and the later taconite industry.

The technique of magnetically separating taconite soon became a black box that successfully obscured a far more complex and consequential reality stemming from magnetic separation.¹¹ For example, magnetism itself was not nearly as useful as Davis described. The small hand magnet used in his initial experiment was not strong enough to separate taconite in the quantities needed for industrial use, so Davis quickly added electricity to his experiment in the form of an electromagnet. This was not an incidental

¹⁰ E. W. Davis, "The Future of the Lake Superior District as an Iron-ore Producer," *Bulletin of the University of Minnesota School of Mines Experiment Station*, *Bulletin No. 7* (1920): 11-12.

¹¹ On taconite as a "black box," see Rosenberg, *Inside the Black Box*, 93.

addition. Davis's laboratory was soon drawing so much electricity that university administrators asked him to cut back because of exorbitant bills. And magnetism was only one of several techniques for concentrating low-grade ores in use at the time. Well into the 1920s, Davis's preference for magnetic separation versus other techniques was questioned by mining engineers. In 1922, for example, Davis exchanged letters with engineers who suggested that floatation—using the different densities of various elements to separate ores in a liquid—would be a far better way to separate low-grade iron ore than magnetic separation.¹² Not even the relationship between iron and magnets was simple, since non-magnetic iron (known as hematite on the Iron Range) could be transformed into magnetic ore through heat. In contrast to his claims that only a limited number of elements exhibited magnetic properties, Davis admitted that turning certain non-magnetic elements into magnetic ones was “a very simple operation.” Through “magnetic roasting,” which involved heating non-magnetic hematite iron ore until enough oxygen was removed that it became magnetite iron ore, previously non-magnetic ore could be magnetically separated.¹³ That none of these complications ever disturbed the “simple” technique of magnetic separation demonstrates magnetism's paradoxical ability to obscure its own complexity.

The more significant consequences of magnetic separation were not realized for many years. Over time, as the taconite industry was constructed around magnetic separation, mines with non-magnetic ores and the surrounding communities were at a

¹² F. H. Wilcox to E. W. Davis, December 30, 1922; Freyn, Brassert & Company Folder, MES Records, UMNA.

¹³ Davis, “The Future of the Lake Superior District as an Iron-ore Producer,” 12-13.

profound disadvantage because the taconite industry was built around magnetic separation. Although it was possible to separate non-magnetic taconite through techniques other than magnetic separation, once Davis's process was developed it was significantly cheaper to expand mines with magnetic ore rather than built new plants to use non-magnetic ores. There were significant deposits of non-magnetic ore in northeast Minnesota, and the Cuyuna range to the west of the Mesabi was hard hit by the taconite industry. In an area that had once supported 28 iron ore mines, the last mine closed in 1967. According to one mining expert, the iron ore that remained in the Cuyuna range "was not well suited to present [magnetic] separation methods."¹⁴ The iron mining industry on Michigan's upper peninsula was particularly affected by the change to magnetic ores. Few of Michigan's ores were magnetic and throughout the 1960s and 1970s the iron mining industry and surrounding communities in Michigan were devastated by mine closures brought on largely by the switch to magnetic taconite.¹⁵ In short, Davis's use of magnets was not a matter of common sense, but rather a contingent decision among several available options. Building a laboratory process and, later, an industry around the technique of magnetic separation would lead to a wide variety of largely unintended consequences over time.

Given the complexity of magnetic separation, how was Davis able to pass it off as a simple and pure force? An important ally in Davis's goal of spreading his process was a small testing technique he devised soon after his initial inspection of taconite. Using

¹⁴ "Crosby, Minn.," *New York Times*, March 26, 1967.

¹⁵ For an example of one firm's decision to relocate Michigan mining to northeast Minnesota because of magnets, see Peter J. Kakela, Allen K. Montgomery, and William C. Patric, "Factors Influencing Mine Location: An Iron Ore Example," *Land Economics* 58, no. 4 (1982): 527-28.

electromagnets to separate crushed taconite in water (which prevented excessive dust from the crushed rock), Davis developed a test that allowed any ore sample to be tested for its level of magnetic content, called the magnetic iron assay.¹⁶ While chemical methods of testing rock samples for total iron content were available at the time, Davis's test was the first that could differentiate between magnetic and non-magnetic iron in the sample.¹⁷ The magnetic iron assay soon became widespread in laboratories and industrial research sites as it offered a new, reliable method for determining the amount of magnetic ore in a given sample. What was lost in the adoption of the new test, however, was the underlying significance of magnetic ore. The proportion of iron ore that was magnetic was only a useful measurement if you were planning to use magnets to separate the ore. Arguably, the magnetic iron assay did little more than confirm the process Davis had already invented. More importantly, the test was an important factor in the widespread adoption of Davis's techniques. Once the magnetic iron assay was available to reveal the amount of magnetic iron ore in a sample, older chemical tests that only described the combined amount of magnetic and non-magnetic iron became suspect or, at least, seemed to offer a less complete analysis of the rock than they had previously. As engineering historian James Ross describes, for Davis the test and its apparatus became "his ace in the hole," which "gave him information about magnetic concentration that no one could obtain from a chemical assay of the ore."¹⁸ In other words, the test gave Davis the

¹⁶ Davis, *Pioneering with Taconite*, 203-6. The introduction of water to the experiment complicates the division between magnetic separation techniques and floatation separation techniques, as the crushed taconite was magnetically separated while immersed in water.

¹⁷ Ross, "Taconite: The Science of Design," 70-71.

¹⁸ *Ibid.*, 69.

enormous power to see aspects of the rock that no one else had noticed before, regardless of the usefulness of that knowledge.

Constructing Machines

The next stage in Davis's work involved constructing machines that could reproduce his techniques in increasing scale and scope. Having relied on his familiarity with magnetism in his initial taconite research, Davis now turned to another set of existing techniques to build the machines. The copper mining industry was successfully mining low grade copper ore in the western United States by the 1910s and many of the principles Davis used in his early machines were derived from processes used in copper mining.¹⁹ Building machines was an incremental process. Davis did not make a dramatic conceptual leap, but instead slowly added more elements and processes to his emerging taconite research. After initially using a hand-held magnet to separate the taconite dust, Davis and other MES staff built a mechanical apparatus capable of reliably separating larger quantities of crushed taconite. They used a large electromagnet and connected it to a glass tube filled with water. Crushed taconite was put into the tube and separated in increasing quantities.²⁰ The tube separator essentially replicated Davis's initial crushing and separating of the rock, but by delegating the process to a machine, ore could be crushed in larger quantities and, more importantly, Davis's technique could be replicated without his physical presence. The delegation of various techniques for crushing and

¹⁹ Ibid., 133-34.

²⁰ "Magnetic Concentration Apparatus Developed at the Experiment Station," undated manuscript; MES-Magnetic Concentration folder, box 11, MES Records, UMNA.

separating taconite from humans to machines—and the resulting ability to disseminate the techniques beyond Davis’s physical presence—was a key step to the eventual success of the taconite endeavor.

By 1915, only two years after Davis first began working with taconite, his laboratory work emphasized building machines that could crush and separate taconite rocks. Once they confirmed that the magnetic tube separator worked efficiently, Davis and MES staff tried to construct a device capable of separating even larger quantities of ore. Adapting the existing “log washer”—a machine used to crush and separate hematite ore by crushing the rock with moving logs or steel bars—workers at the MES added an electromagnet to create a magnetic log washer. Although this device sounded complex, Davis admitted that it “was, in principle, very much like the standard log washers then being used on the . . . western Mesabi, but with an electromagnet added.”²¹ This machine was capable of crushing and separating larger quantities of taconite and Davis soon began building even larger versions of the magnetic log washer for larger scale testing.²² Within a few years, Davis felt ready to publicize his machines to mining companies. In a 1919 technical bulletin, Davis claimed that the MES had developed a device that fulfilled the needs of mining firms for “some means of washing ore in a moderately priced plant of a more or less portable nature.” However, with increasingly large scale testing, Davis ran into a problem: he needed increasingly large amounts of ore as test samples. In the bulletin, Davis admitted that he had not tested the machine with large samples of Mesabi ore and asked readers to send ore samples to him, noting, “anyone interested may ship

²¹ Davis, *Pioneering with Taconite*, 23.

²² “Magnetic Concentration Apparatus Developed at the Experiment Station.”

samples of ore to the School of Mines Experiment Station at the University of Minnesota for testing.²³ As Davis's technique for crushing and magnetic separation increased in scale and scope, this expansion caused a host of new problems such as the lack of ore for samples.

The lack of ore samples was not the only problem. As taconite crushing and separation increased in scale and complexity, Davis faced limits due to the physical size of the MES building. Luckily for Davis, this problem was resolved in 1922 when the University of Minnesota built a new, enlarged MES facility. The building, described "by leading experts to be the most unique and well equipped building of its kind in the United States, if not the world," was not just a home for Davis's expanding taconite experiments but literally enabled many of them. The building was five stories tall and featured a main laboratory floor with a 10-ton crane that could pick up machines and move them to a mezzanine level when not in use.²⁴ Moving to the new MES building, Davis gained the use of helpful tools such as the powerful hoist and the utilities capable of powering the growing assembly of machines. The open laboratory floor also offered Davis and MES staff the flexibility to move machines into different configurations. As taconite production increased in scale and complexity, Davis began arranging several machines into a series to move taconite from rock to iron powder to iron rich pellet.²⁵ Because the

²³ Edward W. Davis, "A New Machine for Concentrating Minnesota Wash Ores," *Bulletin of the University of Minnesota School of Mines Experiment Station, Bulletin No. 6* (1919), 1, 29.

²⁴ William R. Appleby, "The School of Mines of the University of Minnesota," *The Mining Congress Journal* 15, no. 12 (1929): 937-41; and "Minnesota Mines Experiment Station," *Minnesota Techno-log*, March 1926, 180-83.

²⁵ Taconite dust had to be "agglomerated" into "a larger mass sufficiently strong to withstand rough handling"—iron pellets, eventually—to limit breakage during shipping and because the strong blasts of air used to make steel could blow the finer dust out of the blast furnace. Davis, *Pioneering with*

specific organization of these machines would be difficult to replicate outside the MES building, Davis created “flow sheets” that described the specific arrangement of machines in the MES building as a series of abstract steps in taconite’s overall “flow.” As James Ross argues, Davis’s flow sheets transformed “a map of the organization of several mechanical principles or several machines into a process or . . . a system.”²⁶ Just as machines allowed Davis’s techniques to be reliably replicated beyond his physical presence, these flow sheets allowed the specific arrangement of machines within the MES to be reliably recreated in other locations. By moving from objects—several heavy machines arranged on the floor of the MES building—to signs—markings on paper—Davis again ensured wider distribution and replication of his techniques.

The common denominator in the construction of machines and the creation of flow charts was a desire to increase the scale and scope of taconite production.²⁷ The more often Davis’s techniques were replicated and the more widespread his method, the more durable taconite became. In other words, a small experiment with a rock conducted by a lone researcher in an out of the way laboratory was fragile. With the slightest change in funding or priorities the taconite project could have collapsed at this stage. Davis would probably have continued teaching mathematics and taconite would return to being a worthless rock in the ground. Once many people were crushing taconite in multiple

Taconite, 38.

²⁶ Ross, “Taconite: The Science of Design,” 85.

²⁷ This emphasis on expanding the scale and scope of a technique has similarities to Alfred Chandler, Jr.’s thesis that large industrial firms had to utilize economies of scale and scope during the Second Industrial Revolution. Alfred D. Chandler, Jr., *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, MA: Harvard University Press, 1990). My emphasis on the very local example of a technique for crushing and separating rocks is obviously quite different than Chandler’s international, industry-wide emphasis.

locations, however, taconite gained durability. The key to taconite's durability at this stage, then, was dissemination. James Ross argues that Davis's main significance within engineering history was that he "took the practically oriented mineral laboratory of his day and gave it a science base," meaning that he converted his tests to graphical representations that could be easily interpreted outside his particular laboratory.²⁸ Davis's representation of his work in the abstractions of graphs and flow charts can alternatively be understood as a particularly effective means of disseminating his work. By translating his specific experiments into the common vocabulary of science, Davis spread taconite among a wider network.²⁹ Importantly, his scientific representations were only one of several ways that he disseminated taconite during this time period. By working with several manufacturing companies, Davis spread his techniques—delegated to the machines he had invented—among a far wider audience. Within a year of its design, Davis's magnetic separator was mass-produced by the Dings Magnetic Separator Company.³⁰ Another manufacturing firm began producing a classifying machine designed at the MES. The company promoted the classifier to small mine operators by emphasizing its portability; the machine was created "so that there would be no piece too large to be easily carried on the back of a burro."³¹ Within the space of several years in

²⁸ Ross, "Taconite: The Science of Design," 91-92, quote on 91.

²⁹ Bruno Latour describes such inscriptions as "circulating references" capable of replacing one very concrete situation with an inscription that allows for transportation and further translation. Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press, 1999), 24-79.

³⁰ Ross, "Taconite: The Science of Design," 72.

³¹ University of Minnesota Mineral Resources Research Center [MRRC], *History of the Mineral Resources Research Center* (Minneapolis: University of Minnesota, 1981), 13.

the 1910s, Davis expanded his small experiment with taconite into a series of machines, linked into a system that could be represented on a flow sheet, purchased through a national manufacturing company, and carried on a burro to a mine in the most remote areas. For the moment, at least, taconite's durability seemed assured.

The Mesabi Iron Company

Following his success in the laboratory, in the early 1920s Davis joined with several investors to transform his taconite experiments into a commercial mining operation. During World War I, a consortium of businessmen investigated whether the Mesabi range's large taconite deposits might be profitable given the war's effect on the steel market. These businessmen—many with previous experience in western copper mining—believed that low-phosphorus iron ore such as taconite could command a premium price because of wartime shortages and the reduction of imported iron ore.³² The investors soon convinced Davis to join their efforts. Illustrating the porous boundary between university and commercial research in the MES, Davis took a leave of absence from the University of Minnesota and began working for the nascent enterprise in Duluth.³³ After building a temporary plant there, Davis concentrated small amounts of taconite into low-phosphorus iron ore for use in wartime steel production. Davis later claimed that these were the world's first commercial shipments of concentrated

³² W. G. Swart to D. C. Jackling, April 7, 1918; in MIC records, MHS. When produced in a Bessemer furnace, phosphorus increases the brittleness of steel. Thomas J. Misa, *A Nation of Steel: The Making of Modern America, 1865-1925* (Baltimore: Johns Hopkins University Press, 1995).

³³ Davis, *Pioneering with Taconite*, 28.

taconite.³⁴ In 1919, the enterprise became the Mesabi Iron Company [MIC] and began raising funds for a larger taconite production facility on the eastern Mesabi range.³⁵ Within three years, as Davis later put it, “the first plant in the world to attempt taconite processing on a commercial scale went into operation . . . on June 21, 1922.”³⁶

While Davis had been successful in concentrating taconite in the laboratory, the Mesabi Iron Company quickly ran into a series of difficult problems once it began producing taconite for sale on the iron ore market. Davis and the other engineers working for the company designed the plant at the new location of Babbitt, Minnesota, to produce a final product (iron-rich chunks called “sinter”) that contained 60 or 61 percent iron. However, once the plant was in operation, the iron and steel companies who purchased the ore indicated that they were only interested in ore containing 64 to 65 percent iron. For Davis and the other engineers, this meant the entire taconite process would have to be redesigned to meet the new, higher standard. The underlying issue, which Davis did not anticipate, was that the concentrated taconite contained too much silica. Buyers in the steel industry realized that this high silica level meant they would have to waste more of the ore as useless slag and thus they were not willing to pay a premium over regular Mesabi hematite. Without this premium, taconite’s complicated processing made it unprofitable.³⁷ Within the controlled space of the laboratory, Davis’s techniques for concentrating taconite were highly effective. However, when Davis attempted to insert

³⁴ Ibid., 39.

³⁵ Ibid., 42.

³⁶ Ibid., 56.

³⁷ Ibid., 53.

those same techniques into the well established and highly dynamic iron ore market, his taconite project was far less successful. Davis was trying to create iron ore for a steel industry that was itself undergoing rapid technological change and he, along with everyone at the Mesabi Iron Company, had a difficult time designing a process that could function in such a dynamic environment. The company's problems were compounded when a salesman promised potential customers that their concentrated taconite would assay above 61 percent iron. Eventually, the only way the company could meet the higher iron content was to hold back production until it could mix taconite with high grade ore to make the overall iron content higher.³⁸ In a 1924 letter to shareholders, Mesabi Iron Company president D. C. Jackling alarmingly noted that there was, unexpectedly, no market for the high quality, low phosphorus ore they were shipping. The only way to sell the ore was at the lower price offered for "Old Range Non-Bessemer" ore that did not offer a premium for taconite's lower phosphorus content. At this lower price, the company would lose money and thus Jackling announced, "that in the best interest of the Company's property and stockholders, operations will be suspended until such time as either a higher price for the product or lower costs of the principal elements . . . entering into the cost of making and marketing sinter or both, leave a fair margin of profit."³⁹ The company's Babbitt plant closed in June 1924, only two years after it began operations.⁴⁰ Davis expressed optimism that the plant would soon be reopened, writing to a friend, "I

³⁸ Clement K. Quinn to W. G. Swart, July 9, 1923; in Miscellaneous Papers, 1921-1923 folder, MIC records, MHS.

³⁹ D. C. Jackling to MIC stockholders, May 8, 1924; in Miscellaneous Papers, 1924-1953 folder, MIC records, MHS.

⁴⁰ Davis, *Pioneering with Taconite*, 59.

think it will be started up again in a year or two.”⁴¹ It ultimately took almost three decades before the Babbitt site reopened and in the intervening years Davis would have to work in the realms of politics and society to bring the plant back to life.

Reflecting on the company’s failure, Davis later claimed the problem was that “the . . . Mesabi company thought it could sell iron concentrate on the open market. What has been proved is that the steel companies which use the ore must control the taconite process from the start.”⁴² The fundamental lesson Davis derived from his time with the Mesabi Iron Company was that taconite could not compete with natural ore on the open market. In the following years, Davis confronted this problem in different ways—first attempting to revise the pricing mechanisms of the Lake Superior iron ore market and eventually avoiding the market altogether—but the end result was a firm belief that markets and taconite could not effectively mix.⁴³ The company was also the unfortunate victim of changing technology in the steel industry during the 1920s. The company’s plant at Babbitt was built, Davis claimed, just as “some of the older steelmaking processes were being discarded” and “new ones were coming into use which required

⁴¹ E. W. Davis to Oscar Lee, May 19, 1924; Tuscaloosa, Ala. U.S. Bureau of Mines Folder, UMNA.

⁴² George L. Peterson, “‘Mr. Taconite’ Waited Forty Years,” *Minneapolis Star*, November 10, 1955.

⁴³ After the MIC’s failure, Davis proposed a completely revised formula for pricing iron ore. His proposed system was founded on the principle that ores should be priced based on a constant cost for a blast furnace operator to produce one ton of pig iron. This system was, in his opinion, more rational than the complex and arcane Lake Erie pricing system. Not coincidentally, Davis’s system would have encouraged the concentration of low-grade ore into high-grade concentrates. E. W. Davis, “The Evaluation of Iron Ore,” *Information Circular of the Mines Experiment Station*, February 1940: 12-23. Despite the rationality of his system, Davis’s pricing scheme was never adopted. He later admitted that it was extremely unlikely that the Lake Erie ore pricing system would be abandoned in the future, largely because it was the basis for mineral lease rates throughout the region making it “practically impossible to abandon this method of pricing iron ore in the future.” E. W. Davis to Fred B. Snyder, July 11, 1947; Minneapolis, Minn. General folder, MES records, UMNA. See also Roy G. Blakey, *Taxation in Minnesota* (Minneapolis: University of Minnesota Press, 1932), 241-44.

iron ores of different analyses.” Specifically, the decline of the Bessemer steelmaking process reduced the need for low-phosphorus ores, which was one of the chief selling points of the taconite produced by the Mesabi Iron Company. The rise in open-hearth steelmaking and rising cost of coking coal made low-silica ores especially desirable, a problem for the relatively high-silica taconite.⁴⁴ The problem described by Davis was fundamental to his larger goal of devising a laboratory process that could form the basis for a taconite industry. Given the unbelievably dynamic nature of the steel industry, with constantly changing prices and technology, how could he, or anyone, plan for the future? The answer, in retrospect, was that Davis left the Mesabi Iron Company’s failure with the lesson that if the future could not be predicted, it could be created.

From a different perspective, the company’s failure can be understood as a dissembling of Davis’s taconite project in the face of a far stronger and more durable network: the Great Lakes iron ore market. For any technology, sociologist John Law argues, “there is always the danger that the associated entities that constitute a piece of technology will be dissociated in the face of a stronger and hostile system.”⁴⁵ Taconite, as Davis created it, proved surprisingly fragile when confronted with the iron ore market. Davis acknowledged as much, writing, “after the Mesabi Iron Company’s plant at Babbitt closed in 1924, Minnesota taconite was very dead for a long time.”⁴⁶ If taconite was ever

⁴⁴ Davis, *Pioneering with Taconite*, 60-61, quote on 60.

⁴⁵ John Law, “Technology and Heterogeneous Engineering: The Case of Portuguese Expansion,” in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch (Cambridge, MA: MIT Press, 1987), 116.

⁴⁶ Davis, *Pioneering with Taconite*, 63.

going to return to life, if would need greater and more powerful connections involving groups outside the laboratory.

Beginning in the middle of the 1920s, Davis began a long process of connecting taconite to political and social realms. Returning to the MES after the Mesabi Iron Company closed, Davis and the MES staff rededicated themselves to taconite research. “We concluded that the Mines Experiment Station should not abandon taconite and that additional funds should be requested from the university for new equipment and increased staff,” Davis argued. “The objective of the Station’s research, we decided, must be the making of a superior product that could be used by the iron and steel producers to turn out better and cheaper steel than could be made from natural ores.”⁴⁷ This was clearly an ambitious goal and it turned Davis’s attention toward new allies. Although still an engineer, Davis saw that the fields that needed engineering during this stage were natural, political, and economic as well as technical. The first component of the renewed taconite project was money. Explaining his work from 1924 to 1944, Davis wrote, “much of my time . . . went into keeping the taconite project alive. Every two years it was necessary to secure the funds required to support the expanded research staff at the station. This involved persuading the university to put our requests for funds into the budget which was presented to the legislature every two years, and then persuading the members of the legislature . . . to act favorably on those requests.”⁴⁸ In 1925, the MES first asked the Minnesota legislature for a substantial funding increase to further study of low-grade iron ore. Davis expected that many legislators would oppose the funding increase and he

⁴⁷ Ibid., 64.

⁴⁸ Ibid., 88-89.

organized support from prominent businessmen who could hopefully pressure their representatives to sponsor the funding.⁴⁹ The next stage of taconite's history was a heterogeneous engineering project involving nature, economics, and politics.

Depletion of Natural Ore

As Davis turned from the laboratory to the legislature, he faced new questions about taconite. While conducting experiments at the MES, the underlying question had been “was it possible to extract iron from taconite?” Davis believed he had decisively answered this question in the affirmative by the 1920s. Yet when he reached out to state lawmakers for money and political support for taconite, they raised a new question: “Was it worth it?” In other words, Davis now had to justify the project within a new context. It was no longer enough to say that taconite was feasible, taconite also had to be important enough to justify the action of busy legislators and the scarce resources of the state budget. In response, Davis gradually crafted a powerful argument about the necessity for taconite in light of the immanent depletion of the Iron Range's existing natural ore. The outlines of the argument evolved over time, but in essence Davis claimed that the natural, high-grade iron ore originally mined on the Mesabi range was being depleted at an alarming rate and only heavy investment in taconite would prevent the collapse of the Iron Range's mining economy. Thus, when Davis approached the Minnesota legislature in 1925 to ask for taconite research funding, he explicitly said that the coming depletion of the state's high-grade natural ore justified state funding for taconite research.⁵⁰

⁴⁹ E. W. Davis to E. J. W. Donahue, January 29, 1925; EJW Donahue Folder, MES Records, UMNA.

To fully understand what was at stake in Davis's argument about the depletion of natural ore, it is necessary to examine the natural ore that made Davis so worried. Although Minnesota iron mining began in the 1880s with mines on the northern Vermillion range, it was only with the opening of the large Mesabi range in the 1890s that Minnesota's Iron Range region moved to the forefront of iron ore production. Unlike previously-mined iron ore deposits, which were often hard rocks located well below the surface accessible only by underground mining, the Mesabi hematite ore was a soft, granular substance located just below the surface, leading to large, open pit mines where laborers and steam shovels could strip away a small amount of overburden to expose the rich veins of ore. This easily accessible ore was exploited beginning in the 1890s and the explosion of mining operations and communities made the Mesabi range a "new El Dorado" for a brief period at the end of the nineteenth century.⁵¹ Thus, the iron mining industry Davis confronted in the early twentieth century was largely composed of an interlocking network created to mine Mesabi hematite. By calling hematite "natural" ore, Davis and others invoked a powerful and complicated term that obscured the true complexity of both hematite mining and his proposed taconite project. As Raymond Williams acknowledged several decades ago, no word in the English language is as complicated as "nature."⁵² Davis's division of the Mesabi's iron ore into natural (hematite) and technological (taconite) erected an arbitrary division that powerfully worked to shape the future of Davis's taconite project and hematite mining.

⁵⁰ Davis, *Pioneering with Taconite*, 65.

⁵¹ David A. Walker, *Iron Frontier: The Discovery and Early Development of Minnesota's Three Ranges* (St. Paul: Minnesota Historical Society Press, 1979), 73-118.

⁵² Raymond Williams, *Keywords: A Vocabulary of Culture and Society*, Rev. Ed. (New York: Oxford University Press, 1983), 219-224.

Although hematite was often called natural ore, there was nothing inherently “natural” about hematite when compared with taconite. Both types of ore relied on a complex mixture of human, technological, and geological power to become iron. Indeed, the use of Mesabi hematite as a source of iron ore in the late nineteenth century was a hybrid solution—combining economics, geology, and technology—to the problem of supplying large amounts of ore to the expanding (and technologically evolving) blast furnaces of the Great Lakes iron and steel industry.⁵³ Rather than imagining taconite as a technoscientific solution to a natural problem, as Davis suggested, it is more accurate to say that taconite sought to rearrange a complex assembly of humans and non-humans into a different arrangement than hematite. Political scientist Timothy Mitchell describes a similar dynamic at work in the construction of Egypt’s Aswan High Dam in the early twentieth century. Like taconite, the dam was portrayed as an example of technology resolving a natural problem—the Nile’s floods, in this case—but Mitchell argues that the dam was not inherently less natural than the older, pre-dam system of irrigation control. The pre-dam irrigation methods “had manufactured a geography that was no more natural than it was human, and no less. Rather, it was always both.”⁵⁴ The underlying issue was

⁵³ Peter Temin tellingly describes hematite mining in the early twentieth century as “an intricate ballet of large and complex machines.” Peter Temin, *Iron and Steel in Nineteenth-Century America: An Economic Inquiry* (Cambridge, MA: MIT Press, 1964), 197.

⁵⁴ Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002), 35. That the Aswan High Dam and taconite were both created in the early twentieth century and imagined as technoscientific mastery over a unified “nature” is not surprising. The experience of enormous engineering and industrial projects in the early twentieth century led many observers to the conclusion that the forces arrayed against these massive installations must be unified as well, as a singular Nature in this case. As Mitchell describes, “the very scale of the technical and engineering works of the twentieth century produced a new experience of the river Nile as exclusively a force of nature.” Similarly, environmental historian Kristin Asdal argues that the later development of ecological knowledge and the concept of a unified Ecology resulted from researchers seeking a “natural” counterweight to the integrated systems knowledge of computer modeling, management theory, and

more than a debate over terminology. By framing hematite as natural ore and arguing that its depletion was a natural problem, Davis shortcut an immensely complicated and messy political debate about rearranging humans and non-humans into a new configuration that benefited taconite. This extremely subtle reframing of hematite eventually was accepted as common knowledge in the history of taconite and the Iron Range. James Ross, for example, claims, “depletion of high grade, direct shipping iron ore” was one of “the conditions which instigated and sustained the [MES’s] commitment to establishing the taconite industry in Minnesota.”⁵⁵ At a fundamental level, by putting hematite on the natural side of an imagined nature/culture divide, Davis inverted the reality of the situation. Nature was not a pre-existing entity that *caused* the problem of depletion, but was, in fact, the *result* of Davis’s argument.⁵⁶

The debate about the depletion of natural ore and the corresponding need for taconite production began as an argument. Beginning with a series of technical documents and gradually expanding to a wider and more diverse audience, Davis spread his ore depletion argument from the 1920s through the 1950s. Among the earliest articulations of the argument was a 1920 technical bulletin in which Davis described a coming crisis on the Iron Range as the natural ore supplies ran out:

simulation technology of the Cold War era. Kristin Asdal, “The Problematic Nature of Nature: The Post-Constructivist Challenge to Environmental History,” *History and Theory* 42 (2003): 63-64.

⁵⁵ Ross, “Taconite: The Science of Design,” 16.

⁵⁶ Mitchell, *Rule of Experts*, 35. A full discussion (as if it were possible!) of the intersecting problems of nature, culture, and modernity is well beyond the scope of this dissertation. However, my thinking has been influenced by several sources. On modernity as a contingent settlement pitting nature against culture, see Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 1993). For an overview of recent scholarship on the concept of “nature,” see Bruce Braun and Noel Castree, eds., *Remaking Reality: Nature at the Millennium* (London: Routledge, 1998). The role of “nature” in history has received great attention in environmental history. For an overview and critique of this literature, see Asdal, “The Problematic Nature of Nature”; and William Cronon, ed., *Uncommon Ground: Toward Reinventing Nature* (New York: Norton, 1995).

It is, of course, recognized by everyone, that at some future date all the merchantable ore will have been removed from the [Lake Superior mining] district. This date is placed by various estimators at from 15 to 30 years hence. . . . The history of the Lake Superior district will, undoubtedly, follow in a general way the history of most mining districts, and it is to be expected that some day, past or future, the district has reached, or will reach, the peak of its production. After the peak is passed, and it becomes generally recognized that the district is on a decline, the descent toward absolute depletion will be quite rapid.⁵⁷

Within the same bulletin, Davis argued that development of the Mesabi range's low-grade taconite ores was the obvious solution to the depletion of the high-grade natural ore. Ominously, Davis warned that if development of taconite did not begin immediately, the entire Iron Range would be in jeopardy:

It appears that it will not only be necessary to utilize these [low-grade] ores in order to maintain the production of the district, but it will be necessary to begin the utilization of them in the very near future. If the furnace companies that have only a few years' supply of ore available are allowed to invest large amounts of capital in developing and bringing into production new mining districts, the Lake Superior region will immediately start on its decline. If, on the other hand, these furnace companies find that the low-grade ores can be utilized, the fact that the Lake Superior district is already in large production and is so well equipped to handle immense tonnages will cause them to contemplate seriously investing new capital in this district for the purpose of developing the low-grade iron ores. The development of such an industry on a large scale will extend the life of the district into the far distant future.⁵⁸

In these early writings, Davis framed the depletion of hematite as a natural problem and, most importantly, suggested that the development of taconite was the only possible response to this natural problem that, left unchecked, would wipe out mining on the Iron Range.

Within several years, Davis spread his depletion argument to a wider public in Minnesota. By the mid-1920s, Davis developed a stump speech about the problem of

⁵⁷ Davis, "The Future of the Lake Superior District as an Iron-ore Producer," 3.

⁵⁸ *Ibid.*, 5.

declining high-grade natural ore that used an extended plum pudding metaphor to explain the problem to audiences unfamiliar with geology or mining. “The Mesabi iron range in structure is similar to a plum pudding,” Davis told audiences across the state:

In the past, the miners have been taking out the plums only. When the plums are gone the pudding is still left to be eaten. It may not be quite so palatable but by sweetening it up a bit, it can be made quite desirable. The “plums” are the iron mines from which ore is now being shipped containing less than 30% earthy [non-iron] material. The pudding is the iron formation which surrounds the plums and contains more than 30% of earthy material. There is probably several hundred times as much pudding as plums. These “plums” of iron ore will keep us going at the present rate for about 20 years. It will then be necessary either to mine the pudding or to quit mining iron ore entirely. On the other hand, if the pudding of low grade iron ore is used we shall still be “eating” for the next five or six hundred years.⁵⁹

By presenting the iron ore situation as a homey pudding metaphor, Davis spread his argument about ore depletion to a wide swath of the Minnesota public. Just as he had reframed hematite depletion as a natural problem, Davis suggested that the switch from hematite to taconite was as natural, and as inevitable, as eating.

Predictions about the future date of hematite’s depletion were crucial to Davis’s argument since they associated natural ore’s total depletion with a specific date rather than a vague future moment. However, the exact date when the natural ore was predicted to run out varied wildly over time. In a 1923 speech, Davis predicted that the natural ores would be mined out in approximately fifteen years, meaning they would be gone by 1938.⁶⁰ Six years later a trade journal noted growing concerns about the total amount of ore remaining in the Lake Superior mining district—perhaps suggesting that Davis’s

⁵⁹ Edward W. Davis, “The Iron Mining Industry in Minnesota,” transcript of speech to Six O’clock Club, Minneapolis, January 14, 1924; in MES Records, UMNA.

⁶⁰ Edward W. Davis, “A Problem in Taxation,” transcript of speech at untitled location, 1923, 3; MES Records, UMNA.

argument was spreading to others in the industry—and reported that current ore reserves would last no more than twenty-five years.⁶¹ There was no mention of how the expected date of natural ore’s total depletion had increased sixteen years from Davis’s initial estimate. Concerns about natural ore depletion were muted during the 1930s when iron mining almost completely stopped during the Great Depression. But World War II brought massively increased production from the natural ore mines and revived Davis’s depletion argument. In an alarming 1942 report to the War Production Board, Davis described a coming crisis in the iron ore supply if wartime demand for ore continued for several years. Expanded open pit mining on the Mesabi range could meet the high demand levels in the near future, he told the Board, but “new properties will be stripped each year” and “after the larger properties are exhausted, it will become increasingly more difficult to produce the tonnage required from a larger number of smaller properties. . . . It is shocking to realize that in a comparatively few years, the great steel industry dependent upon Lake shipments will find itself short of the necessary ore to meet emergency steel requirements.”⁶² Connecting ore depletion to national security concerns granted Davis an audience at the highest levels of government, but the date when the ore would be gone remained fixed several years in the future. In 1946, President Harry Truman received a report estimating that, given present mining rates, the Mesabi’s natural ore would be mined out in twenty-six years.⁶³ Although attaching a specific date to the total depletion of natural ore lent these studies an air of scientific accuracy and

⁶¹ “Iron Ore Movements and Reserves,” *Trade Winds*, July 1929, 4.

⁶² Edward W. Davis, “Lake Superior Iron Ore and the War Emergency,” report to Materials Division of the United States War Production Board, May 20, 1942, 6; in MES records, UMNA.

⁶³ James Reston, “Mine-Job Security Seen in ‘Stockpile,’” *New York Times*, July 16, 1946.

made the concern seem more pressing, the fact that natural ore was predicted to be depleted in ten to twenty-five years over several decades suggests that natural ore's depletion was always an event for a vague future moment rather than a specific date.

As the report to President Truman suggests, by the 1940s and 1950s Davis's concerns about natural ore depletion had reached the nation's most influential policy makers and business executives. Beginning in the late 1940s, national news media began writing urgent stories about the depletion of natural ore and efforts to create a taconite industry. According to one *New York Times* story, the attempt to produce iron ore from taconite would determine "whether the mining industry is to pull out of the once fabulously rich Mesabi iron ore range . . . within a generation, or remain indefinitely."⁶⁴ Another article claimed it was "common knowledge" that the natural ore of the Mesabi range "will be nearing exhaustion in another generation."⁶⁵ Congress declared the imminent depletion of natural ore a matter of national public concern and launched an investigation.⁶⁶ With concern over natural ore's depletion spread throughout the nation, commentators returned to Davis and now claimed that he had unique foresight into the problem. "For years his cause was a lost one," a business journalist wrote of Davis in 1955, "few shared his concern over the eventual depletion of direct-shipping ores."⁶⁷ By the 1960s, the rapid depletion of natural ore—and the logical response of taconite—was cited as the main reason for turning to taconite as a source of iron ore.⁶⁸ In the course of

⁶⁴ George Eckel, "To Tap Taconite as a Source of Iron," *New York Times*, September 28, 1947.

⁶⁵ "Taconite for Security," *New York Times*, October 25, 1953.

⁶⁶ "House Group Maps Inquiry on Steel," *New York Times*, April 15, 1950.

⁶⁷ "E. W. Davis: How Vision, Persistence Made Taconite Pay," *Steel*, January 24, 1955.

the natural ore depletion argument, Davis had inadvertently re-engineered history as well.

One key to the success of the ore depletion argument was the perspective created by Davis with his claims about natural ore's rapid depletion. By predicting that natural ore, then essential to steelmaking and thus to national defense in an era of steel-clad armed forces, would run out at a specific (but always moving) point in the near future, Davis allowed the public to project itself into the future and look back with alarm on the present. Davis asked his listeners to imagine standing at the edge of the depleted ore mines and reflect on the "history of the future" of the Iron Range. Decisions in the present, namely, whether to support taconite research or not, could thus be viewed from an imagined future of depletion. In a 1933 speech, Davis told listeners to "try to look into the future and see what the history of our iron ore industry is likely to be."⁶⁹ Within several years, he developed this concept into a fully described "history of the future" of the Iron Range once the natural ore was gone:

When the high-grade ore is gone, the communities on our iron ranges will fold up and become truly phantom towns. . . . We will have no more taxable wealth either in the mines or in the communities when this ore is gone, and we will have a hundred thousand people to support by some other means. We will have to make up for a great loss in tax revenue by paying more taxes ourselves, or else must cut down the expenditures of our State government, which hardly seems to be a reasonable expectation. And what will we have to show for this great natural resource after it has been exhausted? We will have a lot of big holes in the ground where our good ore once existed. . . . we will have coming to us a lot of criticism from the next generation.⁷⁰

Davis's ore depletion argument was so compelling, in part, because it created a

⁶⁸ For an example of this argument in the 1980s, see D. J. Tice, "The Thing on the Hill," *Corporate Report Minnesota*, October 1982, 62.

⁶⁹ Edward W. Davis, "Iron Ore Beneficiation," transcript of speech to Engineer's Club of Duluth, December 18, 1933, 3; MES Records, UMNA.

⁷⁰ Edward W. Davis, "The Future of the Iron Ore Industry in the State of Minnesota," unpublished manuscript, December 14, 1937, 4; in MES Records, Box 13, UMNA.

perspective that allowed the public to project themselves into the future and look back on the present with a sense of alarm.

While ultimately successful in spreading taconite to influential policy makers, Davis's ore depletion argument was never uncontested. From its earliest articulations, Iron Range residents and iron industry executives challenged whether the ore was really running out. Iron range residents, many of whom earned a living in the natural ore mines, were some of the most vocal challengers of Davis's claim that the natural ore was on the verge of depletion. Many Iron Range residents believed that the stories of depletion were a hoax and that the large mining companies knew of enormous deposits of natural ore but had not yet "discovered" them to keep them off state tax rolls.⁷¹ Davis disagreed, but he explained that many Iron Range residents "dubbed the ideas that Minnesota's high-grade 'easy ores' were fast disappearing and it would be necessary to use the low-grade materials as 'just mining company propaganda' invented to scare them." These residents believed "the big ore firms were hiding from the tax authorities vast deposits of high-grade ore which they would 'discover' as needed."⁷² These depletion "deniers" were not conspiracy theorists, however. Davis's depletion argument seemed reasonable on its face, but when he described the details of how he arrived at his conclusion, the story became much more complicated. When pushed for details, Davis admitted that the data on existing ore bodies was far from complete and, worse, much of it was obtained from mining companies that had powerful financial incentives not to "discover" existing ore until they were ready to remove it. In 1923, Davis admitted that Minnesota's mineral tax

⁷¹ MRRC, *History of the Mineral Resources Research Center*, 64.

⁷² Davis, *Pioneering with Taconite*, 106-07. The taxation of mineral lands is described later in this chapter and in chapter two.

situation largely prevented exploratory drilling to discover new ore on the Mesabi range. “If [a mine operator] puts down drill holes and finds ore,” Davis argued, “he is at once taxed and will continue to be taxed until he removes the ore . . . The tendency is, therefore, for the operator not to drill his land until he actually needs the ore. Then if he finds it, he immediately rushes in and mines it out just as quickly as possible.”⁷³ Thus, Davis admitted a key contradiction at the core of his depletion argument: natural ore was quickly being depleted, but he also did not know how much ore existed in the ground. Business executives focused on this contradiction to echo the concerns of Iron Range residents. In 1947, the chairman of a group called the Minnesota Emergency Conservation Committee disputed Davis’s claims about the imminent decline of natural ore. The chairman focused on Davis’s admission that, ultimately, it was impossible to know how much natural ore was left on the Mesabi range: “How can you, or any one [sic.], state definitely one way or the other just what is or is not a true statement, in so far as our mine deposits are concerned, when by your own acknowledgement the State does

⁷³ Davis, “A Problem in Taxation,” 4. In a 1933 report to the Minnesota legislature, Davis expanded on the available data on Mesabi ore. In 1931, the state funded a metallurgical study of Minnesota’s iron deposits in which “many samples” of rocks from the Mesabi range “were secured and brought to the Mines Experiment Station laboratory, where they were analyzed and tested in order to determine the possibility of commercially utilizing the material represented by the samples.” The problem remained, however, that estimates for the amount of high-grade, direct-shipping natural ore available on the Mesabi range were based largely on tax records submitted by the mining companies. Edward W. Davis, “Ore Reserves of the Mesabi Range,” transcript of “an investigation resulting from specific appropriation by the legislature,” April 11, 1933, 1, 4; MES Records, UMNA. Davis used similar language in testimony before the Interstate Commerce Commission. Edward W. Davis, transcript of testimony before the Interstate Commerce Commission, ex parte 115, April 27, 1936; MES Records, UMNA. In a 1932 technical report on taxation, Roy G. Blakey described the difficulties in estimating the tonnage of ore remaining in the ground: “Estimating the tonnage of various ore bodies is not a simple matter. The method of making an estimate may be briefly described. Prospecting for ore is usually done by sinking drill holes. Ore samples are taken at five-foot intervals, and these samples are analyzed. In this manner the depth and grade of each layer of ore and the thickness of intervening layers of other materials is ascertained. The outline of the ore body is established from the drill holes.” Blakey then admitted that further variables, such as the depth of ore below the bottom of an underground mine shaft were “an assumption.” Ultimately, Blakey argued, “accurate estimation of the tonnage of an ore body may be very difficult, even for experts.” Blakey, *Taxation in Minnesota*, 237.

not know how much iron ore we have in Minnesota? . . . Don't you think it is about time we cease making statements concerning iron ore deposits until we really know whereof we speak?"⁷⁴ Speaking before the U.S. House Committee on the Judiciary, U.S. Steel president Benjamin Fairless later disagreed with Davis's pessimistic reports about the rapid depletion of ore reserves. Fairless told representatives, "an adequate supply of iron ore in this country is primarily a production and cost problem. It is not a question of the exhaustion of the ore reserves of the United States."⁷⁵ Although Davis was usually magnanimous in response to his critics, the comments of steel executives upset him. After the president of Inland Steel said the Mesabi range contained "hidden ore," Davis privately insisted that the only explanation for this comment was that the president was misquoted, drunk, or wanted to cause problems for U.S. Steel.⁷⁶ These critiques of Davis's depletion argument became a moot point by the 1950s when the initial taconite plants were built on the Iron Range. That these criticisms, which challenged the heart of Davis's depletion argument, never stopped the spread of the depletion narrative suggests that, at its core, Davis's depletion argument was really a tactic to spread taconite to a wide and influential audience rather than an objective debate.

Analysis of Davis's rhetorical tactics, while important, leaves a crucial question unanswered: did the natural ore ever run out? This question, which is difficult to answer

⁷⁴ Charles L. Horn to Edward W. Davis, July 2, 1947; Minneapolis, Minn., General folder, MES records, UMNA. See also Horn's earlier letter, Charles L. Horn to Edward W. Davis, June 23, 1947; Minneapolis, Minn., General folder, MES records, UMNA. Horn would later support the taconite industry, although records do not indicate why he changed his mind.

⁷⁵ Benjamin F. Fairless, "Iron Ore is Available," transcript of remarks to Subcommittee on the Study of Monopoly Power of the House Committee on the Judiciary, Washington DC, April 26-28, 1950; in Reconstruction Finance Corp. Act Folder, Box 15, MES Records, UMNA.

⁷⁶ Edward W. Davis, "The Iron Ore Situation: Background Information," unpublished manuscript, May 1948, 13; MES Records, Box 13, UMNA.

with a yes-or-no response, gets to the heart of how Davis's depletion argument successfully justified taconite to powerful allies in business and government. On a basic level, the natural ore never ran out. It is hypothetically possible to travel to the Mesabi range today and scoop hematite out of the ground.⁷⁷ But taconite effectively made hematite obsolete. By 1957, once several taconite plants were in operation or under construction, natural ores were increasingly difficult to sell because of high silica content and the steel companies' preference for custom manufactured iron ore products such as taconite pellets. To resolve this problem, the MES, no longer under Davis's direction, proposed that the natural ore be crushed, roasted to make it magnetic, and concentrated using a process similar to taconite. Rather than becoming increasingly scarce and valuable, natural ore instead had to become like taconite to be competitive in a market dominated by taconite pellets.⁷⁸ Buyers such as U.S. Steel cut the price offered for natural ore during the 1960s. The reduction was spurred by increased competition from high-grade foreign ore sources and taconite.⁷⁹ Minnesota's Soudan mine closed in that era due to "development of new taconite processes and changes in smelting methods [that] detracted from the usefulness of Soudan ores."⁸⁰ It was ultimately a sharp decline in the

⁷⁷ Jim Hendrickson, manager of the last operating natural ore mine on the Mesabi range (which closed in 1990), told an oral history interviewer that while it was still possible to remove natural ore from the mine the ore was no longer "feasible" because of economic considerations. Jim Hendrickson oral history interview, Mike Schomer interviewer, July 18, 1990, Aurora, MN, LTV Steel oral history project, IRRC. I use the term "hypothetically possible" because increased security at abandoned mines makes it difficult to gain access to these areas.

⁷⁸ Henry H. Wade, "A Proposed Method for Handling Minnesota Intermediate and Low Grade Iron Ores," unpublished manuscript, Dec. 6, 1957; in Intermediate and Non-Magnetic Ores folder, box 1, Henry H. Wade Papers, MHS. Wade succeeded Davis as director of the MES when Davis retired in the 1950s.

⁷⁹ "Iron Ore Reduced by U.S. Steel Unit," *New York Times*, January 25, 1962.

demand for natural ore—not a decline in supply—that doomed natural ore mines. The drop in demand was directly related to the expansion of the taconite industry.

In the final analysis, natural ore never really ran out but the *threat* of it running out set in motion changes that led to natural ore's obsolescence. Davis later reflected on how his taconite process, by then a working industry, had eliminated demand for (still remaining) natural ore. In 1964 Davis noted, "mines that have been producing high-grade [natural] ore for more than half a century are being abandoned, not because they are depleted, but for lack of a market, and other mines containing inferior ore of concentrating quality are being opened." Explaining the effect of taconite and pelletized ores on the overall steel industry, Davis noted, "in a few short years the success of low-grade ore concentration and the demonstrated economy of carefully prepared blast furnace ore has brought about a complete re-evaluation of iron ore production and reserves. Instead of a shortage, a great surplus of high-grade natural ore now exists, and blast furnace operators who are willing to use direct [natural] ores are in a position to pick and choose among several sources."⁸¹ Some observers went farther than Davis, arguing that taconite threatened the very ontology of natural ore. In a speech to mining engineers and company officials, the dean of Stanford University's School of Mineral Sciences told listeners that ores that could not be easily pelletized, including Mesabi natural ore, "may cease to be ore" in the future.⁸² Again suggesting the arbitrary division

⁸⁰ MGL and Associates, "Tower-Soudan State Park: Interpreting the Soudan Underground Mine" (1982), 4.

⁸¹ Davis, *Pioneering with Taconite*, 194-95.

⁸² Charles F. Park, Jr., "Iron and Steel," speech reprinted in *The Twenty-Seventh, Twenty-Eighth and Twenty-Ninth Warren Lectures on Sources of Energy, A Mineral Policy, and Iron and Steel* (Minneapolis: University of Minnesota School of Mines, 1959), 4.

between natural and technological in ore classification, by the 1950s the MES was describing natural ore as a type of ore in which nature, rather than machines, has already done the work of concentration. “Nature” in this case was imagined as little more than a giant ore concentration machine.⁸³ And, like magnetism, the shifting relationship between natural ore and taconite led over time to profound but unintended consequences. For example, as the value of natural ores declined once taconite plants were operating in the 1950s, mining companies approached the state of Minnesota to request that the older tax classifications of ore, which placed a premium value on high-grade direct-shipping ores, be revised. Company officials argued that these ores had been significantly downgraded in the marketplace and thus deserved a much lower valuation for tax purposes. This devaluation cut tax revenues for Iron Range communities.⁸⁴ As described in chapter two, these communities were shaped in the late nineteenth and early twentieth centuries, in part, by the existing tax structure that put a high value on natural ore. Changing the tax code was difficult work, but it could be accomplished much faster than reorganizing the Iron Range’s urban geography, a process that took many years and involved much personal hardship: the tax laws could be re-engineered with less work than buildings, roads, and schools built in specific locations.

Given the complexity of the depletion of natural ore, what was the ultimate significance of the argument? From a pragmatic standpoint, the argument about the depletion of natural ore did its job. By spreading concern over natural ore’s depletion to

⁸³ University of Minnesota Mines Experiment Station, “The Taconite Story,” unpublished manuscript, July 25, 1952.

⁸⁴ “Marketability of Minnesota Iron Ores Changed Drastically,” *Mesabi Daily News*, October 27, 1958.

leaders of business and government, along with a broader public, and suggesting that taconite offered a solution to this problem, the argument was a key factor in bringing the taconite industry to life in the 1950s. As noted above, once the taconite plants were up and running, ore depletion was no longer a concern. By 1953, a reporter predicted that the combination of successful taconite processing and new foreign sources of iron ore would “eliminate worry over adequate supplies of iron for centuries.”⁸⁵ By 1970, three-quarters of all ore used by the U.S. steel industry was beneficiated ore such as taconite. Over 109 million tons of beneficiated ores were used in 1970, a jump from 57.8 million tons used a decade earlier.⁸⁶ The iron ore market, once hostile to taconite, was dominated by taconite by the 1970s.

The narrative of diminishing natural ore reserves and the urgent call for taconite production as a solution also demonstrates how planning and predictions—resource planning in this case—work not by simply observing the world, but by playing an active role in reshaping it. In short, by predicting the immanent demise of natural ores, engineers such as Davis remade the world to fit this prediction. Expert predictions about the future derive their power not from a neutral and detached accuracy but instead from their ability to shape the future to meet that prediction. They are acts of power, not observation. Or, more precisely, the two are largely the same thing.

⁸⁵ Thomas E. Mullaney, “Steel Industry Cheered in Quest for New Raw Materials Sources,” *New York Times*, January 11, 1953.

⁸⁶ William T. Hogan, *The 1970s: Critical Years for Steel* (Lexington, MA: Lexington Books, 1972), 83.

Foreign Ore

So long as natural ore remained the predominant source of iron ore, taconite was unlikely to be anything more than a curious laboratory experiment. But fears of depletion in the Mesabi range was not enough to guarantee taconite's success. Other industry observers were less certain than Davis that taconite was the logical answer to the depletion of the Mesabi range's natural ore. Steel industry executives believed that foreign ore supplies would be the obvious choice to replace Mesabi natural ore. To counter this argument, Davis was again forced to connect taconite to political concerns. In this case, Davis argued that taconite was central to America's Cold War political and security concerns by emphasizing the importance of a domestic supply of iron ore for the steel industry.

In the last decades of the nineteenth century, iron ore from the Lake Superior mining district faced little foreign competition because of high transportation costs to Great Lakes steel markets and the need for low-phosphorus ore for Bessemer furnaces. By the 1930s, however, the growth of open-hearth steelmaking technology, which could use a wider range of ores, and new discoveries of ore abroad slightly increased the competition between ore suppliers. In practice, however, foreign ore only competed with Lake Superior ores at the few east coast steel mills.⁸⁷ The ore depletion argument made the foreign ores a pressing issue. If Davis was right and the natural ores were being quickly depleted, steel companies would soon have to locate a new source of ore. From the perspective of the steel industry, this was not a particularly urgent concern. If the

⁸⁷ Paul H. Landis, *Three Iron Mining Towns: A Study in Cultural Change* (Ann Arbor, MI: Edwards Brothers, 1938; reprint, New York: Arno Press, 1970), 16; Temin, *Iron and Steel in Nineteenth-Century America*, 189.

Mesabi's natural ore ran out, they believed, they would simply import ore from another source. As James Ross describes, "the steel industry . . . care[d] little about whether their supplies of iron ore originate[d] within the United States, let alone Minnesota."⁸⁸ While specific individuals in the steel industry undoubtedly were concerned with nationalist issues, the problem of ore depletion was ultimately a pragmatic one for steelmakers: where could they get ore to feed the blast furnace? Davis quickly realized that the combination of ore depletion and foreign competition spelled disaster for the Iron Range and for taconite. The belief that the Iron Range was running out of natural ore and foreign competition could replace it would, Davis worried, lead to a downward spiral of investment flowing out of the Lake Superior mining district. As with the depletion argument, this concern remained on the back burner during the depression of the 1930s but was quickly revived with the onset of World War II.

On a personal level, there is little evidence that Davis was an ardent nationalist or held jingoist ideas about domestic ore supplies. The geological and chemical processes that deposit iron ore in the Earth's crust rarely obey national boundaries and his work as a mining engineer took Davis around the world throughout his career. At various times, Davis worked as a consultant for Spain, Russia, and Japan.⁸⁹ In the 1930s, Davis spent several months traveling the Ural Mountains to inspect Soviet iron mines. He spoke publicly about his underlying political attitudes upon returning, telling a crowd, "I did not become a Red. I am not even slightly pink, but I believe I am of a distinctly neutral

⁸⁸ Ross, "Taconite: The Science of Design," 188.

⁸⁹ University of Minnesota News Service, "Professor Edward W. Davis," January 12, 1955; E.W. Davis Info Folder, UMNA.

shade, which, as a matter of fact, is much more rare. . . . It is natural to think that the way things are done in your own country is best, and to criticize the way they are done abroad. I firmly believe, however, that anyone going to Russia open minded will return the same way.”⁹⁰ Given his generally cosmopolitan personal beliefs, it is unlikely that Davis’s arguments about the necessity of a domestic ore supply derived from a deep-seated nationalist impulse. For Davis nationalism was ultimately a tactic—used with limited success—in his attempt to promote a taconite industry.

Davis realized that World War II offered a unique opportunity to attack foreign iron ore. Practically, the war allowed Davis to align the concerns of steelmakers eager for iron ore with the interests of government officials concerned with national security. Taconite, Davis argued, could simultaneously solve the problems of each group in a manner that foreign ore could not: taconite could feed the blast furnaces their needed iron ore and relieve the government’s fears of relying on a foreign source for a raw material essential to war production. Reflecting on the unique confluence of taconite and nationalism during the war, Davis later claimed, taconite “offered the hope of a domestic rather than a foreign ore reserve.”⁹¹

In 1942, Davis presented a report to the U.S. War Production Board that combined these themes into a powerful argument for federal investment in taconite production. Davis’s report painted an alarming picture of the immanent collapse of domestic iron ore supplies, predicted dire consequences for a steel industry operating at unprecedented wartime levels, and suggested that the taconite process he had invented

⁹⁰ E. W. Davis, “Russia,” transcript of speech, 1932, 3, 5; MES Records, UMNA.

⁹¹ Davis, *Pioneering with Taconite*, 90.

was the only option to resolve the coming crisis: “As has been pointed out, unless new large ore supplies are made available in the Lake Superior District within the next few years, the great steel industry now dependent upon Lake ores is facing drastic curtailment of production. The only ore supply of anything like sufficient magnitude to take the place of the rapidly disappearing open pit ore is the enormous quantity of magnetic taconite concentrate that can be made available. It is of the utmost importance that a start be made immediately to work out the best technique and demonstrate the commercial possibilities of concentrating this low-grade rock. . . . This is more of a national problem than a regional or industrial problem at the present time.”⁹² In coordination with Davis’s report, several Iron Range politicians also approached the War Production Board to urge federal support for a low-grade iron ore industry in northern Minnesota.⁹³ Despite these coordinated actions, the War Production Board declined Davis’s plan for federal funding to re-open the old Mesabi Iron Company taconite operation at Babbitt. Davis tried to convince the Board once more, sending a personal appeal to Howard Young of the Board’s Minerals and Metals Coordinating Committee, asking them to reconsider the proposal. Davis insisted that his plan would “determine whether our future ore supply is to be secured from the Lake Superior taconites or from South America.”⁹⁴ The reason for the Board’s decision was unclear, but they perhaps realized that Davis’s taconite plan was not scaleable; taconite processing machines could not be rapidly expanded in the way natural ore mines could, making them less suitable for emergency production than other

⁹² Davis, “Lake Superior Iron Ore and the War Emergency,” 9.

⁹³ “Iron Range Leaders Urge WPB to Boost Use of Low Grade Ore,” *Saint Paul Pioneer Press*, June 9, 1942.

⁹⁴ E. W. Davis to Howard Young, April 10, 1943; Reserve Mining Project General Folder, Box 10, MES Records, UMNA.

ore sources.⁹⁵ In a 1942 letter, Davis admitted that he was “very much disappointed” by the lack of federal support for taconite. Although several Minnesota politicians offered to continue his effort, he thought it was unlikely that their efforts “would get us any place, and so I am giving my attention to the situation here in the State.” He noted, “perhaps we can arrange to have a subsidy offered for the production of the taconite concentrate to be available as a post-war rehabilitation project. . . . That appears to be about the only hope we have left.”⁹⁶ Nationalism could not guarantee taconite’s success (in the form of a federal grant to re-open the abandoned Babbitt plant), so Davis turned to the state as a more likely context for bringing a taconite industry to life.

Nationalism did not permanently drop out of the taconite debate. With the onset of the Cold War in the late 1940s, Davis’s earlier argument about the necessity of a domestic ore supply took on increasing salience. Additionally, the long-term threat posed by the Soviets alleviated the earlier scalability problem, since there would be more than enough time to built taconite plants prior to the end of the Cold War. Nationalist arguments were also particularly persuasive among postwar Iron Range residents, described by a reporter in 1946 as a “stronghold of . . . nationalistic” political beliefs.⁹⁷ By the mid-1950s, defense officials in the United States noted that the taconite industry alleviated their worries about “vulnerable ocean supply lines” for African and South

⁹⁵ Davis later wrote, “only big open pit mines can greatly step up ore shipments virtually overnight.” Davis, *Pioneering with Taconite*, 197.

⁹⁶ E. W. Davis to Henry K. Bourne, December 7, 1942; California General Folder, MES Records, UMNA.

⁹⁷ Reston, “Mine-Job Security Seen in ‘Stockpile.’”

American iron ore.⁹⁸ However, nationalist concerns were never strong enough to justify large-scale government investment in taconite plants. Thus, throughout the late 1940s and early 1950s industry observers concluded that while taconite might offer a novel new source of iron ore it “will never be able to meet the full demand of the blast furnaces and mills between Chicago and Pittsburgh.”⁹⁹ From the perspective of the steel industry, the division between domestic taconite and foreign ore was not an either/or proposition. Many of the major steel companies invested in both foreign ore properties and taconite ventures in northeast Minnesota in the postwar years. For example, U.S. Steel and Bethlehem Steel invested in Minnesota taconite and also planned to use iron ore from newly discovered deposits in Venezuela. Other companies planned a mix of taconite and ore from Canada, Venezuela, and Liberia.¹⁰⁰ Davis’s rhetoric about the importance of domestic ore piqued the interests of some defense officials worried about vulnerable foreign ore sources, but it did not draw enough interest to justify federal support for Davis’s taconite venture. Worse, nationalism did not eliminate the threat of foreign ore since steel companies pursued them simultaneously, suggesting that taconite was less a domestic substitute for foreign ore than one of several competing ore sources available to steelmakers.

⁹⁸ Mullaney, “Science, Industry Master Taconite.”

⁹⁹ “Decline of the Mesabi,” *New York Times*, October 17, 1947.

¹⁰⁰ A.F. Spilhaus and E.W. Davis, “Beneficiation of Magnetic Taconite: An Explanation to Accompany a Demonstration at the Mines Experiment Station,” Minneapolis: University of Minnesota, 1950, 2; Davis, *Pioneering with Taconite*, 138-39.

Taconite Taxation

Realizing that nationalism and the domestic ore supply argument would not necessarily lead to a taconite industry, Davis next turned to the state of Minnesota as an ally in his quest to create a taconite industry. State politicians were more attuned to the concerns of Iron Range residents than federal officials and, more importantly, at the state level Davis could confront a problem that threatened any future taconite industry: taxation. As the taconite project emerged from the laboratory, Davis realized that Minnesota's existing tax system made any future taconite industry financially unfeasible. The state's tax laws could be re-engineered, Davis discovered, but only by drawing together several powerful allies in support of a "business climate" in the state.

Davis was interested in iron ore taxation prior to the 1940s, but he apparently viewed taxation as incidental to the taconite project at the time. In a 1923 speech, Davis criticized the Iron Range towns for their high municipal spending. "It is . . . a well known and widely smiled at fact that the local governments on the range are squandering millions of dollars each year," Davis argued.¹⁰¹ Speaking on the issue again in 1931, Davis suggested that lowering mining tax rates might encourage taconite production, but it was unlikely to lead directly to a new taconite industry. "Change in taxation policy alone would probably not be sufficient encouragement to start the new industry at the present time," Davis said, "but legislation that would remove the risk and uncertainty of taxation expense would be very definite assurance to the iron and steel industries . . . that Minnesota appreciated its position and intended to do everything in its power to make its

¹⁰¹ Edward W. Davis, "A Problem in Taxation," transcript of speech at untitled location, 1923, 5; MES Records, UMNA.

low-grade ores available.”¹⁰² To diffuse concern about his tax proposals, Davis pointed to a program in Ontario, which paid mining companies fifty cents per ton of concentrated ore shipped from the province. Speaking to the Minnesota Tax Conference, Davis argued that although state payments to mining companies might seem ridiculous, “if we had no mining industry, as may well be the case after our high-grade ore is gone . . . then we might look at the situation quite differently.”¹⁰³ As this statement illustrates, by the late 1930s Davis’s warnings about ore depletion dovetailed with taxation as a combined tool to promote taconite. The major hurdle that the tax system put in front of taconite was not yet addressed, however. Minnesota placed a large ad valorem tax on iron ore, which was a tax on the value of minerals in the ground from the day of their discovery until they were removed. The ad valorem tax structure placed two main obstacles in the way of taconite: it created a financial incentive for mine operators to remove the highest grade ore as quickly as possible (avoiding taconite) and, more importantly, if taconite did become valuable iron ore, as Davis hoped, it would fall under the ad valorem tax. Since approximately two-thirds of taconite as it existed in the ground was wasted using Davis’s process, taxing the full amount of taconite in the ground would create a particularly high tax rate for taconite. Davis’s concerns about the ad valorem tax were piqued in 1940 when he met with Republic Steel executives in Cleveland. After telling a vice president about Minnesota taconite, Davis claimed that the executive, “looked down at me and, patting me on the shoulder, he told me to go back to my laboratory and have a good time

¹⁰² Edward W. Davis, “Some Economical Aspects of the Iron Mining Industry,” transcript of speech to American Society of Civil Engineers, October 7, 1931, 5-6; MES Records, UMNA.

¹⁰³ Edward W. Davis, “The Iron Ore Deposits of Minnesota,” transcript of address to Minnesota Tax Conference, March 17, 1937, 15; MES Records, UMNA.

with that taconite, but not to expect him to have any interest ‘in that God-damned hard stuff or anything else out there in Minnesota until you get over the idea of taxing everything to death.’” Davis now worried that the ad valorem tax could kill his taconite project. As Davis described, “at the university we realized that the application of the ad valorem tax to taconite would be disastrous . . . It seemed obvious to us that if taconite were to be utilized, some changes would be required in Minnesota’s mineral tax laws.”¹⁰⁴

Just as the natural ore mines had to be re-engineered into a quickly vanishing resource (and eventually worthless rock), so too would Minnesota’s mineral taxes have to be revised so they were more amendable to taconite. Beginning in the early 1940s, Davis set out to rewrite Minnesota’s mineral tax code. Davis first turned to the steel companies as logical supporters of his plan to change the tax code, but he found that they were not supportive. The steel companies, faced with the practical problem of supplying ore to their blast furnaces, felt that foreign ore fields provided an easier answer than taconite and would not require the complicated and unsavory political work needed to change tax laws.¹⁰⁵ Davis found more support among Iron Range politicians and, indirectly, the residents of the Iron Range. In July 1940, Davis launched a project to convince the people of the Iron Range to support a new state law exempting taconite from the ad valorem mineral tax. The project was coordinated with several University of Minnesota faculty members and supported by influential newspaper editors on the Iron Range, but the project was fundamentally about convincing Iron Range residents that eliminating the tax was in their best interests. According to Davis, the outline of the rewritten ad valorem

¹⁰⁴ Davis, *Pioneering with Taconite*, 92-94, 98.

¹⁰⁵ *Ibid.*, 99.

tax law took shape in the bar of the Fay Hotel in Virginia, Minnesota, on December 2, 1940. There Davis met with a group of Iron Range politicians, including John Blatnik, who later went on to a long career as a U.S. representative. The Iron Range politicians said they would support a new law written by “the university people.” They all agreed that an amendment to the Minnesota constitution would be best as it would guarantee to mining companies that the area would not later raise taxes, but this was unlikely to pass. So, “the next best thing was to get the people on the range—the most tax-conscious citizens in the state—to sponsor a law that would remove taconite from the ad valorem tax rolls.”¹⁰⁶

Yet the support of Iron Range politicians and newspaper editors was not the same thing as support from Iron Range residents. During the 1940 meeting, the politicians told Davis that there would be opposition from residents. “We were asking them to sponsor a law prohibiting themselves from taxing taconite as they had the rich ores. But there was no alternative. Something of this kind was needed as convincing evidence that Minnesota was really in earnest about taconite and would not try to change the law again as soon as investments had been made. Any indication of the attitude ‘Now we got ‘em, let’s soak ‘em’ would be fatal.”¹⁰⁷ As expected, many Iron Range residents were hostile to the prospect of preemptively decreasing taxes on a future taconite industry. A pamphlet urging opposition to any tax reduction on mining indicated the depth of feelings regarding taxation on the Iron Range. The pamphlet described the mining companies as

¹⁰⁶ Ibid., 100-03. Note that Davis’s emphasis on the benefit of a constitutional amendment versus a law is suspect given that his book was released in 1964 in part as part of the broad campaign to support just such an amendment. See chapter two for more details.

¹⁰⁷ Ibid., 102.

motivated by “avarice, greed and grasping hands of a gigantic corporation whose only thought is of profit and more profit.”¹⁰⁸ Trying to resolve these concerns, in 1940 and 1941 Davis gave numerous speeches on the Iron Range encouraging residents to support taconite’s exemption from the ad valorem tax. Describing his approach in these speeches, Davis said: “I presented charts and lantern slides to illustrate the fact that the reserves of high-grade ore on the Mesabi were declining, that an enormous tonnage of taconite was available, and that increased employment would result from any large-scale use of this resource. I told the audience that the future of the Mesabi Range ‘lies in your ability to use low-grade materials,’ but that this would never come about without a change in the ad valorem tax law.” The revised tax law was introduced in the Minnesota house and senate by several Iron Range politicians in 1941. To ensure that the bill moved smoothly through the committees, Davis put his MES staff to work on behalf of influential committee members, preparing statistical summaries and formulas to support other bills these legislators were trying to pass. The law passed easily and taconite was excluded from the ad valorem tax beginning on April 23, 1941.¹⁰⁹ Although Davis’s engineering work had shifted from the MES laboratory to the state capitol, his basic approach still emphasized working with any possible allies to bring a taconite industry to life.

Revising the tax code was similar to the ore depletion argument in that Davis was attempting to overcome forces hostile to taconite. Unlike the natural ore argument, however, which never reappeared once taconite plants were up and running, the revised

¹⁰⁸ Range Municipalities and Civil Association, “Should Cities of the Iron Range Be Reduced to This?” undated pamphlet; in Publications, 1934-1963 Folder 3, Box 4, EWD Papers, MHS.

¹⁰⁹ Davis, *Pioneering with Taconite*, 100, 04. Under oath in a later deposition for an unrelated patent trial, Davis indicated that the 1941 taconite tax law was in fact written in his office at the MES. Transcript of testimony of E. W. Davis, *Edward W. Davis v. Nordahl I. Onstad*, Minneapolis, March 8-10, 1960, 26; EWD papers, UMNA.

tax code could be rewritten at any time. Davis thus had to spend considerable time ensuring that the new tax laws remained on the books. Just two years after the law was passed, Davis was again speaking about taxes on the Iron Range. In a 1943 speech to the Virginia, Minnesota, chamber of commerce, Davis praised Iron Range residents for supporting the tax change, a decision that meant they were “freely surrendering practically all of their rights to tax the taconite industry.” By accepting the new tax policy, Davis said they were wisely realizing “that the payroll dollar is . . . more important than the tax dollar . . . If a large steel company builds a 20 million dollar taconite plant in your district, they place themselves and their money in your hands. They will expect to work here as your neighbor for a great many years and the friendly, appreciative, cooperative attitude of the range communities is of the greatest importance to them.”¹¹⁰ The changed tax code needed Davis’s constant attention, such as his speech reminding Iron Range residents why they had voted to lower taxes on mining companies and encouraging them not to raise them in the future. A 1945 report by MES staff—ostensibly about Mesabi range geology—also pointed to low taxation as both necessary for taconite and particularly susceptible to change. “Of all the adverse factors threatening the success of such an industry [taconite],” the author wrote, “the most serious is the question of taxation. Before the enormous sums required for development of such an industry could be safely invested, there would have to be some way of knowing what the tax burden would be, and of relying upon its not being increased, according to the political whims of parties or groups who might obtain control of taxing policies.”¹¹¹

¹¹⁰ Edward W. Davis, “Mesabi Taconite,” transcript of speech to Virginia, MN, chamber of commerce, July 28, 1943, 13; MES Records, Box 13, UMNA.

Trying to ensure the ongoing stability of the new tax laws, Davis spread the message about taconite's future benefits to an audience beyond the Iron Range. In 1950, Davis worked with iron mining executives and an advertising agency to prepare a series of newspaper ads meant to convince Minnesotans of the large tax contributions made by iron mining companies in Minnesota. According to the advertising campaign's manager, the "long-term objective is to create a favorable tax climate for the iron ore industry in Minnesota in order that it may not only hold its present place in our economy, but expand so as to provide more jobs and more benefits of all types for the state."¹¹² The advertisements detailed exactly how much tax money each Minnesota county received from taxes on Minnesota iron mining.¹¹³ By connecting with people around the state through newspaper ads, Davis was attempting to ensure that the revised tax code would not be changed.

Davis soon took up a broad argument that taconite did not require specific changes in tax laws so much as an overall business "climate" that was conducive to investment.¹¹⁴ As mentioned above, the problem with the tax laws was that they could be changed relatively quickly whereas once business capital was fixed in a taconite plant it was literally anchored to the ground and immobile. Davis was worried that the threat of

¹¹¹ Stephen Royce, "Geological Description of the Mesabi Range Taconites," *University of Minnesota Information Circular No. 5 of the Mines Experiment Station*, September 1945: 12.

¹¹² J. P. Devaney to William T. Harris, September 7, 1950; in Edward W. Davis Info Folder, EWD papers, UMNA.

¹¹³ "Why Your School Taxes Haven't Gone Even Higher," advertisement proof, September 11, 1950; in Edward W. Davis Info Folder, EWD papers, UMN Archives; J. P. Devaney letter to E. W. Davis, February 6, 1950; Minneapolis, Minn., General Folder, MES Records, UMNA.

¹¹⁴ Marvin Taylor, "A Rock for the State: Edward W. Davis and the Reserve Mining Legacy" (master's thesis, University of Minnesota, 2007), 4.

taconite plants being built only to then see higher taxes would dissuade investment and thus derail the taconite project. As Davis told a statewide conference in 1955, any hint of a “now we got ‘em, let’s soak ‘em,” attitude meant the state could “kiss future industrial expansion goodbye.”¹¹⁵ Gradually throughout the late 1940s and early 1950s, as he was working to build a taconite industry, Davis turned to the idea of using corporate taxes to create a “business climate” that encouraged investment in taconite.

Like the natural ore depletion argument, Davis’s call to use the tax code to create a favorable business climate was sharply contested by powerful figures in Minnesota. In a personal letter, Minnesota Governor Orville Freeman criticized Davis and his frequent editorials calling for a better “business climate” in Minnesota and changes in the tax laws. “The premise of your article seems to be that we will need to satisfy from here to eternity with some kind of guaranteed fool-proof system the fears of people who might be investors in our state,” Freeman wrote to Davis. “If they are concerned about some distant development which might affect them tax-wise[,] [t]he truth of the matter is that there can be no such assurances forever.” Freeman went on to criticize Davis for suggesting that he was an expert in tax policy: “it seems to me you are doing your state a great disservice to allow articles to be written in which you speak as an expert in a field in which you do not claim to be one.”¹¹⁶ Freeman also expressed these concerns in public forums. In a 1958 speech to ten thousand in Eveleth, Freeman said the mining companies were “crying wolf” by asking for tax relief from the state. He noted that the mining companies were not forthcoming with data to prove that Minnesota’s tax situation was

¹¹⁵ “How Not to Grow,” *Saint Paul Pioneer Press*, November 18, 1955.

¹¹⁶ Orville L. Freeman to E. W. Davis, November 3, 1958; Correspondence 1911-1973 Folder 2, Box 1, EWD papers, MHS.

harming their business.¹¹⁷ That the opposition of powerful politicians did little to slow taconite's development speaks less to Davis's power at the state capitol than to his success in building a technopolitical network that avoided the messy back-and-forth of party politics. By translating the desire of Iron Range residents for mining jobs into a concern about low taxes for taconite companies, Davis was largely insulated from politicians such as the Governor.

Despite his role in lowering tax rates for mining companies, there is little evidence that Davis was personally opposed to corporate taxes. Indeed, he was aware that business executives could use the ad valorem exemption to argue for lower corporate taxes across the board. In a personal letter, Davis claimed that he was cynical of Inland Steel President Clarence B. Randall's support of the tax reduction: "Randall is rabid and always has been about the Minnesota ad valorem tax. It is a sort of hobby of his to blame everything on this tax policy although his company pays mighty little tax in Minnesota."¹¹⁸ In another letter, Davis explained that his complaints regarding the mining tax laws were not about the amount collected, per se, "but the fact that local communities on the Iron Range are permitted to waste so much of the money they collect."¹¹⁹ Davis's general belief was not that corporate taxes should be low, but that they should be predictable. Steady, predictable taxes were important, he argued, "so the operator can figure his costs accurately and give positive assurance that he can pay back the money he

¹¹⁷ "Freeman Says Ore Firms Cry Wolf," *Duluth News-Tribune*, August 11, 1958.

¹¹⁸ Edward W. Davis to K. C. McCutcheon, June 23, 1948; Kentucky Armco Steel Corp. Folder, MES Records, UMNA.

¹¹⁹ Edward W. Davis to Arthur Upgren, February 25, 1946; Minneapolis, Minn., General folder, MES records, UMNA.

has borrowed to build his taconite plant.”¹²⁰

The business climate argument represented Davis’s attempt to align the interests of mining company executives worried about rising tax rates and Iron Range residents worried about jobs and the local tax base. Davis described how a business climate conducive to corporate investment, specifically investment in taconite, would help Iron Range miners. Davis focused on the issue of employment, suggesting that increased business investment in taconite could guarantee long term, high paying jobs in the mining industry. In other words, the business climate argument sought to align low taxes and high employment in an effort to enroll the miners as taconite’s allies. Although Davis had tangentially addressed the nexus of taxation and employment in the 1920s and 1930s, his efforts to construct a business climate that aligned both of these issues began in earnest in the 1940s. The years after World War II were a period of difficult relations between the mining companies and Iron Range residents. Many residents believed the mining companies owed them a living because they brought them (or their parents) to the region. However, technical advances had also greatly reduced the amount of manpower needed to produce a given amount of ore. The result, Davis claimed, “was not a healthy situation” in which “work was scarce, and large numbers of men remained unemployed.”¹²¹ Davis argued that taconite offered a unique resolution to the employment problem provided that Iron Range residents could overcome their historic hostility to the mining companies and work together to ensure a future of mutual prosperity. Speaking before a crowd in Eveleth in 1946 that was likely hostile or at least

¹²⁰ Edward W. Davis, “Fear of Tax Increase Declared Holding Back Taconite Industry,” *Minneapolis Star*, October 30, 1958.

¹²¹ Davis, *Pioneering with Taconite*, 95.

uneasy about his plans for lowering mining taxes, Davis emphasized that the future of the Iron Range communities hinged on taconite. “The long-range prosperity of the people of the Mesabi Range is dependent almost entirely upon the utilization of taconite,” Davis told the crowd. “I am going to attempt to prove to you that the one important problem before the present generation is to get a taconite industry established. To accomplish this, it will be necessary for all of us—the local populations, the labor organizations, the steel companies, and the research men—to work together.”¹²² Davis described taconite’s employment benefits in more concrete terms in a 1948 radio program, when he assured the Duluth radio audience that taconite production required two or three times the manpower per ton of ore produced than direct shipping ore and that if a taconite industry began the Iron Range should begin making plans for population increases.¹²³ Davis’s success in translating the employment concerns of miners into the fate of taconite was illustrated quite literally during a 1951 television program intended to support taconite. The show’s announcer told viewers, “this small, round pellet of high grade iron ore means jobs for Minnesota workers. . . . it means money for Minnesota communities . . . it means that for generations to come, a great industry will remain in the state and will contribute to its welfare because Professor E. W. Davis . . . worked out an efficient process for the manufacture of a high grade iron ore.”¹²⁴ Davis also tried to alleviate the concerns of Iron Range officials worried that lowering taconite taxes would lead to lower

¹²² E. W. Davis, “Mesabi Ore Situation,” transcript of speech, Eveleth, MN, April 5, 1946, 1; MES Records, Box 13, UMNA.

¹²³ “Taconite,” transcript of radio broadcast, WEBC, Duluth, MN, January 30, 1948, 3; MES Records, Box 13, UMNA.

¹²⁴ Saul N. Wernick, writer, and David H. Gaines, producer, “University of Minnesota Television Program: Taconite,” WTGN-TV, February 15, 1951, 15; transcript in “Misc.” folder, MES Records, UMNA.

city revenue. To these community officials Davis suggested a motto of “forget the tax dollar, give us the payroll dollar.”¹²⁵ Facing the possibility of declining employment in the natural ore mines (a concern created in part by Davis), community officials were urged to focus on jobs rather than taxation as the main emphasis of economic development efforts. In his attempt to create a favorable business climate, Davis asked Iron Range communities to abandon previous associations of high taxation and hostility to the mining companies and reach a compromise that guaranteed continued employment through low taxation.

Davis’s predictions for an employment boom from taconite were not uncontested. Among executives at various Iron Range mining companies, who perhaps knew best the employment requirements of mining operations, there was serious skepticism about Davis’s employment claims. In a personal letter, an Oliver Mining executive—U.S. Steel’s iron mining subsidiary—admitted that the statistics about increased labor for taconite were totally unproven. “While the industry had long been talking about the necessity of mining three tons of crude for every ton of taconite concentrate produced, we now know that this did not mean three times as many miners for an equal tonnage. Actually, no one had really figured out how many people there would be.”¹²⁶ While taconite required much more rock to be mined than natural ore, a much larger amount of the work required in taconite mining and processing was automated, making it difficult to determine the exact employment needs in the future. From the perspective of other

¹²⁵ E. W. Davis, “Eveleth Meeting” notes, 1957; Background Material, 1912-1968 folder, Box 1, EWD papers, MHS.

¹²⁶ Donald D. Harries to R.T. Elstad, June 4, 1954; in Taconite 1954 Folder, Box 1987.0970.MSS.00000011, BBHMC.

mining company officials, the employment arguments put forth by Davis were spurious. In private correspondence the president of Hanna Mining, which did not operate a taconite plant at the time, suggested that other mining firms should not participate in any surveys about taconite job production because he felt they were just a public relations ploy by other mining companies hoping to lower taconite tax rates: “there is no doubt but what Reserve and Erie [Mining companies] are trying to get enough publicity relative to additional employment and purchasing power so that it will offset anything which may be done to tax the taconite industry to bear their fair share of the burden in connection with schools, hospitals, and other public facilities.”¹²⁷ In a remarkably prescient observation, a mining executive warned that publicity about the positive economic benefits of taconite was creating unrealistic expectations in the Iron Range communities. He argued that touting taconite’s economic benefits would likely “impart a kind of boom psychology” in the area and “feed the flames of enthusiasm on the part of hospital commissions and school boards for substantial expansion of their facilities.” The executive explained that he had tried to dampen these expectations about taconite’s economic benefits: “I have had to say to the Virginia Hospital Commission more than once that I thought they were planning for patients that would never enter their doors.”¹²⁸ Once again, these criticisms were largely unsuccessful in slowing the enthusiasm surrounding taconite.

While some critics believed Davis’s argument about the business climate was just a cover for the ambitions of the steel industry, it is more accurate to say that the business

¹²⁷ R. W. Whitney to C. W. Gardner, June 9, 1954; in Taconite 1954 Folder, Box 1987.0970.MSS.00000011, BBHMC.

¹²⁸ Donald D. Harries to R.T. Elstad, June 4, 1954; in Taconite 1954 Folder, Box 1987.0970.MSS.00000011, BBHMC.

climate argument was the result of Davis's attempts to hold together a particularly unstable alliance needed to ensure taconite's success. Davis was trying to align miners' concern for steady jobs with business executives' interest in low taxes and lead both sides to achieve their composite goal through his taconite process. The 1941 tax law was one attempt to resolve this problem, but it was not a permanent solution. By moving to the idea of a business climate, rather than just a specific statute on taxation, Davis believed he had hit upon a long-term solution to the taxation problem. Given his previous success in handling natural ore, it is perhaps not surprising that Davis ultimately turned to a natural metaphor—taxation as climate—to resolve the taxation dispute. Taxation thus became an essential tool in manipulating an overall business climate, meaning that the creation of a low-tax, growth-oriented environment was not an “external” development but rather a contingent and pragmatic move by engineers, policy makers, and business executives trying to advance their individual agendas.¹²⁹

Rewriting *state* tax laws opened up yet another pandora's box of problems for Davis. Since he worked with state government officials and argued that taconite production was essential for the state of Minnesota, Davis needed to convince a variety of people across the state that they, too, had a stake in taconite's success. To accomplish this, Davis spent part of his time in the late 1940s and 1950s speaking to groups across Minnesota to promote taconite among Minnesotans beyond the Iron Range. Among the most successful of these publicity efforts were Davis's frequent visits to Minnesota

¹²⁹ Historians have argued that in the decades after World War II business launched an assault on labor, the New Deal, and the welfare state by, among other things, pushing for lower taxes. See Elizabeth A. Fones-Wolf, *Selling Free Enterprise: The Business Assault on Labor and Liberalism, 1945-1960* (Urbana: University of Illinois Press, 1994); and Julian E. Zelizer, *Taxing America: Wilbur D. Mills, Congress, and the State, 1945-1975* (New York: Cambridge University Press, 1998).

classrooms to explain taconite. Historian James Ross remembered one such visit, recalling, “I was in 4th grade when [Davis] stood before me and my friends. He gave thousands of the state’s school children little kits of taconite pellets, vials of lean ore and magnets, and taught them how to spell taconite and to duplicate his early experiments with magnetic separation.”¹³⁰ For those students who could not meet Davis in person (or interested Minnesotans who were not students), the MES offered a “taconite kit” via mail. The kit offered four samples of taconite in various stages from rock to crushed powder to manufactured pellet. Along with the samples came instructions for recreating the MES experiments at home by, for example, crushing the powder with a hammer and picking up the iron with a magnet or mixing the iron powder with flour and baking it in the oven to create a taconite pellet. The kits were advertised during a television special that encouraged viewers to “do this in your own home” and “see for yourself how simple this process is that means so much to Minnesota’s iron mining future.”¹³¹ Just as he had in the 1910s, Davis worked to expand the scope of taconite processing. If his original taconite experiments were reproduced not just in the MES laboratory and the taconite production plants but in thousands of classrooms and kitchens across the state, enthusiasm for taconite would expand to the public at large. Davis was not alone in the effort to convince Minnesota residents to support mining and taconite. Executives for all the major iron ore producers in the Great Lakes region met in Duluth in 1954 to coordinate efforts to educate people in the region about the operation of mining and its

¹³⁰ Ross, “Taconite: The Science of Design,” 229-30.

¹³¹ “This Taconite Kit is Sent to You By the Mines Experiment Station of the University of Minnesota,” March 21, 1951; UMN School of Mines “Misc.” Folder, UMNA; Wernick and Gaines, “University of Minnesota Television Program: Taconite.”

importance to the region. Executives at the meeting emphasized the importance of coordinating their efforts with school teachers, perhaps by hiring teachers to work summers at mine observation points and educate visitors about the mine operations.¹³² Taconite, Davis argued, required financial help from the state in the form of lower taxes, but achieving lower taxes demanded a statewide effort to justify taconite to residents with little connection to the Iron Range or mining.

Building Taconite Plants

After resolving the many technical problems of taconite and overcoming threats to taconite's financial viability, such as natural ore mining or the ad valorem tax, by the late 1940s one crucial set of allies still had to be enrolled in the taconite project to ensure its long term success. Executives in the steel industry had not been enthusiastic supporters of taconite throughout Davis's career. Yet Davis also believed that only the steel industry could coordinate the necessary financing, construction, and labor needed to translate his laboratory process into a working industry. Thus, throughout the late 1940s and early 1950s, Davis worked to convince executives from steel firms to invest in taconite plants on the Iron Range. These efforts were ultimately successful and by the middle of the 1950s two enormous taconite plants were operating on the Iron Range.

Like the other obstacles confronting the taconite project, the steel industry's hesitancy to invest in taconite needed re-engineering by Davis. Unlike foreign ore or taxation, re-engineering the steel industry required only a small amount of work by Davis

¹³² Meeting minutes from Iron and Steel Institute Meeting on Educational Cooperation, Duluth, MN, March 25, 1954; in Misc. 1954 Folder, Box 1987.0970.MSS.00000011, BBHMC.

who met personally with steel executives and gradually nudged them toward investing in taconite. Davis's many efforts to recreate natures, politics, and economies in a manner favorable to taconite had not been completely ignored by the steel companies. By the late 1940s, following taconite's exclusion from the ad valorem tax and amid concerns about disappearing high-grade ore reserves—both projects spearheaded by Davis—several mining companies including Bethlehem Steel, Oliver Mining (of U.S. Steel), Reserve Mining, and Erie Mining established research operations to test the feasibility of taconite. Research stations—as Davis knew all too well—did not guarantee a future taconite industry, but they did signal that Davis's many efforts had not gone unnoticed. Davis personally coordinated, and likely precipitated, a final commitment to taconite when several firms were deciding whether to invest in an expensive plant to mine and process taconite on the Iron Range. In 1950, Davis invited executives from Armco and Republic Steel to the University of Minnesota for a start-to-finish demonstration of the taconite process. After a successful demonstration at the Mines Experiment Research Station, Davis and the executives had lunch at the Campus Club. University President Morrill, who knew the Armco executives from his earlier appointment at Ohio State, dropped in to visit and the entire group dined on fresh pheasant. One executive later claimed, “the university bribed the visitors with pheasants to get them into the taconite business.”¹³³

Davis's personal coordination led Armco and Republic Steel to invest in taconite through the jointly owned Reserve Mining Company. Other steel firms, however, moved into the taconite business without Davis's direct help, although all the steel companies made use of the MES techniques and the political and economic landscape Davis had

¹³³ Davis, *Pioneering with Taconite*, 111, 43.

engineered. By the late 1940s and early 1950s, Oliver Mining built a pilot plant at Mountain Iron, Minnesota, to experiment with taconite production and Erie Mining (subsidiary of Picklands, Mather, and Company) constructed another experimental plant near Aurora, Minnesota.¹³⁴ The Erie plant was particularly successful and was soon expanded at a cost of \$300 million, leading some journalists to predict a coming boom in taconite construction on the Iron Range.¹³⁵ After forty years of work in the laboratory, the state capitol, and on the Iron Range, Davis could now safely delegate much of the work needed to create the plants to the many other engineers, executives, and employees who would ultimately create a taconite industry.

Davis's personal connection continued with Reserve Mining, however, and in 1951 he took a leave of absence from the MES to assist with the construction of Reserve's taconite plant on the north shore of Lake Superior.¹³⁶ After reviewing many different options, executives at Reserve decided to separate the taconite mine at the original Babbitt location from the processing plant, located at Silver Bay on the shore of Lake Superior, to minimize transportation costs. Additionally, by building on the lake the Silver Bay plant could tap into the enormous hydraulic power of Lake Superior to provide water for the separation process and a convenient dump for taconite's enormous tailing waste. Although it is tempting to see the construction of the Reserve Mining plant as the final stage in taconite's successful transformation from rock to iron ore, the reality was that as the plant was under construction, and even once it was running, taconite still

¹³⁴ Ibid., 118, 42-43.

¹³⁵ "\$75,000,000 Plant for Taconite Set," *New York Times*, September 22, 1951; "Erie Mining Plans \$300,000,000 Plant," *New York Times*, February 17, 1952; Thomas E. Mullaney, "Big Boom Foreseen in Low-Grade Ores," *New York Times*, October 14, 1949.

¹³⁶ Davis, *Pioneering with Taconite*, 145.

was an unstable entity that could have collapsed because of any number of complications. One specific problem arose when Reserve had difficulty financing the expensive plant. Without financing, Davis noted, even the most well-designed engineering venture would not materialize: “Plans can be announced, land acquired, permits secured, and preliminary work completed, but until adequate financing is arranged, there is no assurance that a taconite project will actually become a reality.”¹³⁷ Financing ultimately was arranged, but once the plant was built a number of new technical problems came up that again threatened the project. The Reserve plant relied heavily on the flow charts created by Davis at the MES, but the greatly expanded scale of taconite processing at the plant introduced a new set of problems and led to yet another round of re-engineering. For example, the initial wear on the crushing and grinding machines was tremendous and far more than Davis expected. The machines used a special manganese steel alloy for strength and, even then, engineers had to replace six of the 500-pound steel crushing rods daily because they wore down so quickly. Engineers also realized that one step in the flow chart, the fine crushers, was holding up the rest of the operation. Although the fine crushers had been designed for the proper volume, under operation the other steps in the process could handle excess capacity, so the fine crushers had to be enlarged (by adding another one) for the plant to operate at maximum efficiency. This change, however, meant that the rod mills were now too small, so they also had to be enlarged.¹³⁸ In short, the MES’s laboratory techniques had to be significantly revised in the factory setting. These problems were ultimately resolved at Reserve Mining but they occupied a large

¹³⁷ Ibid., 144-45.

¹³⁸ Ibid., 163, 80-81.

team of engineers for many years and, once the designs were in place, the whole system still required the ongoing work of a large maintenance staff to remain operational.

Staffing the Reserve operation, both at the Babbitt mine and the Silver Bay processing plant, opened up a new set of difficulties. The taconite operations utilized previously overlooked ore bodies, meaning that they were often located far from existing Iron Range towns. For the Reserve Mining Company, the answer to this problem was to construct new company towns for mine and plant employees. Reserve estimated that the Babbitt mine would require approximately 1,000 employees and it hired Pace Associates of Chicago and Robert Jones from the University of Minnesota to plan the new village. Mining taconite, a much harder rock than Mesabi hematite, required different skills than those possessed by natural ore miners and Reserve recruited from mine operators around the United States already familiar with hard-rock mining and processing. Eventually, skilled workers were brought in from New York and Kentucky.¹³⁹ Building the town of Silver Bay, where the processing plant was located, was more complicated and required a small army of several thousand construction workers who were housed in a nearby barracks and fed in a company mess hall.¹⁴⁰

The Reserve Mining taconite plant at Silver Bay processed its first taconite pellets in 1955. Davis, who retired from the university that year and moved to Silver Bay to work as a consultant for Reserve, was in the plant's control room to push the switch that

¹³⁹ Davis, *Pioneering with Taconite*, 157-58. Hiring employees from other regions complicated Davis and Reserve's earlier arguments about taconite's importance in resolving Iron Range unemployment.

¹⁴⁰ *Ibid.*, 168. See also Reserve Mining Company, "Your Visit to Reserve," undated pamphlet; in Edward W. Davis Info Folder, UMNA.

dumped the first ore car into the crushers.¹⁴¹ The plant was officially dedicated a year later. Named the E. W. Davis works in honor of Davis's central role in bringing taconite to life, the plant's opening was attended by Reserve officials who read a congratulatory letter from President Eisenhower, who wrote that taconite would contribute to "the progress and security of the United States."¹⁴² Davis eventually moved to a new home on a hill overlooking a plant named after him and, to some degree, a technopolitical world he and taconite had re-engineered.

Conclusion

In the years after opening, the E. W. Davis works was a qualified success. The plant was initially designed to produce 3.75 million tons of taconite per year, but through greater than expected efficiency and several expansions, the plant was producing 6 million tons annually by 1961. Throughout the 1970s, the plant at Silver Bay supplied fifteen percent of the nation's iron ore supply.¹⁴³ By re-engineering natures, politics, and societies, Davis and taconite succeeded where the early Mesabi Iron Company had failed.

But taconite's long term success was still not guaranteed even with the plant churning out millions of tons of pellets each year. The tax situation, for example, could revert back to the previous high tax system with a change in the law and Reserve officials worked continuously during the 1950s to remind Minnesotans that their interests

¹⁴¹ Ibid., 176-77; Thomas R. Huffman, "Exploring the Legacy of Reserve Mining: What Does the Longest Environmental Trial in History Tell Us About the Meaning of American Environmentalism?," *Journal of Policy History* 12, no. 3 (2000): 340.

¹⁴² Dwight Eisenhower to Reserve Mining, September 12, 1956; Correspondence 1911-1973 Folder 2, Box 1, EWD papers, MHS; Davis, *Pioneering with Taconite*, 183.

¹⁴³ Ibid., 181; Huffman, "Exploring the Legacy of Reserve Mining," 340.

depended, in part, on taconite and taconite depended on continued low taxes. Reserve Mining executives thus spoke in various public forums to promote taconite and its benefits to Minnesota. As Davis described these efforts, “[one executive] felt that Reserve had received from the state of Minnesota benefits of great importance—the taconite tax law and the permits that had been granted to use Lake Superior as a source of water and as a place to deposit taconite tailings. He undertook to acquaint the public with Reserve’s contributions to the welfare of Minnesota, which had come about as a direct result of these privileges.” More troubling for the Iron Range executives was new competition. Seeing the high production achieved by Reserve Mining and Erie Mining at their Minnesota taconite facilities, mining firms around the world rushed to build new facilities using similar technology to compete with taconite. By the 1960s, U.S. Steel had opened pelletizing plants in Quebec and Wyoming, while international firms built plants in Japan, Peru, and Sweden.¹⁴⁴ Rather than supplanting foreign competition, taconite’s success was generating *new* competition. The high production level achieved at the E. W. Davis plant also created difficult problems because, ultimately, the taconite plants supplied raw materials for the steel industry and thus were linked to the production limitations of the blast furnaces. Reserve Mining produced more taconite than Republic Steel and Armco could use, so the ore was stockpiled. As the stockpile grew, Reserve was forced to cut back operations in 1958, eventually shutting down the plant every fourth week to prevent oversupply.¹⁴⁵ Taconite obviously was not the miracle rock that could cure all problems on the Iron Range. Several years after the E. W. Davis Works

¹⁴⁴ Davis, *Pioneering with Taconite*, 187, 93.

¹⁴⁵ “Taconite Setback,” *Minneapolis Star*, February 26, 1958; “Reserve Mining to Cut Output of Taconite Pellets,” *Minneapolis Tribune*, February 25, 1958.

opened, a *New York Times* article expressed a gloomy outlook for the region's overall prospects, noting, "taconite will never attain the ore production nor provide the employment the range knew in the peak years."¹⁴⁶ Davis was also worried about the long-term health of taconite as late as 1959. He claimed that the future of taconite as a source of iron ore remained uncertain even after the Reserve Mining and Erie plants were in operation. Davis noted that while these plants were producing pellets, taconite was still being mixed with natural ores in the blast furnaces. More importantly, during the 1950s large deposits of rich natural ores were discovered around the world, including a large deposit in Labrador that was richer than beneficiated taconite. Republic Steel, which was co-owner of the Reserve plant, purchased Labrador reserves in the 1950s to hedge against taconite. "If taconite could not compete with foreign ores," Davis noted, "Reserve and Erie had made costly mistakes, and the future of Minnesota—indeed, of the whole Lake Superior ore-producing district—looked very dark."¹⁴⁷ Producing taconite in enormous plants was an important victory for Davis, but it was not a permanent resolution. If taxes changed, if the blast furnaces needed less taconite, or if the machines broke down too often, the taconite project could still fall apart.

Prior to his death in 1973, Davis was recognized throughout the nation for his work in creating a taconite industry. He was hailed as exemplifying a particularly successful combination of academic and practical knowledge. As a business analyst later described Davis's work, "the story of taconite is one of the great stories of scholarship in action," claiming that the huge taconite processing plants scattered across the Iron Range

¹⁴⁶ Homer Bigart, "Poverty Blights Iron Ore Region," *New York Times*, January 13, 1964.

¹⁴⁷ Davis, *Pioneering with Taconite*, 189-90.

“stand as colossal reminders that there is little in the world as good as a good and dedicated scientist like E. W. Davis.”¹⁴⁸ Academic institutions also recognized Davis’s work. He eventually received honorary doctorate degrees from Purdue University and the University of Minnesota, along with several honorary awards from the iron and steel industry.¹⁴⁹ Despite this largely sanctimonious public treatment, Davis was not without his quirks. In his later years, after he moved to a ranch home in Silver Bay overlooking the E. W. Davis works, he described himself as “the undisputed patriarch” of the town.¹⁵⁰ But he also cannot be dismissed as a megalomaniac or charlatan. Throughout his career, Davis was generous with praise and quick to remind everyone that taconite was the result of many people’s efforts. Without the contributions of “many competent, energetic, and generous people,” he wrote, “taconite would still be only another rock in the earth’s crust.”¹⁵¹

The scant scholarly literature available has described Davis’s move from engineering to political work as a shift or change in approach. This chapter argues that Davis’s career reveals more continuity than difference in his work with the taconite dust in the laboratory and his work with texts and politicians in the state capitol. Davis and the history of taconite demonstrate that there is no easy or even recognizable divide between political, scientific, technical, or cultural work. From the lab to the statehouse to the television studio, Davis’s work with magnets and ore depletion narratives was

¹⁴⁸ D. J. Tice, “The Thing on the Hill,” *Corporate Report Minnesota*, October 1982, 62-63.

¹⁴⁹ “Davis Given Steel Award,” *Silver Bay News*, May 5, 1971.

¹⁵⁰ Carl Hennemann, “He Hopes Amendment Will Pass-Dr. Edward Davis: ‘Mr. Taconite,’” *Saint Paul Dispatch*, October 21, 1964.

¹⁵¹ Davis, *Pioneering with Taconite*, ix.

simultaneously natural and political, technical and cultural. No one understood the complex, heterogeneous, and contingent nature of technopolitics better than Davis. Although much of his career was dedicated to the pragmatic, if difficult, effort to transform taconite rocks into valuable iron ore, during the times when he stopped to reflect on the nature of his work as a scientist Davis made clear that he was an engineer working with whatever allies, materials, or techniques were available to bring taconite to life. Speaking to a group of his fellow engineers in 1933, Davis predicted that the taconite project would require work across many different fields:

As you can undoubtedly understand . . . the [taconite] situation is quite involved and the remedy requires the combined study of the technical, economic, legal, and legislative phases of the problem. It is a simple matter for the technical man to propose changes to improve conditions but the economist must then decide whether or not the plan is sound and workable and what the effect will be on the iron mining industry, on the various cities and villages on the iron ranges and on the state as a whole. The legality of any proposal must be passed upon by legal experts and the proper bills and amendments [*sic.*] must be carefully drawn up to put the plan into complete operation and at the same time properly protect all parties concerned. And last and probably most difficult of all, the plan must be brought before the people of the state, presented in the proper political light and eventually incorporated into the laws.¹⁵²

As Davis predicted, bringing taconite to life would require technical, economic, legal, and legislative “phases,” along with natural and social efforts. What Davis left out of the speech was that he planned to re-engineer all the various elements involved, making himself, in effect, an engineer-economist-politician-ecologist. Davis might have described his work in simpler terms: he was merely doing what scientists do. In an article intended for Minneapolis newspaper readers, Davis described the heterogeneous work of the modern scientist: “These modern scientists are not the long-whiskered pedagogues of

¹⁵² E. W. Davis, “The Utilization of the Low Grade Iron Ores of Minnesota,” transcript of speech to St. Paul Chapter of American Society of Civil Engineers, May 25, 1933; MES Records, UMNA.

the funny pictures, but are keen, highly trained young men that one day may be wielding a shovel and have red iron ore on their pants and in their hair, the next day they may be working in a spotless laboratory with delicate microscopes examining polished surfaces of the ore particles and making X-ray photographs, and the next day they may be deep in the economic problems involved, studying interest rates, depletion, taxes, depreciation, and the labor situation.”¹⁵³

Stepping outside the perspective offered by Davis and his multifaceted engineering work, it is clear that technological innovation was a double edged sword in industrial regions such as the Iron Range in the twentieth century. The taconite industry and Davis have been hailed as exemplars of how technology can save declining industrial regions, but such accounts rarely consider technology’s disruptive potential. In the case of taconite, Davis arguably simultaneously created the problem of depletion and its savior in the taconite industry.

¹⁵³ Davis, “The Future of the Iron Ore Industry in the State of Minnesota,” 2.

CHAPTER 2

TAXING LABOR: THE 1964 TACONITE AMENDMENT AND THE CREATION OF A TAX CUT CONSENSUS ON THE POSTWAR IRON RANGE

Death and taxes, as the saying goes, are the only two things we can count on in our human existence. While death remains the common lot for humanity, taxes are another matter. The history of taxation reveals enormously divergent attitudes toward taxes and plans for their implementation. Ideas about who should and should not be taxed, why they should be taxed, and how taxes should be collected varied so widely throughout the twentieth century that it is difficult to point toward any common history of taxation, aside from modern governments' need for money.¹

This chapter describes one small but significant event in the changing history of twentieth century taxation, arguing that the event—and taxation in general—offers a useful site for thinking about widespread changes in twentieth century American political and economic life. The exact event was a debate about corporate income taxes on Minnesota's taconite mining industry, specifically a plan for cutting taxes on taconite producers and reversing the early twentieth century policies of high taxes on mining companies. This debate began as a technical matter involving mining engineers, economists, and tax policy experts. But during the early 1960s the dispute intensified as

¹ For a broad overview of United States tax policy in the twentieth century, see W. Elliot Brownlee, *Federal Taxation in America: A Short History* (New York: Woodrow Wilson Center and Cambridge University Press, 1996). Brownlee focuses exclusively on federal taxes rather than the emphasis

liberal and conservative politicians used taconite taxation as a divisive wedge issue that forced Iron Range residents, especially industrial workers, to wrestle with competing political identities: the liberal working class versus the conservative tax payer.

Throughout the first half of the 1960s, the debate over taconite taxation was among the foremost political issues in Minnesota and it eventually split the state's Democratic-Farmer-Labor [DFL] Party and offered conservatives entrance into the historically liberal Iron Range. The debate culminated with the passage of an amendment to the Minnesota Constitution in 1964 that ensured low taxes for taconite and limited any future tax increases, a dramatic reversal of earlier anti-corporate political policies on the Iron Range that emphasized high corporate taxes as recompense for the removal of the state's natural resources.

Tax policy is therefore an important part of understanding the postwar history of the Iron Range. But taxes and tax policy also offer valuable general insights into the wider course of twentieth century U.S. history. Taxes, especially corporate taxes, illustrate a society's ideas about the appropriate relationship between corporations and the state. Through tax policy, a society puts down in black and white its understanding of what, if anything, companies owe to the larger political body. These policies obviously cannot reflect the multiplicity of ideas within a population, but they nonetheless offer historians one site for reconstructing past attitudes about the relationship between business and government.

If tax codes reflect social beliefs, then we should pay careful attention to those moments when tax policy is substantively changed. On one level, the mundane routines

on state taxes in this chapter. See also the useful appendix provided in Robin L. Einhorn, *American*

of tax policy at the local, state, and federal level hardly seem like important historical events. Taxes do not evolve through dramatic confrontations, but instead are shaped by endless committee meetings in dreary government buildings, with legislators and economists pouring over revenue in a technocratic language that is obtuse even to the initiated. To a great extent, tax changes are the result of immediate political imperatives. In the twentieth century, politicians have endlessly tweaked the tax code for political advantage, thus creating the Byzantine modern U.S. tax system, which is filled with loopholes, credits, and deductions meant to appeal to specific demographic groups that were politically important at a particular moment in the past. In many ways, the tax code is like an archeology of past political concerns, where the needs and wants of past interest groups are semi-permanently sedimented into the present. Thus, as the tax code grew during the twentieth century, it became “increasingly layered.”² Nevertheless, the politics of tax making should not blind us to the larger historical significance of tax policy. If the nuts and bolts of changing the tax code are driven by political imperatives, the larger terrain of possibility for taxes—what is and is not thinkable to politicians at any given moment—is a reflection of widespread ideas concerning the appropriate scale and role for the government in the lives of citizens and the economy.

Historians have powerfully demonstrated how the tax code reflected deep-seated beliefs about business, labor, race, and gender throughout American history. As the economist Joseph Schumpeter noted long ago, taxation reveals the real priorities of the state and recent work by historians confirms Schumpeter’s argument.³ In the early

Taxation, American Slavery (Chicago: University of Chicago Press, 2006), 257-67.

² Brownlee, *Federal Taxation in America*, 8.

nineteenth century, Robyn Einhorn has shown how the U.S. tax code reveals the centrality of racialized slavery in the shape of American government.⁴ Alice Kessler-Harris has similarly demonstrated how the income tax reveals the gendered assumptions about economic citizenship and equality that run throughout twentieth century U.S. history.⁵ In the second half of the twentieth century, Julian Zelizer has noted how the federal tax code became the primary vehicle for government intervention in the economy.⁶ Clearly, tax historian W. Elliot Brownlee is correct to suggest that “tax politics was always an important vehicle for the expression of both national values and . . . underlying social and ideological conflicts.”⁷

This chapter builds on the insights of this small but significant body of tax history, demonstrating how shifting attitudes toward corporate taxation reflected deep-seated changes in the relationship between corporations and citizens in the decades after World War II. The history of corporate taxation—a topic that has received almost no attention from historians—is a particularly valuable site for understanding how attitudes toward government and business changed in the twentieth century. The Iron Range was not alone in reaching a consensus to cut corporate taxes in the postwar decades. As Zelizer notes, corporate tax policy and individual tax policy were linked in the postwar decades by “the

³ Joseph A. Schumpeter, “The Crisis of the Tax State,” (1954); quoted in Einhorn, *American Taxation, American Slavery*, 6.

⁴ Ibid.

⁵ Alice Kessler-Harris, *In Pursuit of Equity: Women, Men, and the Quest for Economic Citizenship in 20th-Century America* (New York: Oxford University Press, 2001), 170-202.

⁶ Julian E. Zelizer, *Taxing America: Wilbur D. Mills, Congress, and the State, 1945-1975* (New York: Cambridge University Press, 1998).

⁷ Brownlee, *Federal Taxation in America*, 4.

guiding assumption . . . that increased revenue would be produced automatically from economic growth.” Congress thus put downward pressure on federal corporate taxes throughout the 1960s, giving corporations a large investment credit in 1962 that caused the highest tax rate for corporations to decline “from 70 percent in 1964 to 36 percent in 1986.”⁸ Political scientist Cathie J. Martin describes the overall pattern of declining corporate taxation as a percentage of all taxes paid in the twentieth century United States as a long term “shifting of the burden” of taxation away from corporations and on to individuals in the form of payroll taxes. In the early 1950s, corporate taxes provided approximately 30 percent of all tax revenue at the federal level. By 1983, this amount declined to 8 percent. Over the course of the postwar decades, corporations paid for a smaller and smaller share of government, with individuals taking up the slack via payroll deductions.⁹ The decision to cut taxes on the Iron Range was one important piece of a larger national story about the shift from corporate taxes to individual taxes in the late twentieth century.

Conversely, the history of taxation is important because taxation not only reflects ideas but also shapes future actions. Decisions about taxation are examples of what historian Paul Starr calls “constitutive choices,” or decisions that, once made, play a crucial role in shaping the possible outcome of future decisions.¹⁰ In the case of iron

⁸ Julian E. Zelizer, “The Uneasy Relationship: Democracy, Taxation, and State Building since the New Deal,” in *The Democratic Experiment: New Directions in American Political History*, ed. Meg Jacobs, William J. Novak, and Julian E. Zelizer (Princeton, NJ: Princeton University Press, 2003), 288.

⁹ Cathie J. Martin, *Shifting the Burden: The Struggle over Growth and Corporate Taxation* (Chicago: University of Chicago Press, 1991), 10.

¹⁰ Paul Starr, *The Creation of the Media: Political Origins of Modern Communications* (New York: Basic Books, 2004), 1-2. This is similar to the concept of path dependency in economics literature.

mining, decisions about taconite taxation—especially the decision to exclude taconite from taxes placed on natural ore mining—were important constitutive decisions that channeled capital, labor, and technology toward certain outcomes, a taconite industry in this case, and away from others such as the older natural ore mines. It is important to remember the contingency of such decisions since the constitutive nature of tax decisions can make the eventual outcome seem predetermined.

Historian Paul Sabin offers a relevant example of how tax policy shaped decisions about investment and technology in his retelling of the early California gasoline tax system. At the beginning of the twentieth century, California was at the forefront of both petroleum exploration and automobile use. Yet it was not given that automobiles and the highway network they required would overtake the earlier system of streetcars and railroads as completely and quickly as they did. To understand this rapid transition from streetcars to personal automobiles, Sabin argues, we need to consider how the tax system for funding highways channeled tremendous amounts of money to road construction, creating a feedback loop that created more and better roads for cars, thus inducing more people to use private cars, which in turn funneled more money to highways. As Sabin puts it, “the new user-financing system for highways, under which users paid separate taxes and fees that funded highway development, channeled financial resources to the road network.” The underlying shift Sabin describes is from a system of direct government subsidy for supported projects to a system of user-financing, where money from given tax sources was dedicated for one type of use. In the case of California’s highways, the user-financed system meant that tax and fee money collected on gasoline taxes and automobile registration fees had to be put toward highways for automobiles.

The system was a shift from the earlier tax policy of simply allocating highway money from general property taxes, thus making the decision to fund or not fund highways part of a broader political debate about what a society values and wishes to promote.¹¹ The significance of the story is that seemingly natural developments, such as California's dependence on the personal automobile, were not inevitable developments but were outcomes, in part, of decisions about how and what to tax.¹²

If taxes in general deserve increased attention from historians, what does this specific tax debate—the taconite amendment—illustrate? One key significance of the taconite amendment is that it highlights one of the great wedge issues of post-World War II U.S. history: the tax revolt and its role in the long, slow decomposition of the New Deal order and creation of a New Right majority by the last decades of the century. While the reasons for this political shift were multifaceted, one of the main levers in prying apart the New Deal coalition was taxation. Beginning as early as the 1950s and 1960s, American conservatives sought to undermine labor's connection to the Democratic Party by invoking another identity, the taxpayer, among blue-collar industrial workers. American factory workers were not just rank-and-file union members who should blindly follow the political decisions of union leaders, this rhetoric implied, but also middle class taxpayers who deserved value for their money from the government. The idea of citizens making demands on the government as taxpayers was not new in the 1960s. Historians have found examples of taxpayer movements stretching back into the nineteenth

¹¹ Paul Sabin, *Crude Politics: The California Oil Market, 1900-1940* (Berkeley: University of California Press, 2005), 160-61.

¹² *Ibid.*, 159-81.

century.¹³ Nonetheless, the contours of the blue-collar taxpayer revolt were unique to the postwar era, made possible by broad postwar affluence and a Cold War political climate that stifled expressions of class-based identity. More importantly, when the financial stability of blue-collar workers began eroding due to deindustrialization and increasing global competition in the middle decades of the twentieth century, the political rhetoric of the taxpayer took on increasing importance in many industrial communities such as the Iron Range.

It was only in the decades after World War II that mass taxation became a political issue in American life, largely because this was the first time that income taxation extended to the large majority of the American population for a sustained time. In his in-depth history of the federal income tax during the second half of the twentieth century, historian Julian Zelizer describes how the full implications of sustained mass taxation were only realized in the decades after World War II. Although the sixteenth amendment to the U.S. Constitution permitted a national income tax beginning in 1913, taxation in the early decades of the twentieth century rarely reached industrial workers. It was only with the onset of World War II, which spread prosperity to many industrial workers and put enormous fiscal strains on the federal government, that taxation affected industrial workers on a national scale. The wartime taxes were portrayed as a patriotic sacrifice, however, so it was not until the decades after World War II that many industrial workers

¹³ Sven Beckert, "Democracy in the Age of Capital: Contesting Suffrage Rights in Gilded Age New York," in *The Democratic Experiment: New Directions in American Political History*, ed. Meg Jacobs, William J. Novak, and Julian E. Zelizer (Princeton, NJ: Princeton University Press, 2003), 146; Heather Cox Richardson, *West from Appomattox: The Reconstruction of America after the Civil War* (New Haven, CT: Yale University Press, 2007). Of course, the United States was arguably born out of a "taxpayers revolt."

and poor Americans began thinking about the long-term implications of mass taxation.¹⁴ As historian W. Elliot Brownlee puts it, during the postwar era “mass taxation had replaced class taxation” with 90 percent of all wage earners now submitting income tax returns.¹⁵ Politicians also learned important lessons about the impact of sustained mass taxation in the postwar decades. For liberals, the enormous sums of tax money flowing into government coffers meant that government could manipulate the national macroeconomy through taxation. The scale of money involved could produce consequential effects on the nation’s overall economy. Also, the American state committed itself to increased social spending throughout the New Deal and World War II years, and it was only during the postwar decades that liberal politicians focused on the fiscal implications of funding these government obligations over the long term. Conservatives, too, took away important political lessons from mass taxation, realizing that year after year of paying income taxes changed many citizens’ attitude toward government. Sustained mass taxation meant that so-called big government and high social spending were not just ideological questions, but pocketbook issues for most Americans.¹⁶

On the postwar Iron Range, the new politics of taxation ran headlong into an established liberal tradition of active government funded by high taxes on mining companies. By the postwar era, the Iron Range was among the most staunchly liberal

¹⁴ Zelizer, *Taxing America*; Kessler-Harris, *In Pursuit of Equity*, 172-73.

¹⁵ W. Elliot Brownlee, “Tax Regimes, National Crisis, and State-Building in America,” in *Funding the Modern American State, 1941-1995: The Rise and Fall of the Era of Easy Finance*, ed. W. Elliot Brownlee, Lee H. Hamilton, (Washington DC: Woodrow Wilson Center Press and Cambridge University Press, 1996), 93.

regions in the United States. Two generations of active unionism and hostile relations between mining corporations and miners culminated in wholehearted support for Minnesota's DFL Party, with many Iron Range politicians supporting the Party's liberal wing. Sharp antagonism to the mining corporations—portrayed as grasping, greedy corporations based outside the region—permeated the DFL's Iron Range rhetoric. A *New York Times* reporter visiting the Iron Range in 1946 noted the region's commitment to liberalism, writing, "the Iron Range is still the stronghold of the nationalistic Democratic-Farmer Labor party."¹⁷ Or, as Hibbing native Bob Dylan later remembered, the area "was an extremely volatile, politically active area—with the Farmer Labor Party, Social Democrats, socialists, communists . . . and not too much for Republicanism."¹⁸ Given this political dynamic, Minnesota Republicans largely wrote off the Iron Range as a lost cause for conservatism in the middle of the century.

However, taxation changed the region's political calculations by the 1950s and 1960s. The appearance of the taconite amendment in the late 1950s offered a unique wedge for conservatives to stake a political claim in northeast Minnesota. In the specific case of the taconite amendment, Republicans attempted to paint the taconite tax cut as a tool for growth in an industry that was reeling from global competition in the late 1950s and early 1960s. Perhaps nowhere was the issue clearer than on the billboards that mining companies erected along Iron Range highways during the 1961 amendment controversy. The billboards asked Iron Range drivers, "Mining Jobs or Taxes, Which Help You the

¹⁶ Meg Jacobs, *Pocketbook Politics: Economic Citizenship in Twentieth-Century America* (Princeton, NJ: Princeton University Press, 2005); Zelizer, *Taxing America*.

¹⁷ James Reston, "Mine-Job Security Seen in 'Stockpile,'" *New York Times*, July 16, 1946.

Most?”¹⁹ The use of corporate tax cuts as a politically divisive issue in the early 1960s signals the complexity of political realignments in the mid-twentieth century. The narrative of a culture war has gained widespread salience since the 1960s, but the battles over the taconite amendment illustrate simultaneous fiscal wars that worked alongside the politics of cultural outrage.²⁰ As American industrial workers were buffeted between contradictory appeals—liberal calls to identify based on their productive selves as workers and conservative appeals to recognize their consuming selves as taxpayers—the fiscal wars were no less wrenching and affected many Iron Rangers at a personal level. More than the culture wars, though, the partisan fiscal debates directly affected how government could operate. By cutting government revenue or shifting it away from corporations and toward individuals, the fiscal revolt transformed government, on many levels, into a leaner entity that emphasized efficiency and was more directly responsible to taxpayers than the liberalism of the World War II era.

A second major significance of the taconite amendment is that it was an early example of the tax incentive growth policies that spread throughout the U.S. by the end of the twentieth century. The underlying rationale of tax incentive growth policy was to use targeted tax cuts to stimulate specific sectors of the economy. Examples like the taconite amendment demonstrate how these policies came into widespread use in the postwar era, beginning with the focused local- and state-level cuts seen in the taconite

¹⁸ Bob Dylan, *Chronicles*, vol. 1 (New York: Simon and Schuster, 2004), 231.

¹⁹ “Mining: Tension on the Mesabi,” *Newsweek*, May 1, 1961: 70.

²⁰ On the culture war narrative, see Thomas Frank, *What's the Matter with Kansas? How Conservatives Won the Heart of America* (New York: Metropolitan Books, 2004); Rick Perlstein, *Nixonland: The Rise of a President and the Fracturing of America* (New York: Scribner, 2008). The

industry. By the 1960s and 1970s the American tax code, from the federal to the local level, was riddled with these loopholes aimed at stimulating various politically-influential sectors of the economy.²¹ While the economic effects of these tax cuts are debatable, the outcome for liberalism was undeniable. The belief that cutting taxes in a given industry could stimulate the economy was deeply corrosive to the liberal state. The underlying implication of tax incentive policy was that taxes necessarily stifle economic growth. If only taxes could be cut across the board, the policy implied, broad economic growth would ensue. Thus, by the last decades of the twentieth century, the type of focused, industry-specific tax cuts seen in the taconite industry had spread to the American population as a whole. By the last decades of the twentieth century, the nation's political rhetoric, among liberals and conservatives, demonized taxation. The point of this analysis is not to criticize these later tax policies but rather to emphasize the convoluted roots of these twentieth century anti-tax attitudes. The antipathy toward taxation that holds sway in American public life at the beginning of the twenty-first century has many precedents, but industrial tax incentives such as the taconite amendment are an important part of its family tree.

The taconite amendment demonstrates how tax incentive growth policies emerged not as a nefarious plot by anti-tax conservatives or corporations bullying state governments. Rather, the taconite amendment highlights how a wide variety of groups, from labor unions to economists to U.S. Steel to state lawmakers, came to see a complicated tax policy as the best possible solution to their divergent problems. The

concept of fiscal wars is similar to Herbert Stein's description of a "fiscal revolution" in the mid-twentieth century United States. Herbert Stein, *The Fiscal Revolution in America* (Washington DC: AEI Press, 1990).

taconite amendment thus served as a passage point, the common denominator for the different needs and wants of the groups involved. The historically significant point is the contingency of the alignment between tax cuts and economic growth: a reminder that this equation was not always a given. It was an equivalence that coalesced for a complex series of contingent reasons. There was no direct line between the corporate boardroom and tax cuts, or conservative political ideology and the eventual taconite amendment. Rather, there were hundreds, perhaps thousands of actors moving simultaneously in many directions. And the surprise in this case was that their various interests coalesced around taconite, the man-made rock, and its tax rates. Carefully reconstructing the history of the taconite amendment thus offers a useful example of what Peter Miller and Nikolas Rose describe as the “precise, meticulous and scholarly tracing of the small and dispersed events that brought something new into existence, and in doing so, irreversibly reshaped human ontology and ethics.”²² The idea that cutting taxes equaled economic growth was new in the 1960s. This chapter describes the construction of this idea.

Taxation on the Iron Range

The creation of a tax cut consensus on the Iron Range in the 1960s was a striking reversal of the region’s past attitudes toward corporate taxation. Throughout the early twentieth century, the Iron Range stood out as a haven for working class radicalism in the United States. Practically, this radical sentiment was channeled into high corporate taxes on mining companies. Fueled by the belief that mining firms were greedy, profitable

²¹ Zelizer, *Taxing America*.

corporations, Iron Range residents expressed the view that the mining towns had to take what was rightfully theirs through taxes. Thus, the switch to support tax cuts for mining firms in the 1960s was a sharp reversal of past ideologies that illustrates how economic decline and fiscal policy undercut an older pattern of anti-corporate radicalism in the postwar decades.

Taxation of Minnesota's mineral land and mining companies had a complicated early history. When iron mining first began in northeast Minnesota in the 1880s, mine owners moved quickly to limit their tax obligations. In 1881, mining entrepreneur George C. Stone spearheaded the passage of a state law that removed all property taxes on mining corporations and replaced them with a production tax of one cent per ton of iron ore shipped. Stone wanted to ensure mines could not be taxed on their large capital investments before they began producing ore. Mines were free from property taxes until 1897, when the earlier law was declared unconstitutional. From 1897 to 1914, mines were taxed on the same basis as all other property in Minnesota. After acknowledging that proper valuation of mineral property was especially difficult, the state enacted special—and relatively high—property taxes on mines in 1913. By the 1910s, many Iron Range villages also established special taxes on mines that greatly increased the revenue of the towns and taxed mines at a high rate compared to other businesses.²³ A pure resource extraction industry, mining posed thorny problems for taxation and was a flash

²² Peter Miller and Nikolas Rose, *Governing the Present: Administering Economic, Social and Economic Life* (Malden, MA: Polity, 2008), 4.

²³ Roy G. Blakey, *Taxation in Minnesota* (Minneapolis: University of Minnesota Press, 1932), 234-76, 600; David A. Walker, *Iron Frontier: The Discovery and Early Development of Minnesota's Three Ranges* (Saint Paul: Minnesota Historical Society Press, 1979), 37, 131. See also Lewis E. Young, *Mine Taxation in the United States* (Urbana: University of Illinois Press, 1917), 54-55.

point for ideologies about the relative responsibilities of corporations, communities, and the state to one another.

The belief that mines should pay higher tax rates than other businesses was the result of a theory called the natural heritage theory of taxation, prominent among tax officials in the first decades of the twentieth century. According to this theory, Minnesota's iron ore was a unique "natural heritage" of wealth for the state and any company removing that wealth should pay high taxes in recompense. As an economist described the situation in 1932, "the special taxes levied on the mining industry were the outgrowth of a general opinion in certain parts of the state that the mining companies were not required to pay as much as they should under the general property tax then in force. The natural heritage and diminishing value theories, and especially the belief that foreign corporations made large profits from Minnesota ores, probably had much to do with creating a public opinion in favor of special mine taxation."²⁴ The belief that taxes should be used to penalize corporations for taking wealth that rightfully belonged to the people was not unique to Minnesota's mineral taxation in the early twentieth century. At the federal level, too, tax policy during the Progressive era emphasized high tax rates on corporations and the wealthy as punishment for those making excess profits.²⁵

On the Iron Range, the natural heritage theory of taxation and anti-corporate radicalism was personified in populist mayor Victor Power of Hibbing. Power was a miner and attorney in Hibbing during the early twentieth century. In 1913, he was elected Mayor and proceeded to raise the local property taxes on the mining companies to

²⁴ Blakey, *Taxation in Minnesota*, 247.

dramatically higher levels. He raised the village taxes on mining companies approximately one thousand percent during the late 1910s. Power used the high taxes to hire seasonally unemployed miners and build impressive public buildings in the town. Under fire from the mining companies and state politicians in Saint Paul, Power defended his high tax, high spending regime in deeply populist language, telling voters, “Did we do wrong . . . to take money from [Charles] Schwab to prevent him from breaking the bank of Monte Carlo?” As Power’s language made clear, Iron Range residents saw the high taxes as rightful recompense for the loss of valuable natural resources to rich and powerful business owners who already made excess profits.²⁶

By the 1930s, however, the taxation issue was hotly debated on the Iron Range as residents and civic leaders pushed for higher taxes and mining companies sought tax relief. A sociologist studying Iron Range communities in the 1930s described taxation as the “only weapon” available to city leaders and labor: “through taxation [Iron Range civic officials] could acquire not only poor relief for labor but subsidies for struggling business enterprises; not only necessary conveniences for the public good, but luxuries.”²⁷ The high municipal taxes on the Iron Range reached a crisis during the Great Depression when the economic collapse drastically cut mining operations. The crisis occurred because the mines were shipping hardly any iron ore, yet the taxes levied by local cities and school districts on the total amount of ore left in the ground continued

²⁵ Brownlee, *Federal Taxation in America*, 5.

²⁶ Warren Roberts, *State Taxation of Metallic Deposits* (Cambridge, MA: Harvard University Press, 1944), 342-353.

²⁷ Paul H. Landis, *Three Iron Mining Towns: A Study in Cultural Change* (Ann Arbor, MI: Edwards Brothers, 1938; reprint, New York: Arno Press, 1970), 112.

unabated. Mining companies were upset at this continued high taxation despite the terrible economic conditions for ore.²⁸ Even sympathetic observers saw the Iron Range's lavish municipal spending as problematic amid widespread rural destitution during the Depression. In a personal letter to Eleanor Roosevelt, for example, government reporter Lorena Hickok described Depression-era Hibbing as "a sort of story-book town" where the expensive high school contained a clinic "that would do credit to the most perfectly equipped metropolitan hospital." Citing the town's public buildings, Hickok concluded that there was "darned little destitution up here" when compared with other rural areas she had visited.²⁹

Thus, the high corporate tax ideology prevalent on the Iron Range was under assault by the World War II era. Criticism of high municipal taxes on the Iron Range reached a national audience in 1944 when *American Mercury* mocked the city of Hibbing in a muckraking article. Hibbing, readers were told, was a "razzle-dazzle village" that used taxes to gouge the mining companies and wasted the tax money on lavish public expenditures with no view toward the long term fiscal health of the city. The article expressed mocking wonder at the public facilities in Hibbing, fawning over the city's four-million-dollar high school, quarter-million-dollar city hall, and lavish public recreation building. "[Hibbing] is everything a mining town is not supposed to be, a hundred-million-dollar spot set in the backwoods." However, the article did not suggest that these public facilities were beneficial in a dreary northern mining town or

²⁸ State of Minnesota, Iron Range Resources and Rehabilitation Board, "The Iron Range Resources and Rehabilitation Board: 50 Years of Vision," Eveleth, MN, 1991, 2.

recompense for the removal of so much natural wealth. Instead, they were portrayed as essentially wasteful public expenses, turning the city into nothing more than “a wonderland of municipal doo-dads.” Reporter Nathan Cohen blamed Hibbing’s wasteful approach on Victor Power. Cohen described the popular nine-term mayor as “the whoop-de-doo boy of the range country, the original boondogger, a political virtuoso who was a Huey Long to the mine owners, an Abraham Lincoln to the miners and Santa Claus to the building contractors and equipment salesmen.” However, in Cohen’s view, the city’s residents ultimately were responsible for continuing the tradition of high taxation after Power left office. They created a community where the mining corporations were subject to high taxation and the money was frittered away on municipal opulence, a result, Cohen believed, of “a paw deep in the tax pocket of the mine operators who pay the bill . . . They tax to the limit, and spend to the hilt.” To the national audience of *American Mercury*, Hibbing—and by association the other cities of the Iron Range—epitomized the problems and waste associated with high taxes on productive industry. The article’s underlying argument revealed changing ideas about corporate taxation, suggesting that high local taxes were wasteful and hindered economic activity.

Despite Cohen’s attempt to paint Hibbing as a corrupt mining town drunk on tax revenue, the voices of local residents hinted at an alternative understanding of the Iron Range’s municipal tax system, which used the high taxes as a form of public welfare in a one-industry town dependent on the notoriously fickle iron ore market. It was true that the city collected large tax revenues from the mining industry. From 1914 to 1944, mining companies in and around Hibbing paid sixty-four million dollars in municipal

²⁹ Lorena Hickok, *One Third of a Nation: Lorena Hickok Reports on the Great Depression*, ed.

taxes. But one resident explained that the high taxes were a logical response to the extractive nature of iron ore mining and meant to take advantage of the industry during its necessarily limited life span. As the city resident put it, “we feel this way about it . . . Some day the ore will be gone. We might as well have a good time while it lasts, and get ourselves something to remember it by.” High municipal taxes were also a source of direct public welfare in the Iron Range towns. When Hibbing mines closed, Victor Power hired over one thousand workers—almost every able-bodied man in Hibbing—on the municipal payroll. Although Cohen portrayed high municipal taxes as an example of wasteful public spending and short-sighted tax policies, the voices of Hibbing residents revealed that the high municipal tax system of the Iron Range cities in the early twentieth century was a coherent, populist response to the economic arrangements of extractive industry. The municipality was almost totally dependent on a single, fickle industry that would necessarily end at some point in the future. To Hibbing residents, the high taxes were a logical response to the financial realities of a mining town.³⁰

Cohen’s attempt to brand the Iron Range’s municipal tax system as wasteful was largely successful in the long run. The system of high taxes on industry, even if they were used to finance public works and relief, was effectively painted as profligate and hindering the long-term growth of industry and municipal fiscal health. By implication, the underlying anti-corporate philosophy behind the older tax system was vilified as well. The sense that the mining companies were unfairly taking profits that rightly belonged to the people of the Iron Range—illustrated by the resident’s desire to “get ourselves something”—was consigned to an outdated and inefficient mindset that needed to be

Richard Lowitt and Maurine H. Beasley (Urbana: University of Illinois Press, 2000), 129-30.

updated for the mid-twentieth century. Thus, even the comments of apologists for Iron Range taxation illustrated how the fundamental mindset about the role of taxation had changed dramatically by the 1940s. Writing to a newspaper in response to the *American Mercury* article, one Minnesota resident admitted that the Iron Range communities had wasted tax money in the past, but he argued that, “in recent years, the thought has spread that the mining companies and communities had much in common, that they prospered mutually.”³¹ Iron Range cities no longer could pass tax increases and now worried that tax rates made Mesabi ore too expensive in a competitive global market. In 1949, the Virginia Chamber of Commerce officially announced its opposition to any increase in iron ore taxation, citing the overall cost of iron ore and fears that higher taxes would lead to decreases in mining activity.³² By the middle decades of the twentieth century, the ideology of corporate taxation on the Iron Range and throughout the nation was in flux. Older ideas that high taxes were an appropriate vehicle for communities to hold onto corporate profits that were rightfully theirs were slowly shifting toward a broad anti-tax sentiment that imagined taxes as a hindrance on productive industry. While these deep-seated changes simmered throughout the 1940s and 1950s, they moved to the forefront of political debate in the early 1960s.

³⁰ Nathan Cohen, “Razzle-Dazzle Village,” *American Mercury*, March 1944, 346-50.

³¹ George L. Peterson, “Hibbing Disclaims the Title of ‘Razzle Dazzle Village,’” *Minneapolis Star*, May 22, 1944.

³² Andrew Bradish to Fred Cina, February 28, 1949; Box 1, Folder 02.03.01.00000010; FC Papers.

Economic Decline on the Iron Range, 1955-1961

The decade between the construction of the first taconite plants in 1955 and the passage of the taconite amendment in 1964 was an era of widespread economic anxiety in the mining region. E. W. Davis's success in perfecting the taconite process led to the creation of two large taconite plants on the Iron Range by the mid-1950s. Reserve Mining and Erie Mining, both joint ventures by several major steel firms, were churning out taconite pellets by the end of the 1950s. However, the construction of the first two taconite plants did not guarantee that taconite would overtake natural ore as the predominant source of iron ore for the world's steel makers, nor did the success of the two Minnesota plants necessarily mean that future taconite plants would be built in the Lake Superior region. Davis recognized the uncertain position of taconite in the late 1950s and early 1960s. He noted in 1964 that taconite was still being mixed with natural ores in blast furnaces. More importantly, during the 1950s large deposits of rich natural ores were discovered around the world, including a large deposit in Labrador that was richer than beneficiated taconite. "If taconite could not compete with foreign ores," Davis warned, "Reserve and Erie had made costly mistakes, and the future of Minnesota—indeed, of the whole Lake Superior ore-producing district—looked very dark."³³

Throughout the late 1950s and early 1960s, the Iron Range's mining economy suffered a series of sharp blows that led many to question whether mining would continue to exist in the region. While engineers such as Davis were debating the merits of taconite, the existing natural ore mines were closing down at an alarming rate and the future of the entire iron mining region appeared bleak. It is not surprising, then, that these years were

ripe for rearranging long-standing political alliances in the mining region. Eighty years of iron mining had produced a particular alignment of political and economic forces in the area. Once the very existence of the industry was in question, the political allegiances on the Iron Range were put in flux. The taconite amendment would become a key event in reshaping the region's political landscape.

The global importance of natural ore from the Lake Superior region declined dramatically during the period from 1945 to the early 1960s. For example, Minnesota's share of all U.S. iron ore purchases fell throughout the late 1940s and 1950s. While Minnesota was responsible for 68 percent of all U.S. iron ore purchases in 1946, by 1957 it only produced 49 percent.³⁴ At its highest production levels, iron ore from the Lake Superior region supplied nine out of every ten tons of ore used by the American iron and steel industry. By 1960, it was supplying less than half of the needed ore.³⁵ These declines were a harsh illustration of the declining fortunes of natural ore mining on the Iron Range at mid century. And it was not just the proportion of ore supplied by the Iron Range that was dropping. The total tonnage of natural ore mined on the Iron Range was falling sharply as well. Minnesota's production of iron ore dropped from 80 million tons in 1953 to 46 million tons in 1964.³⁶ The overall context in which Iron Range residents confronted the taconite amendment was one of sharp decline in the natural ore mines.

³³ E. W. Davis, *Pioneering with Taconite* (St. Paul: Minnesota Historical Society, 1964), 189-90.

³⁴ "Constitutional Balm for an Old Sore," *Business Week*, September 14, 1963, 112.

³⁵ "Lake Superior Iron Posts Market Loss," *New York Times*, August 5, 1960.

³⁶ "Mining: The Iron Amendment," *Newsweek*, November 16, 1964, 74.

While all natural ore mining was suffering in the 1950s and 1960s, underground mines in the Lake Superior region were particularly hard hit by the move toward taconite and the flood of imported ore. Older iron mining regions on the Vermillion Range, north of the Mesabi, and in northern Wisconsin and Michigan's Upper Peninsula relied heavily on underground mining to extract ore that ran deep below the surface. The cost of extracting ore was necessarily higher in underground mines than in open pit strip mines, so they were among the first targets of shutdowns. The shutdown of an underground mine in Montreal, Wisconsin, was a particularly bad omen for underground mining in the region. The Montreal mine was the largest underground iron mine in the Lake Superior region and when it was permanently closed in 1962 it still contained seven million tons of unmined ore. The presence of so much ore in a mine that closed was an ominous sign that the underground mines were closing not because of depletion but because they were no longer cost effective in comparison to taconite and foreign ore.³⁷ The end of underground iron mining signaled a new reality for Lake Superior natural ore: it was no longer the primary source of iron ore for the iron and steel industry. From this point forward, Lake Superior natural ore would have to compete with foreign sources and taconite if it was to be used in the blast furnaces.

The decline of natural ore mining, both in underground and open pit mines, had lasting effects on the number and types of jobs available in the region's mining industry. Throughout the 1950s and 1960s, the total number of workers engaged in mining fell dramatically. Thousands of miners were laid off during this period and many faced no legitimate prospect of returning to mine work and the high salary it offered. Minnesota's

iron mining industry shed over six thousand jobs, some due to seasonal layoff and others permanent cuts, in the last years of the 1950s.³⁸ The number of workers laid off does not tell the entire story of the era's decline, however. Even for those workers who retained mining jobs, their hours and take-home pay were often cut as a result of the downturn. For example, workers at Oliver Mining were cut back to a four-day workweek in 1958.³⁹ U.S. Steel later idled several mines entirely as the steel decline deepened.⁴⁰ Whether permanently laid off or facing reduced hours, iron miners in the late 1950s and early 1960s confronted a rapidly declining industry with few sure prospects for the future. This underlying uncertainty about the future of iron mining would play an important role in many miners' response to the taconite amendment.

The steel slowdown and corresponding decline in natural ore mining also was felt in qualitative terms by Iron Range residents and outside observers. Comments about work and life on the Iron Range at mid century emphasized the region's declining fortunes and a general feeling of despair that was omnipresent although hard to locate precisely. A national reporter described Hibbing in 1961: "The town is populated by 18,000 vigorous people . . . Once fabulously rich from ore taxes—the high school is an opulent reminder of those days—Hibbing has fallen on hard times. Many people are out of work and worried, and here one can see clearly the impact of Minnesota's growing

³⁷ Leo J. Hertzler, "Defeat on the Great Lakes," *The Nation*, September 8, 1962, 109-111.

³⁸ "U. S. Iron Ore Market Squeezed by Steel Slump, Rise in Imports," *New York Times*, March 23, 1958.

³⁹ "Mesabi Iron Work Cut," *New York Times*, March 13, 1958.

⁴⁰ "U.S. Steel Closes Several Furnaces as Demand Slides," *New York Times*, March 23, 1960.

economic problems.”⁴¹ A *New York Times* reporter wrote that the outlook for the Great Lakes iron ore mines was “the bleakest in more than twenty years.”⁴² Hard times on the Iron Range were evident both in mining statistics and evaluations of the area’s future prospects.

In many ways, overall quality of life was declining for Iron Range residents during the 1950s and 1960s. This is nowhere more evident than in the overall drop in the region’s population during the immediate postwar era, which saw a steady outflow of residents to other parts of the state and nation. A 1964 newspaper article quoted an administrator from one iron mining county in Michigan as saying, “the fact is that everyone is leaving the area. We have always exported young people. Now we are exporting the middle-aged. The county population shrank from 10,000 in 1940 to 7,830 in 1960.”⁴³ Minnesota’s mining towns faced similar population loss during these decades. The population of Virginia, Minnesota, declined between 1950 and 1970. Nearby Eveleth’s twentieth century population peaked in 1930 at 7,484 residents but the city lost almost one third of its population by 1970.⁴⁴ The decline in population was especially striking in the context of the nationwide population boom after World War II. The iron ore mining regions were losing population at the same time that suburban schools and the sunbelt region of the southern and western U.S. were rapidly gaining residents, illustrating both the uneven nature of the postwar economic expansion and the comparative poverty of the mining

⁴¹ Clay Blair, Jr., “Minnesota Grows Older,” *Saturday Evening Post*, March 18, 1961.

⁴² “Iron Mines Face a Bleak Outlook,” *New York Times*, April 10, 1961.

⁴³ Homer Bigart, “Poverty Blights Iron Ore Region,” *New York Times*, January 13, 1964.

region. The population decline challenged the very existence of several small towns in Minnesota's Iron Range. The Iron Range had historically been populated by a string of small towns spread along the ore formation, but the declining population hollowed out some of the towns to the point that they were no longer viable. In 1964, a consultant recommended that the towns of Virginia, Eveleth, Gilbert and Mountain Iron—four of the largest towns on the eastern Mesabi Range—combine into a single entity rather than “drift into the future without positive corrective action.” Without a radical response to the population decline—and corresponding decline in city revenue—the consultant warned, “the outlook is grim indeed” for the small towns of the Mesabi Range.⁴⁵ The declining population affected life in the mining region on a personal level, causing familiar community pillars like the church to fundamentally change in response to hard times. The pastors and elders of Hibbing's various churches convened a rare joint meeting in 1960 to discuss how they could respond to the poor economic conditions in the area. “We are all faced with problems that may cause vacancies,” one minister wrote, “the 1960 census showed that the population is down and so are some of the mines . . . far too many have moved away . . . No one church can say that nothing bothers us. We are all in this economic situation together.”⁴⁶ As the economic decline spread to the churches and synagogues, it was clear that few aspects of everyday life in the region were immune from industrial decline.

⁴⁴ Historical Minnesota County, City, and Township Population Data, Center for Small Towns, University of Minnesota Morris, <http://www.morris.umn.edu/services/cst/dar/mdc/census/index.php>.

⁴⁵ “4 Iron Ore Towns Told to Combine,” *New York Times*, February 9, 1964.

⁴⁶ G. A. Kaltenbach to “Christian Friends,” October 5, 1960; in Misc. 1960 Folder, Box 1987.0970.MSS.00000022, BBHMC.

The plight of the Lake Superior iron mining region reached a national audience in the early 1960s when a rising star in the folk music scene used the Iron Range's economic despair as the inspiration for a song titled "North Country Blues." Hibbing native Robert Zimmerman, better known as Bob Dylan, left the Iron Range for Minneapolis in 1959, quickly making his way to New York City and national fame on the folk music circuit. In a straightforward song that evoked the classic folk tradition of Woody Guthrie, Dylan described the iron mining towns of the time as blighted by economic decline. The song described a town where "the red iron pits ran plenty / But the cardboard filled windows / And old men on the benches / Tell you now that the whole town is empty." Illustrating the historical context of his upbringing on the Iron Range in the 1950s, Dylan's lyrics connected despair in the iron country to foreign ore: "They complained in the East / They are paying too high / They say that your ore ain't worth digging / That it's much cheaper down / In the South American towns / Where the miners work almost for nothing." Although Dylan said little about his Iron Range upbringing during his early career, the lyrics of "North Country Blues" gave voice to the region's economic reality in the early 1960s.⁴⁷

Beneath feelings of despair and decline were the hard fiscal realities facing Iron Range towns. With tax revenues declining due to population loss and a move away from natural ore, the towns confronted fiscal collapse. The use of taconite as a source of iron ore proved especially problematic for the towns, since taconite's increased value as iron ore led to a corresponding devaluation of natural ore reserves and, thus, a declining

⁴⁷ Bob Dylan, "North Country Blues," *The Times They Are A'Changin'* (Compact disc: Columbia, 1964).

overall tax base for many of the towns. For example, during 1957 hearings before the Minnesota Tax Department, mining companies protested the valuations of existing natural ore mines, arguing that these deposits were increasingly worthless in the taconite era and should be taxed accordingly. The Iron Range communities and school districts vigorously protested these devaluations, citing the financial harm that would befall their towns with the lowered tax base.⁴⁸ Illustrated by census data, mining statistics, song lyrics, and general feelings of decline, the 1950s and early 1960s were a time of high anxiety in the Lake Superior iron mining region. The older natural ore mines were no longer viable in a global steel industry upended by taconite and foreign ore. The effects of mining's decline eventually reached into all aspects of everyday life on the Iron Range. When Iron Range residents, business leaders, and state politicians confronted the taconite amendment and the call for lower taxes in the mid-1960s, a decade of economic uncertainty and industrial decline was a key factor causing so many residents to abandon older, anti-corporate beliefs and support tax breaks for industry.

One important cause of the Iron Range's decline was a new flood of rich natural ore from abroad that entered the U.S. steel market in large quantities for the first time. Throughout the early twentieth century, ore from international mines occasionally made its way to American blast furnaces, especially those on the east coast or the south. But for the bulk of American steelmakers, located in the Great Lakes region, high transportation costs and easy access to the rich Lake Superior ores limited the use of foreign ore. This situation changed dramatically after World War II. As seen in chapter one, calls to

⁴⁸ See transcript of "In the Matter of the Equalization of Assessments of Mined and Unmined Iron Ore for the Year 1957," October 25, 1957; Box 14, Folder 530, FC Papers.

replace seemingly dwindling supplies of Mesabi natural ore caused mining firms to invest heavily in international iron mines, leading to rich discoveries in South America, Canada, and Africa during the 1940s and 1950s. Several U.S. steel firms focused their investments on Canadian iron ore deposits beginning in 1949. By the early 1960s, Canadian mines were exporting millions of tons of iron ore to U.S. steel mills.⁴⁹ The development of a large iron ore deposit on Canada's Labrador peninsula led industry observers to claim that Canada would soon overtake the United States as the largest exporter of iron ore in the world.⁵⁰ South America was also a focus of development for the mining companies, where explorers in the 1940s found "a great iron mountain in the Venezuelan jungle." In 1950, U.S. Steel began exploiting a massive new discovery of high quality Venezuelan iron ore. This new find was described as bigger and more pure than the Mesabi range.⁵¹ There was a certain irony in the flood of foreign ore, developed in response to fears of depletion on the Mesabi and now threatening still productive Mesabi mines. As a 1963 report put it: "what started out as an international developmental effort to supplement home ores now appears to threaten to supplant them." The report noted that in the 1950s and 1960s, imports of iron ore increased to 33.7 million tons, from an earlier 11 million

⁴⁹ "American Capital in Canada—and a Boom in Iron Ore," *U.S. News and World Report*, May 4, 1964, 72, 74.

⁵⁰ Herbert L. Matthews, "Knob Lake Iron Ore Will Help Lift Canada to Third Largest Producer," *New York Times*, August 8, 1953.

⁵¹ "Ore Coming Soon from Venezuela," *New York Times*, August 29, 1949; "Big Iron Ore Body Seen in Venezuela," *New York Times*, January 29, 1950; on the development of African iron ore mines, see "A Jungle Mesabi," *Fortune*, December 1961, 81-82, 84; "Africa: A Mountain of Riches," *Time*, October 25, 1963, 99.

tons, while domestic ore production declined.⁵² These mines were in operation by the mid-1950s and were soon competing with the Lake Superior ores.

The influx of foreign ore dramatically changed the relations between business, labor, and the mining communities on the Iron Range. The international steel firms first sought foreign ore sources amid fears that Mesabi ores were quickly running out during World War II. After the war, however, the steel firms discovered that foreign ore had attractive advantages over domestic natural ore. What the steel industry found irresistible was the “higher iron content of the foreign ore . . . rock bottom labor costs, comparative freedom from taxes and government regulation, [and] a scale of operation that permits use of the latest and largest equipment and highly efficient ocean shipping arrangements.”⁵³ These advantages—lower labor costs, freedom from regulation, and the ability to build an enterprise from scratch at the optimum scale—would come to define the postwar wave of economic globalization that eventually displaced much of the older industrial economy in North America and Europe. Iron mining was thus a forerunner to the later international capital flight described by historians such as Jefferson Cowie.⁵⁴ As a forerunner, however, the mining firms struggled to implement a system of global industrial production. For example, Hanna Mining Company’s attempt to build a low cost iron mine in Brazil was consistently thwarted by Brazilian politicians upset that the

⁵² John M. Lee, “Big Finds of Ore Add to Reserves,” *New York Times*, November 24, 1963.

⁵³ *Ibid.*

⁵⁴ Jefferson Cowie, *Capital Moves: RCA’s Seventy-Year Quest for Cheap Labor* (Ithaca, NY: Cornell University Press, 1999).

country's natural resources were being mined for export with little benefit to Brazil.⁵⁵

Nevertheless, the new regime of low cost global production arrived in the iron ore market by the first years after World War II, a development that forced American mining companies, labor unions, and local governments to revise their older relationships in the face of new global competition.

In the Lake Superior mining region, the flood of foreign ore led industry leaders to call for a new spirit of cooperation between business, the unions, and government officials. The new threat of foreign ore, company executives argued, meant that older antagonisms—especially the vigorous anti-corporate radicalism of the unions—would lead to the decline of the entire industry. In a 1959 speech detailing the emerging foreign pressures to the iron ore market, a steel industry expert argued that foreign competition demanded new cooperation between industry, government, and labor: “The trend toward increased use of foreign ores and the possibility of removing part of our iron making facilities to foreign countries carry many implications . . . Even though we want our friends and neighbors to prosper, we must still maintain a strong and thriving iron and steel industry. To do this in the future is going to require much closer cooperation among government, management, and labor, than has been true in the past. We can no longer afford extensive strikes or lockouts, or excessive taxation.”⁵⁶ What is striking about these postwar calls for cooperation is that they were aimed not just at unions, but also at government. Facing the threat of foreign ore, business leaders turned to both labor and

⁵⁵ “Brazil: Hanna’s Immovable Mountains,” *Fortune*, April 1965, 55-56, 63.

⁵⁶ Charles F. Park, Jr., “Iron and Steel,” speech reprinted in *The Twenty-Seventh, Twenty-Eighth and Twenty-Ninth Warren Lectures on Sources of Energy, A Mineral Policy, and Iron and Steel* (Minneapolis: University of Minnesota School of Mines, 1959), 8.

government to demand concessions, a sign that the business rhetoric of the postwar decades operated simultaneously on several fronts.

The political debate about tax cuts for the taconite industry did not take place in a vacuum. Behind the debate in the halls of government was the reality of sharp economic decline on the Iron Range. For politicians, mining executives, and industrial workers, the prospect of long term economic decline lurked behind the specific tax policies. Thus, the grassroots pressure to lower corporate tax rates on the mining companies—pressure that contradicted a generation of anti-corporate radicalism on the twentieth century Iron Range—reveals the core of pragmatism just beneath the veneer of working class radicalism in the early and mid twentieth century. The Iron Range miners were indeed anti-corporate crusaders, but the practicalities of a job and its paycheck usually trumped political ideology.

The 1961 Taconite Amendment Effort

These long simmering debates about corporate taxation led to a major contest over taconite taxes in 1961 when mining companies and Republican politicians first suggested an amendment to the Minnesota constitution to lower the tax rate on taconite producers. The immediate context for the 1961 amendment was growing concern that taconite plants would be built outside Minnesota. Specifically, taconite boosters in Minnesota argued that the state's high level of taxation on iron ore—the legacy of earlier attitudes toward the mining companies—now made the state “uncompetitive” relative to other states where taconite could be produced. For example, the IRRRB described New York's

mining taxation situation as far more favorable than Minnesota's in 1945. At the time, New York was a main competitor to Minnesota for future taconite processing plants. According to the IRRRB report, "The New York mining operations have a favorable tax situation. Mining is not subject to any special form of taxation whatever and the ordinary ad valorem tax burden is not heavy. Unquestionably the fear of being saddled with a high level of ad valorem taxes as our high grade ores become exhausted has tended to discourage heavy investments in Minnesota low grade ores."⁵⁷

Among the most persuasive supporters of taconite tax incentives in Minnesota was E. W. Davis, the mining engineer who created the taconite processing technology in his University of Minnesota laboratory. By the late 1950s, Davis had retired from the Mines Experiment Station at the University of Minnesota and had moved to Silver Bay, Minnesota, where he worked as a consultant for the Reserve Mining plant on Lake Superior. While the elderly engineer looked with pride on the Reserve Mining taconite plant, named the E. W. Davis Works in his honor, he expressed growing alarm at the course of taconite development after the Reserve plant was built in 1955. The first two taconite plants were built in northeast Minnesota in the middle of the 1950s, but subsequent processing facilities were constructed in other parts of the U.S. and even in Canada. Davis, who always assumed that his taconite research would benefit the Iron Range, was dismayed by the creation of a taconite industry outside of northeast Minnesota and argued that the Iron Range tax system was pushing investment away from Minnesota. In 1958, Davis published a newspaper article arguing that the recent

⁵⁷ State of Minnesota, Iron Range Resources and Rehabilitation Commission, "Biennial Report of the Iron Range Resources and Rehabilitation Commission, 1943-1945," St. Paul, 21.

construction of taconite plants in Canada, Michigan, and Wyoming—but not in Minnesota—was the result of a “business climate” that was unfavorable to investment by mining companies. Davis noted that the Iron Range communities depended on approximately fifty million dollars in annual taxes from the mining industry and as the mining industry switched to taconite and older natural ore mines closed, this tax source would dry up. Davis argued that taconite operators believed the Iron Range communities would quickly shift this large tax burden onto the “big, juicy taconite plant that is anchored in place” and were therefore reluctant to invest in Minnesota. Passing a law about taconite taxation would not solve the problem, Davis argued, because taconite companies “know that politicians smart enough to enact a law are smart enough to modify it or repeal it.”⁵⁸ Davis was a trusted figure in Minnesota politics by the late 1950s and his championship of tax cuts for taconite helped to move the issue into the center of the state’s political debates.

Davis also took his appeal to the specific Iron Range communities that were suffering from the downturn in natural ore mining. In the Iron Range towns he urged civic leaders to take direct action and lower their municipal taxes as an incentive to investment. In a meeting with Eveleth officials, Davis suggested the actions he would take to promote economic development in the region. He first told city officials that they needed to abandon old thoughts about tax revenue from industry and should focus exclusively on payroll money. Next, Davis told the Eveleth gathering, “If I were running this place I would send a committee down to the Oliver [Mining Company] office and

⁵⁸ E. W. Davis, “Fear of Tax Increase Declared Holding Back Taconite Industry,” *Minneapolis Star*, October 30, 1958.

ask them what could be done to get them to build a plant here. Give them the land? Rebate their taxes? Other communities do this to get industry. Why not this area[?] It seems perfectly plain that you must either get new industry or die.”⁵⁹ As in chapter one, Davis’s primary concern was neither the people of the Iron Range nor the mining corporations, but rather the continuing success of the taconite processing technology he had invented. Thus, his support for a taconite tax cut should not be interpreted as evidence of an underlying pro-business or anti-labor sympathy. Instead, Davis saw the tax cut as the simplest solution to the complex problem of taconite investment.

The specific idea of a constitutional amendment giving a tax break to taconite producers first came into focus in 1960. Pushed aggressively by politicians and business executives pursuing mixed motives, the amendment moved to the center stage of state politics in the first year of the new decade. The outlines of a possible amendment first came from mining company advocates. In 1960, an attorney for a Duluth-based interest group connected to the mining industry proposed an amendment to the Minnesota constitution to limit taxes on taconite to the rate they would pay under Minnesota’s income tax law. Given the historically high rate of corporate taxation on mining, the proposed amendment would cut taxes for taconite producers and, more importantly, guarantee that they would not be raised at a higher rate than the general state corporate income tax.⁶⁰ The amendment was shaped for legislation in late 1960 and in the spring of 1961 it was proposed before state legislators. As introduced in the Minnesota House of

⁵⁹ E. W. Davis, “Eveleth Meeting” notes, 1957; Background Material, 1912-1968 folder, Box 1, EWD papers, MHS.

⁶⁰ “Constitutional Taconite Tax Limit Asked,” *Minneapolis Tribune*, December 3, 1960.

Representatives, the 1961 amendment offered mining firms a guarantee that taconite operations would not be taxed at a higher rate than other manufacturing companies in Minnesota. In return, mining firms were required to build plants with a minimum capacity of twenty-one million tons of taconite per year within eight years, and invest at least two hundred and fifty million dollars in new taconite plants.⁶¹ The 1961 amendment evolved as it worked its way through the Minnesota Senate and House of Representatives, but its essential elements remained intact: the people of Minnesota would constitutionally limit the amount that taconite could be taxed and, in return, the taconite industry promised jobs to a depressed region of the state. In other words, tax cuts equaled jobs. This would prove to be a recurring mantra throughout the late twentieth century, on the Iron Range and in depressed industrial regions throughout the nation.

The mining corporations that initially proposed the amendment were obviously strong supporters of the measure. In various public forums, mining company presidents and public relations officials hammered home the message that economic growth on the Iron Range depended on a guarantee of lower taxes. This message was sold through rhetoric that emphasized the primacy of jobs as tools for economic development, an idea that resonated with the public in the postwar era. Speaking to journalists in 1960, Oliver Mining Company president Christian Beukema argued, “a conviction that ‘jobs are more important than taxes’ is needed if state and local reliances [sic.] on iron ore taxations [sic.] are to be replaced by alternate sources of tax revenue.”⁶² It was not a coincidence that turning to jobs and payroll taxes as the main source of municipal revenue would

⁶¹ Sam Newlund, “300 Pack House Hearing, Back Taconite Tax Relief,” *Minneapolis Tribune*, May 9, 1961.

dramatically lower the tax obligations of the mining companies. Rather than taxation on iron ore—the historic source of funding for Iron Range towns—the new system of payroll taxation would make individual Iron Range workers and homeowners responsible for funding their government.

The mining firms began complaining about high corporate taxation on taconite in the 1950s, arguing that their tax burdens were increasing dramatically while natural ore production was declining.⁶³ Many state legislators were initially skeptical of the mining companies' tax complaints, remembering that they had raised similar qualms during the Great Depression. The experience of World War II confirmed the beliefs of some lawmakers that mining companies were “crying wolf” on the tax issue when mines abandoned during the Depression—ostensibly because of Minnesota’s high taxes—were reopened during the war.⁶⁴ Yet the influx of foreign iron ore during the 1950s dramatically changed the world market for ore and gave the mining companies far greater leverage in their threats to close down Iron Range mines. With proven reserves in foreign countries, international iron ore became “the mining companies’ most potent weapon” in their push to lower taxes, allowing them to threaten to leave Minnesota altogether if taxes were not lowered.⁶⁵ The rise of low cost foreign mines created a double incentive for lowering taxes in Minnesota as the economics of the iron ore market demanded lower

⁶² Leonard Inskip, “State Ore Tax Policy Criticized,” *Minneapolis Tribune*, September 25, 1960.

⁶³ “Mining: Tension on the Mesabi,” 70.

⁶⁴ “Iron Imports Vex Mining States,” *Business Week*, August 9, 1958, 109.

⁶⁵ “Mining: Tension on the Mesabi,” 75.

production costs while foreign ore also made the threat of capital flight much more tangible.

The mining companies certainly wanted to lower their tax obligations, but their support for the amendment drew on less selfish motivations as well. The large taconite plants were hugely expensive. They required a level of financing that was beyond the possibility of even the large steel firms, among the most capital-intensive industries in the world at the time. Steel firms mitigated the enormous capital requirements of the taconite plants partly by forming joint ventures to build plants, which would then split their taconite production among the different steel firms. Only U.S. Steel was large enough to finance a solely owned taconite plant. Additionally, by the early 1960s the steel companies no longer had access to government-backed funding that provided financing for the first taconite plants in the 1950s. The Erie Mining plant built in the mid 1950s, for example, was financed in part through a federal program intended to promote rapid industrialization, especially in the steel industry, in preparation for the Cold War.⁶⁶ These federal loan programs were no longer operating in the early 1960s. Taxes were an important component of taconite financing because the steel firms could only borrow the large sums necessary based on stable projected costs. If the possible costs of taxes could increase dramatically, banks and insurance corporations would not loan the money to the steel firms. As mining company executives told Minnesota lawmakers, they needed an amendment to convince outside investors that they could safely put money behind the

⁶⁶ “Steel: Taconite Boom,” *Time*, April 28, 1952, 92-94. The specific financing program was a 298 million dollar “quick tax-write-off” by the Defense Production Administration [DPA], the largest such write-off the DPA had granted up to that point.

taconite plants.⁶⁷ The financial complexity behind corporate support for the amendment illustrates how many different motives were at work in the initial push for a taconite tax cut.

The position of Minnesota Republicans was more complicated than that of the mining companies. Although Minnesota Republicans soon became vigorous supporters of a taconite amendment, their initial enthusiasm for the measure was driven by the complete DFL dominance on the Iron Range in the early postwar decades. By the early 1960s, the Iron Range was among the most reliably liberal regions of the state and the U.S. In this unfriendly environment, state Republicans were understandably eager for any issue that might bring Iron Range voters into the conservative fold or, at the least, shake up their rock-solid DFL support.

At its core, GOP support for the amendment was driven by a desire to split Iron Range industrial workers from the leadership of the DFL and the labor unions. The idea of using taxation as a wedge issue on the Iron Range was floated by Minnesota conservatives in the late 1950s. As a campaign observer noted at the time, the Minnesota GOP hoped to use iron ore taxation as “a sure-fire way to crack the traditional DFL stronghold of northeastern Minnesota.”⁶⁸ The deepening economic crisis on the Iron Range in the early 1960s provided the necessary impetus to move the tax issue to the forefront of public debate, however. The DFL, drawing on New Deal rhetoric, emphasized strong labor unions and an active government presence—funded by high

⁶⁷ Sam Newlund, “Iron Officials: Taconite Tax Change Vital,” *Minneapolis Tribune*, May 10, 1961.

⁶⁸ “Cina Turns GOP Iron Ore Issue Into Boomerang,” *Labor World*, August 7, 1958.

corporate mining taxes—as the guarantee of prosperity in industrial regions such as the Iron Range. These promises increasingly rang hollow amid widespread shut downs in the natural ore mines and the prospect of long term job loss and economic decline. Liberal political rhetoric was built on the idea of constant economic growth—the rising tide that would lift all boats—and many liberals were at a loss when faced with the prospect of industrial decline in the mining region.

Conservative politicians in Minnesota realized that the economic collapse on the Iron Range opened a space for political realignment. A tax cut for the taconite industry was a particularly useful wedge issue for the GOP because it simultaneously appealed to industrial workers by promising job creation while forcing DFL leaders to either renounce their earlier support of higher corporate taxes in the name of job growth or argue against job creation because of a largely ideological commitment to not lower taxes on corporations. In short, the GOP’s stance on the issue pinned DFL leaders between two difficult positions, each of which was sure to alienate some voters. When the DFL eventually opposed the 1961 amendment, the state Republican chairman jumped on the opposition to argue that the DFL was apparently “against new jobs and opportunities on the Iron Range.”⁶⁹ The political rhetoric of the amendment opposed jobs and taxes, suggesting that politicians had to choose between one of the two binary choices. What went unnoticed at the time was how this choice would have seemed ridiculous on the Iron Range only a few decades earlier when city officials pushed for high taxes precisely because they needed money for public jobs during hard times. In other words, the equation of low taxes and jobs was a reversal of the prevailing ideology from the early

twentieth century Iron Range. The mechanics of the amendment also put DFL politicians in a bind. By pushing tax cuts via a constitutional amendment, which had to be voted on in a general election, the GOP added another layer of complexity to the political calculations. DFL opposition to the amendment could be framed not just as opposition to the tax cuts, but an opposition to democracy itself by refusing to put the issue before voters.⁷⁰ Political observers at the time realized that the GOP's championship of the amendment was fueled largely by political opportunism. Republican governor Elmer Andersen, in particular, pushed the amendment as a political wedge on the Iron Range. As one reporter put it, Governor Andersen turned the 1961 amendment into a successful "whipping horse" for votes on the usually liberal Iron Range.⁷¹ In a memorable Cold War phrase, a Minneapolis reporter described Andersen as "hanging onto [the amendment] like Yuri Gagarin," believing that "he has a political missile by the tail."⁷² While the political opportunism of GOP support was clear, by framing the amendment as a stark choice between jobs and taxes Minnesota conservatives sharply constrained the options available for DFL leaders.

The leaders of Minnesota's DFL Party thus faced a series of difficult decisions with regard to the taconite amendment. On one hand, the Party represented their constituents in the heavily liberal Iron Range. Many Iron Range liberals intimately understood the

⁶⁹ "DFL Opposes Amendment to Aid Ore Firms," *Minneapolis Tribune*, April 20, 1961.

⁷⁰ "GOP, DFL Clash Anew on Taconite," *Minneapolis Tribune*, October 21, 1961.

⁷¹ John C. McDonald, "Fraser Calls Taconite Law Easiest," *Minneapolis Tribune*, October 22, 1961.

⁷² John C. McDonald, "Big Range Issue is Taconite Plan," *Minneapolis Tribune*, September 20, 1961.

region's economic plight and were eager to support any government plan that would alleviate the region's distress. On the other hand, one pillar of Minnesota's mid-century liberalism was close government oversight of corporations. From this perspective, the idea of cutting taxes on some of the world's largest corporations was political anathema. Throughout the early 1960s, these competing positions would roil liberalism in Minnesota and eventually across the nation.

The 1961 taconite amendment opened up a sharp rift within the DFL leadership that not only exposed differing ideologies within the Party, but pitted some of the state's highest-ranking DFL officials against one another. The rift was especially acute in the Minnesota House of Representatives, where the DFL's two leading legislators split over the amendment. The amendment's primary DFL supporter was liberal leader Fred Cina of Aurora, an Iron Range lawyer who put aside his antipathy for the mining companies to support job creation in the region. Opposition to the amendment was spearheaded by Donald Wozniak of Saint Paul, thought to be the second most powerful DFL member in the House after Cina.⁷³ The amendment's ability to divide the two leading DFL Representatives demonstrates just what an effective wedge issue the GOP and mining companies created with the proposed tax cut.

Wozniak's opposition to the amendment illustrates how the tax amendment forced liberals to take a stand against the amendment based on an anti-corporate ideology that seemed out of touch in the face of economic decline on the Iron Range. Wozniak explained that he opposed the amendment because he believed it was merely a ploy by U.S. Steel to take advantage of Iron Range unemployment to lower its tax burden. He

insisted that U.S. Steel would not build any taconite operations if the amendment passed. “This idea of providing jobs on the basis of a constitutional amendment is probably one of the most bitter hoaxes that have ever conceived upon the people of the Range, those that are suffering from unemployment and misery by taking advantage of the situation by trying to get a tax break for the richest company in the U.S.—I think it’s unforgivable.” Speaking to the USWA in Hibbing, Wozniak also railed against the amendment’s use by Republicans, arguing that it was a cover for Republican efforts to reward the rich through tax cuts: “The amendment that Elmer [Anderson] has touted in this political horse game . . . is incredibly bad legislation. The amendment will not do what its proponents say it will do; that is, guarantee more jobs, but it’s gonna do at least three other things, I can tell you.” According to Wozniak, the three things the taconite amendment would do was lead to a sales tax and increase the tax burden on homes, steal future revenue from Minnesotans, and increase taxes on other businesses and hurt the overall business climate in Minnesota.⁷⁴ For Wozniak, the amendment was nothing but a wolf in sheep’s clothing: an attempt by U.S. Steel and Minnesota Republicans to avoid their tax obligations by promising jobs in an economically-depressed region.

What made this argument so difficult was the hypothetical nature of the amendment. Since the amendment could only stimulate potential future job growth in the taconite industry, it did not particularly matter to many people if it was, in fact, a ploy by the mining companies or Republicans to lower taxes. These lower taxes would only be an issue if new taconite plants were built, in which case there would be new jobs to offset

⁷³ John C. McDonald, “Taconite Proposal Up Again,” *Minneapolis Tribune*, April 30, 1961.

the tax losses. There was thus little credence to Wozniak's argument that Minnesotans needed protection from the ploys of U.S. Steel or Elmer Andersen, since those ploys would only take effect when real jobs were created. Wozniak seemed to appreciate this problem and at times described more substantive concerns about a taconite amendment. Speaking on a radio talk show in 1961, Wozniak explained his opposition to the taconite tax amendment by arguing that taconite companies were already taxed less than other companies around the state. He was hesitant to put tax concessions into the constitution, he said, and believed that mining companies' decisions did not hinge on the tax relief.⁷⁴ Wozniak's concern about adding specific tax language to the constitution was well founded—such technical language was traditionally a matter of statute and did not belong in the constitution—but he was again put in the position of arguing the theoretical point that current tax rates were likely already low enough that they did not hinder job growth. This technocratic argument rang hollow when compared to the far more urgent cry that lowered taxes would lead to more jobs.

Wozniak was not alone in his opposition to the amendment in 1961. Indeed, the DFL formally opposed the measure that year, against the wishes of Cina, the leading DFL representative. Many DFL leaders were worried about the precedent of writing specific tax concessions into the constitution. DFL chairman George Farr described the Party's ideological opposition to the amendment on the grounds that it was improper to write tax relief for a particular industry into the state constitution. Farr argued that this question

⁷⁴ Donald D. Wozniak, transcript of speech to USWA local 1663, Hibbing, MN, November 26, 1963; in Taconite Amendment 1961 folder, Box 1987.0970.MSS.00000127, BBHMC.

⁷⁵ KDAL, "In Depth," transcript of radio broadcast, no date; in Taconite Amendment publicity folder, Box 2, EWD papers, MHS.

went to heart of the relationship between corporations and democracy, saying he was appalled that the mining companies were trying to subvert democracy by writing the tax laws into the constitution.⁷⁶ State senator Donald Fraser also worried that the amendment was the opening salvo in a series of calls for business tax relief, using jobs as a carrot for unnecessary government concessions.⁷⁷ Yet the DFL leadership likely realized that these technical arguments were faulty in the face of economic decline on the Iron Range. As a newspaper editorial described the situation, liberals seemed to be more concerned with “putting ‘big business’ in its place” than alleviating unemployment and economic hardship on the Iron Range.⁷⁸ On some level, the editorial was correct to note that DFL opposition was based on a fundamental belief that government should not bow to the wishes of a major corporation. Liberal DFL lawmakers accused U.S. Steel of using “its position as one of the most powerful corporations in America to induce the people of this state to put into the constitution a special provision for the taconite procedure.”⁷⁹ And while cataloging the reasons for the DFL’s official rejection of the amendment, they argued, “it is morally wrong to bow to U.S. Steel’s pressure, money and emotional demands.”⁸⁰ But these moral concerns were offset by conflicting worries about how government could alleviate economic distress on the Iron Range. By railing against the

⁷⁶ George Farr, transcript of testimony to Committee on Taxes, May 11, 1961; Box 1, Folder 02.07.02.00000028, FC Papers.

⁷⁷ Sam Newlund, “Vote Kills Taconite Tax Plan,” *Minneapolis Tribune*, May 12, 1961.

⁷⁸ “No Taconite Guarantee” editorial, *Minneapolis Tribune*, May 14, 1961.

⁷⁹ “Taconite Amendment Drive Pleases Andersen,” *Minneapolis Tribune*, August 13, 1961.

⁸⁰ “DFL States Reason for Taconite Stand,” *Minneapolis Tribune*, October 23, 1961.

mining companies, the DFL opposition paid surprisingly little attention to the reality of economic decline on the Iron Range. Many Range residents likely concluded that liberal ideology either did not care about them or, perhaps more problematic in the long run, had no good answers to the problem of long-term economic decline.

DFL opposition to the 1961 amendment was not without grassroots support. A strain of anti-corporate ideology ran through significant portions of the Iron Range and these radicals were strongly supportive of the DFL's stand against the amendment. Among the strongest opponents to the amendment were older miners on the Iron Range. Many of the miners who personally remembered the violent 1916 strike saw efforts to pass the taconite amendment as little more than a power play by the "interests," revealing a continued reliance on a much older vocabulary of labor radicalism and nineteenth century populism that the DFL tapped into with their opposition.⁸¹ The ideology behind this rhetoric poured out in impassioned letters written to state politicians. One apparently enraged Eveleth resident wrote to Cina, urging him not to support the 1961 amendment. The author portrayed U.S. Steel as a rich, greedy corporation that had "already placed a quarter of a million people in this immediate area . . . in an economic straight-jacket" and "are now asking the legislature and the people of Minnesota, to support them in their brazen attempt to shackle even more drastically, many generations yet unborn."⁸² Civic leaders on the Iron Range were also leery of the amendment, but their opposition was based on concerns about the future tax revenue of their towns. Specifically, civic officials worried whether the amendment would create enough jobs to offset the loss in municipal

⁸¹ "Mining: Tension on the Mesabi," 70.

tax revenue and if the amendment would shift too much of the fiscal burden onto homeowners. At a meeting of the Iron Range League of Municipalities on March 26, 1961, concerned Iron Range residents voiced opposition to the proposed amendment. Several municipal leaders suggested they would only support the amendment if taconite companies could guarantee that the amendment would create several thousand new jobs.⁸³ Iron Range residents and civic officials were deeply conflicted over the amendment, split between worries about the possible impact of the amendment on taxes while acknowledging that something had to be done to help the region.

For DFL representatives who supported the amendment, such as Fred Cina of Aurora, the amendment was a pragmatic political act made necessary by the economic conditions on the Iron Range. Many DFL supporters of the amendment were hesitant to cut taxes on the mining companies, but did not see another option to promote economic development on the Iron Range. Fred Cina's support for a taconite amendment was unsure in the winter of 1961. In a letter to one Hibbing resident, Cina cited Reserve Mining's recent expansion as evidence that "the people that are presently in the taconite industry are extremely happy with the many tax concessions which have been given to them." He wrote that he needed to carefully consider the proposed amendment and would only support it if it would guarantee that Oliver Mining would build a taconite plant on the Range.⁸⁴ Cina ultimately supported the amendment, setting up a division within the

⁸² Gilbert Finnegan to Fred Cina, April 27, 1961; Box 1, Folder 02.03.01.00000012, FC Papers.

⁸³ "Equalization Bill Draws Fire on Iron Range," *Minneapolis Tribune*, March 27, 1961.

⁸⁴ Fred Cina to Harry Zinsmaster, February 8, 1961; Box 1, Folder 02.03.01.00000012, FC Papers.

DFL between the pragmatists who wanted to lower taxes to spur taconite investment and the idealists such as Wozniak who prized anti-tax ideology.

Like the DFL, organized labor was sharply divided over the 1961 amendment. Labor leaders were closely connected to the DFL leadership and pushed the major unions to reject the amendment. Only a few days after it was initially proposed, leaders of Minnesota's AFL-CIO expressed strong opposition to a constitutional amendment. One labor leader pointed out that current taconite taxes of five to ten cents per ton were insignificant compared to "the 40-cent tax on a carton of cigarettes or the 5-cent tax on a gallon of gasoline."⁸⁵ Labor leaders seemed unaware that this type of rhetoric was likely to fuel further anti-tax fervor among its members. Displaying the type of anti-corporate disdain common among labor officials, Gerald Heaney of Duluth expressed his strong opposition to the 1961 amendment by telling the Tax Committee to "stop this kind of nonsense."⁸⁶ Ultimately, the state's labor leadership came out in common opposition to the amendment. At a 1961 state meeting, the AFL-CIO distributed thousands of fliers opposing the amendment on the grounds that taconite already received favorable tax treatment in Minnesota.⁸⁷ Labor leaders in Minnesota understood the amendment through the lens of hostile labor-capital relations and rejected the amendment as a give away to the mining corporations.

⁸⁵ Sam Romer, "AFL-CIO Opposes Proposed 'Freeze' on Taconite Taxes," *Minneapolis Tribune*, December 6, 1960.

⁸⁶ Sam Newlund, "Senate Tax Unit Supports Taconite Equity Guarantee," *Minneapolis Tribune*, April 12, 1961.

⁸⁷ Sam Romer, "Drive Set on Taconite Proposal," *Minneapolis Tribune*, September 17, 1961.

What ultimately complicated the DFL and labor opposition to the amendment was not the ideological implications of their opposition but the amendment's widespread popular support. Throughout the state, average citizens were supportive of a measure that would possibly improve the economy of northeast Minnesota at seemingly little cost. More than any other factor, the deep public support for a tax cut on future taconite producers split the DFL and labor leadership from the broad mass of their constituents.

When newspapers surveyed Minnesota residents on the taconite tax issue, they found that a majority supported lowering taconite taxes if it could help the Iron Range's economy. A May 1961 poll by the *Minneapolis Tribune* found that 57 percent of survey respondents supported lowering taxes on taconite firms.⁸⁸ When another survey contacted residents of northeast Minnesota, they found an even higher level of support for taconite tax cuts. In the Iron Range region, approximately 67 percent of residents supported lower taxes for taconite firms.⁸⁹ From a statistical perspective, there was clearly widespread public support for a taconite tax cut that promised economic development. Voters did not hesitate to tell their elected officials to support of the amendment, either. In March 1961, Fred Cina received a petition from three hundred Iron Range "voters and citizens" who strongly urged him to support the amendment to bring investment capital to the area.⁹⁰ The strong popular support for a taconite tax cut put DFL and labor opposition in the

⁸⁸ "Majority Would Tax Taconite Like Other Industries in State," *Minneapolis Tribune*, May 14, 1961.

⁸⁹ Mercer Cross, "Andersen Calls for Taconite Aid Action," *Minneapolis Tribune*, August 4, 1961.

⁹⁰ Petition to Fred Cina, March 13, 1961; Box 1, Folder 02.03.01.00000012, FC Papers. This folder contains a large number of letters and telegraphs urging Cina to support the amendment.

position of opposing the amendment because of ideology rather than the wishes of residents.

The widespread public support for taconite tax cuts was evident at a dramatic public meeting of the Minnesota House Tax Committee in May 1961 that revealed just how impassioned many Iron Range residents were in their support for the amendment. The packed meeting also was a dramatic illustration of how the tax cut issue split DFL and labor leaders from the desires of their rank-and-file constituents, leaving them to argue against the tax cuts on a largely ideological basis in the face of strong public support. On May 8, 1961, over three hundred supporters of the taconite amendment jammed a Minnesota House Tax Committee hearing to speak in support of the amendment. Many of the supporters were unemployed miners who made the long drive to the state capitol in Saint Paul to show their support.⁹¹ Speaking before representatives at the meeting, the unemployed miners and other concerned citizens spoke out in favor of tax cuts for taconite firms. Here the full impact of a decade of economic decline was made clear as miners a generation removed from the anti-corporate radicalism of the pre-war Iron Range stood before politicians demanding a tax cut for the mining companies.

What the supporters of the amendment said was, ultimately, jobs were more important to them than ideological purity in opposing the mining companies. Describing the attitudes of many Rangers toward the 1961 amendment, one speaker told Minnesota legislators: “I have contacted an awful lot of working people and they seem to feel the same way that I do. They’re a little bit leary [sic.], they don’t want anything in it that’s

⁹¹ Sam Newlund, “300 Pack House Hearing, Back Taconite Tax Relief,” *Minneapolis Tribune*, May 9, 1961.

going to hurt them, by the same token they want work and they don't feel that this amendment will hurt them." Another miner and union member told the committee: "I believe that this amendment is the best thing that could happen to the people of northeastern Minnesota. . . . Now we've got an opportunity here to get \$300,000,000 for the people of northeastern Minnesota and are we going to turn it down? . . . I've got a job . . . so I happen to be fortunate. But what about my friends, their friends, their sons and sons? We've got to do something for them people. This committee right here can do it. We've got nothing to lose and everything to gain."⁹² As this speaker illustrated, the tax cut was a tremendously difficult political issue for the DFL because it was oriented toward future growth. While many liberals remained ideologically opposed to tax cuts for a profitable resource extraction industry, they could not argue that the tax cut would have any immediate harm to the state. Instead, the worst the tax cut would do is limit future tax revenues. The hypothetical nature of this argument made it a political loser in 1961. As the out-of-work miners who packed the Tax Committee meeting made clear, cutting future taxes cost nothing in the present and promised future gain.

Popular support for the amendment was not limited to speaking in favor of tax cuts. Some proponents of the amendment threatened DFL opponents with political punishment if they failed to support the amendment. Iron Range representative Peter Fugina, who did not support the amendment, was told that if he "voted in a political vain [sic.] only with the union vote in mind," he would "find that the average rank & file of union members

⁹² Transcript of testimony to Minnesota House Committee on Taxes, regarding HF 116, Taconite Constitutional Amendment, St. Paul, May 8-9, 1961: 10; in Taxes Equalization Program 1961 Folder, Box 1987.0970.MSS.00000024, BBHMC.

will think differently come next election.”⁹³ The amendment also highlighted the distance between union leadership and the rank-and-file. Although officials in the USWA and AFL-CIO were adamantly opposed to the amendment on the grounds that it was an unnecessary tax cut for the mining corporations, a huge number of the rank-and-file union membership supported the amendment on the basis that it might promote job growth. Demonstrating this tension, an Oliver miner testified that he had contacted two hundred members of USWA and that the vast majority of them favored the amendment. “We know that our future in the Iron Range as far as miners are concerned lies in the processing of taconite. We know that . . . we have more to gain than we have to lose.”⁹⁴ Not surprisingly, mining executives were quick to exploit the disagreement between workers and union leaders on the taconite issue. In a letter sent to all Reserve Mining employees, president Robert Linney expressed shock that the union would oppose the taconite amendment and the expansion of taconite plants. “I don’t believe [the union leadership’s opposition] represents the real opinion of the Union, as distinguished from minority groups in the Union.”⁹⁵ As a divisive wedge issue, the 1961 amendment split the DFL leaders from their supporters on the Iron Range and the union leadership from their rank-and-file membership. The distance between these two positions—an ideological opposition to cutting taxes and a pragmatic push for economic development—was the space needed for political realignment on the Iron Range.

⁹³ T. J. Pietrini to Peter Fugina, May 11, 1961; Box 1, Folder 02.03.01.00000012, FC Papers.

⁹⁴ Transcript of testimony to Minnesota House Committee on Taxes, regarding HF 116, 8.

⁹⁵ Robert Linney to Reserve Employees, September 12, 1962; Box 1, Folder 02.03.01.00000013, FC Papers.

Within the context of this sharply divided political atmosphere, the 1961 amendment's legislative trajectory sharply increased the partisan rancor surrounding the amendment and all but ensured that a taconite amendment of one kind or another would be a political issue in Minnesota in the coming years. The support of many rank-and-file miners for the amendment was tampered by testimony from mining executives who refused to publicly commit to building taconite facilities even if the amendment passed. Given that the entire rationale for the amendment was to induce taconite investment, executives' testimony was a sharp blow to amendment supporters. Speaking in front of the Minnesota Senate Tax Committee on April 10, 1961, Oliver Mining president Christian Beukema—arguably the most powerful iron mining executive in the nation—told Minnesota senators that Oliver had no immediate plans to build a taconite plant on the Iron Range. Beukema repeated his claim in front of Minnesota House members, flatly telling the House Tax Committee that he could not guarantee that Oliver would build a taconite plant if the amendment passed.⁹⁶ Even more damning was Beukema's unwillingness to promise that a taconite plant would create new jobs on the Iron Range. When pressed by lawmakers to describe the number and types of jobs that might be created at a future taconite plant, Beukema refused to estimate how many employees would be needed at a future plant and told legislators that any jobs created in a new taconite plant would likely put out-of-work miners back on the job, but would not necessarily create new jobs in the region. All Beukema could promise was that Oliver

⁹⁶ Sam Newlund, "Senate Tax Unit Supports Taconite Equity Guarantee," *Minneapolis Tribune*, April 12, 1961; Sam Newlund, "Iron Officials: Taconite Tax Change Vital," *Minneapolis Tribune*, May 10, 1961.

“would do all it could” to hire local employees.⁹⁷ What Beukema and other mining executives likely understood was that taconite processing was highly automated and technical work. While it was similar to natural ore mining in that it used iron-bearing rock to produce iron ore for the steel industry, the amount and type of labor required was much different. This meant that a given quantity of taconite ore required far less human labor—although enormously greater quantities of machine labor—than natural ore and likely would require workers with highly specialized skills, perhaps meaning that workers would have to be imported from other regions.

Beukema’s pessimism swayed several Iron Range lawmakers who were divided about whether or not to support the amendment. For legislators who were initially skeptical of the mining corporations—historically, the default stance of Iron Range representatives—the statements confirmed that the mining companies were not serious about using the amendment to create jobs on the Iron Range. Several lawmakers withdrew their support for the amendment, claiming that the mining companies were not negotiating in good faith. One disillusioned representative, Jack Fena of Hibbing, proposed an alternative amendment to loan state money for taconite expansion. Rather than lowering taxes, Fena argued that direct loans would “put an end to the argument of whether our business climate is good or bad—an argument that no one can win and that serves only to divide the people of the Iron Range and the state.”⁹⁸ The plan for direct loans was never adopted, but its existence signaled that there was dissatisfaction with the amendment even among those who favored government support for taconite.

⁹⁷ Ibid.

Despite the widespread public support for the amendment in 1961, liberal opposition in the Minnesota House Tax Committee ultimately killed the measure. Led by Wozniak, the House Tax Committee refused to take action on the proposed amendment, which effectively ended the possibility that the amendment would go before voters. Governor Andersen intervened at the last minute to plead for the amendment, but his pleas did not prod the Tax Committee into action.⁹⁹ For supporters of the amendment, the manner in which it failed was particularly galling. The amendment was killed by a legislative maneuver in a House committee, preventing the full Minnesota House of Representatives from debating the amendment. Supporters were upset that the full House and Senate never had a chance to debate the amendment. Additionally, by coordinating the amendment's demise in committee, DFL lawmakers were painted as opposing democracy since the amendment would have been voted on by all Minnesota voters.

Almost immediately after the amendment was killed in the Tax Committee, groups throughout the state cried foul. For example, officials from the Minnesota Junior Chamber of Commerce argued that DFL representatives "took away the inherent right of the people to vote" by refusing to put the amendment before voters. The Chambers began a statewide petition urging politicians to reconsider the amendment and put the issue before the voters.¹⁰⁰ Overall, the outcome of the amendment in 1961 was a debacle for the DFL and tarnished their reputation as the party of industrial workers. Many Iron

⁹⁸ "Taconite Proposal Hearings Start Today," *Minneapolis Tribune*, May 8, 1961.

⁹⁹ "House Unit Ties Up Taconite Tax Bill," *Minneapolis Tribune*, April 14, 1961; Sam Newlund, "Vote Kills Taconite Tax Plan," *Minneapolis Tribune*, May 12, 1961; "Minnesota Refuses New Tax Aid for Taconite Plants." *New York Times*, May 31 1961.

Range residents reconsidered their support for the DFL. As one letter put it, “I cannot but feel that the D-F-L Party—which I have always supported in the past—will bear the onus for not saving our iron mining economy.”¹⁰¹ Governor Andersen immediately used the amendment’s failure to attack the DFL. Speaking to an Eveleth radio station, Andersen accused DFL politicians of “playing politics with jobs” and urged Iron Range voters to contact their representatives and urge them to support the amendment.¹⁰² Among the sharpest criticism of the DFL’s handling of the issue was an October editorial in the *Minneapolis Tribune* that accused the DFL of voting against the economy of northeast Minnesota on the basis of a theoretical concern with taxation and big business. According to the editorial, the DFL was insulting the people of Minnesota by arguing that the widespread public support for the amendment was the result of being duped by U.S. Steel. Instead, the *Tribune* argued that the GOP had adopted the liberal position on this issue by supporting the right of Minnesotans to vote on the amendment.¹⁰³ Perhaps realizing just how politically unpopular their opposition to the amendment had become, DFL representatives quickly passed a resolution expressing support for taconite. The resolution was seen as ineffective, however, because it had no binding effect on future legislatures.¹⁰⁴

¹⁰⁰ John C. McDonald, “State Jaycees Start Petition Campaign for Taconite Amendment,” *Minneapolis Tribune*, August 12, 1961.

¹⁰¹ Frank Bourgin to Fred Cina, December 17, 1961; Box 1, Folder 02.03.01.00000012, FC Papers.

¹⁰² Mercer Cross, “Andersen Calls for Taconite Aid Action,” *Minneapolis Tribune*, August 4, 1961.

¹⁰³ “The DFL and Taconite” editorial, *Minneapolis Tribune*, October 24, 1961.

In the aftermath of the amendment's failure in 1961, the political implications of tax cut policy were finally visible. By supporting tax cuts as a tool for creating jobs via taconite investment, the mining companies, Minnesota conservatives, and supportive DFL politicians split a wide swath of Minnesota voters from the DFL and union leadership. In contrast, opposition from the DFL and labor leadership was based on theoretical concerns with corporate power and the relationship between the state and the mining companies. By holding fast to an ideological commitment not to cut taxes, liberals opened up a new type of critique from conservatives who now argued that they, not the DFL leadership, best represented the needs of industrial workers.

The 1964 Amendment

The amendment's failure in 1961 hardly ended discussion of a tax break for taconite producers. If anything, arguments over the taconite amendment became even more heated and partisan after the amendment's initial failure. The ongoing rancor surrounding taconite ensured that the issue would remain at the forefront of state politics in the early 1960s. Indeed, during elections in 1962 the amendment was a major issue for Republican and DFL candidates, with Republicans arguing that the DFL was opposed to jobs on the depressed Iron Range. In contrast, the DFL argued that the Republicans, including Governor Elmer Andersen, were no more than a "handmaiden" to the steel industry.¹⁰⁵ By 1962, the taconite amendment had become a popular wedge issue around which the state's politics began to pivot.

¹⁰⁴ "Andersen Asks Referendum on Taconite Tax," *Minneapolis Tribune*, May 18, 1961.

¹⁰⁵ "62 Issues Drawn for Minnesotans," *New York Times*, October 29, 1961.

While the taconite amendment was polarizing state politics, DFL supporters of the amendment worked to revise a measure that would gain the support of both parties. In early 1962, Cina introduced a new bill—rather than a constitutional amendment—in the Minnesota House of Representatives that guaranteed taconite would not be taxed at a higher rate than other Minnesota industries for a period of twenty-five years. Governor Andersen hailed the bill as a “major breakthrough,” although he still believed a constitutional amendment would offer a stronger long-term guarantee to taconite firms. More importantly, other liberal DFL lawmakers supported this revised bill, an important consideration because their opposition had killed the 1961 amendment.¹⁰⁶ Partisan wrangling continued, however, as the Minnesota GOP immediately pounced on Cina’s revised bill as an ineffective half-measure that would not create a strong incentive for taconite investment. GOP leaders pointed out that the promise could not be enforced on future legislatures and wondered why liberals would not “go all the way” to support taconite on the Iron Range.¹⁰⁷ Part of the GOP’s strategy by 1962 was to continue scoring political points by attacking DFL opposition to the amendment, so they had little incentive to support a compromise measure. Instead, Republicans escalated the rhetoric surrounding taconite taxes, with one state GOP leader describing the DFL’s actions as “callously stabbing the economy of Minnesota and its people in the back.”¹⁰⁸ From the Republicans’ perspective, the amendment had become a valuable wedge issue that forced

¹⁰⁶ “Andersen Calls Cina Taconite Tax Plan ‘Encouraging,’” *Minneapolis Tribune*, February 10, 1962.

¹⁰⁷ “DFL Urged to Back Ore Amendment,” *Minneapolis Tribune*, February 14, 1962.

¹⁰⁸ “DFL Stand on Taconite Called ‘Stab in the Back,’” *Minneapolis Tribune*, March 10, 1962.

liberals into a difficult position. With the majority of voters supporting their position, conservatives felt little incentive to compromise.

Indeed, those members of the DFL and organized labor who opposed the amendment faced an increasingly hostile public that was not interested in theoretical arguments against the tax amendment. In response to mounting pressure in favor of the amendment, DFL and labor leaders alienated themselves even further from their rank-and-file supporters. Organized labor was unmoved by the groundswell of support for an amendment within their own ranks and leaders of the state's major unions dug in their heels in opposition to the amendment. In 1962, the USWA, District 33, approved several resolutions expressing unified opposition to the taconite amendment and urging its members not to support any legislators who supported the amendment.¹⁰⁹ Observers in the press were baffled by the union's rejection of the taconite amendment, calling it "one of the big puzzles" in state politics. Citing declining employment in mining and excitement about taconite, reporters expected the steelworkers' union to be a strong supporter of the measure.¹¹⁰ From a national perspective, however, the union's opposition was not unusual. During the second half of the twentieth century, labor unions throughout the U.S. largely failed to actively respond to the concerns of members facing economic decline. In eastern Pennsylvania's anthracite coal mining region, for example, the powerful United Mine Workers of America offered little support to miners confronting the shutdown of anthracite mines in the 1950s and 1960s. Rather than work on behalf of

¹⁰⁹ Earl T. Bester form letter, August 17, 1962; Correspondence, 1911-1973, folder 3, Box 1, EWD papers, MHS.

¹¹⁰ "Rebuff to Taconite," editorial, *Minneapolis Tribune*, September 6, 1962.

its members, the union descended into widespread corruption and even murder in the face of mounting job losses. Historians Thomas Dublin and Walter Licht describe the union's response to industrial decline as "dismally inadequate."¹¹¹ From a long-term perspective, the difficulty many unions had in responding to economic decline suggests that industrial growth was a central tenet of American unionism in the twentieth century. Unions simply had very few answers for workers facing long-term economic decline and, for many industrial workers, conservative promises to create jobs based on tax cuts were as viable as liberal and union alternatives.

While the steelworkers' union dug in its heels, a few opponents of the amendment tried to offer substantive critiques of the proposal. But their opposition rested on complicated and largely theoretical questions about the appropriate place for tax policy within state government. One example of such detailed criticism came from the Minnesota Emergency Conservation Committee, who released a statement urging rejection of any future amendment. The Committee argued that amendments were extremely difficult to repeal and that, if passed, "in 25 years . . . we might find ourselves faced with an amendment, which we wish had never been adopted."¹¹² Arguments about the appropriate venue for tax legislation fell on deaf ears among the public at large, and polls revealed that a growing percentage of Minnesotans supported the amendment. A poll in early 1962 found that 70 percent of respondents were now in favor of a taconite amendment. Two-thirds of labor union members felt the taconite industry was "very

¹¹¹ Thomas Dublin and Walter Licht, *The Face of Decline: The Pennsylvania Anthracite Region in the Twentieth Century* (Ithaca, NY: Cornell University Press, 2005), 113.

important” for the state’s future economy.¹¹³ Faced with poll results showing broad support for an amendment, some DFL legislators argued that the public was simply wrong on the issue. Liberal Donald Wozniak insisted that the poll only revealed that “a great number of people are still confused” about the amendment.¹¹⁴ Illustrating the growing public disillusionment with DFL and labor opposition, the major Minnesota newspapers began to sharply criticize the DFL for their stubborn opposition. In an April 1962 editorial, the *Minneapolis Tribune* critiqued the DFL for opposing a taconite amendment on the theoretical pretense that the steel companies should not receive tax cuts. Worse, by trying to “enforce its theoretical argument,” the DFL was willing to “lose future taconite plants” the newspaper argued.¹¹⁵ Just as state Republicans had hoped, the taconite taxation issue had grown into a deeply divisive wedge issue that forced the DFL and organized labor to stand in opposition to a broadly popular measure. The taconite tax issue transformed liberal anti-corporate ideology from its earlier valence—populist support for average workers—into a stubborn refusal to do what was necessary in the face of industrial decline.

The shape of the political debate over the amendment was upended in early 1963 when the USWA reversed its opposition during a secret meeting with the steel companies in Pittsburgh. In late 1962, Oliver Mining laid off 1,250 miners, fueling rumors that a permanent shutdown of the Iron Range’s largest mines was imminent. Desperate, union

¹¹² Charles L. Horn, “Who is crying: ‘Wolf?’” press release, February 19, 1962; Correspondence, 1911-1973, folder 3, Box 1, EWD papers, MHS.

¹¹³ “70% Back Taconite Proposal,” *Minneapolis Tribune*, March 4, 1962.

¹¹⁴ “Governor Cites Poll on Taconite,” *Minneapolis Tribune*, March 5, 1962.

leaders met with U.S. Steel executives in Pittsburgh, bluntly asking what they could do to get the jobs back. Christian Beukema, head of Oliver Mining, told union leaders that only union support for a taconite amendment would offer hope for returning to work. Many union leaders had sharply criticized the amendment and found this condition a bitter pill to swallow. But the union ultimately supported the plan, admitting that, frankly, it had no other options.¹¹⁶ Iron Range legislator Fred Cina confirmed that the miners were driven to support the amendment out of desperation rather than principle. The Iron Range miners were “desperate,” Cina said, “they seek something . . . and they don’t care what it is.”¹¹⁷ Many Minnesota lawmakers reacted happily to the surprise announcement. Labor opposition to the amendment had been a critical stumbling block in the failure of the 1961 amendment and many believed labor’s support now guaranteed an amendment would pass. Indeed, within several hours of the announcement, the Minnesota House of Representatives generated several bills for a possible amendment.¹¹⁸ Iron Range civic leaders were also enthusiastic about labor’s reversal. Hibbing’s Mayor, for example, said the agreement would hopefully be “the break we have been waiting for.”¹¹⁹ Labor’s switch, borne out of desperation, signaled that principled opposition to tax cuts for taconite was no longer reasonable in the face of continued economic decline.

¹¹⁵ “Theory and Taconite,” editorial, *Minneapolis Tribune*, April 12, 1962.

¹¹⁶ Sam Romer, “How the Accord Was Reached,” *Minneapolis Tribune*, February 2, 1963.

¹¹⁷ Mercer Cross, “Both Factions Agree on Need,” *Minneapolis Tribune*, February 2, 1963; Dick Cunningham, “Miners Grudgingly Give Support to Taconite Amendment,” *Minneapolis Tribune*, February 24, 1963.

¹¹⁸ Cross, “Both Factions Agree on Need.”

Labor's reversal put the DFL in an even more difficult position. Minnesota liberals could stand behind their principled opposition to the amendment, at the risk of looking even more out of touch with economic misery on the Iron Range, or they could take a cue from labor and switch to support the amendment. At first, DFL leaders chose the former course of action, as they remained wary of the amendment and the labor-mining agreement. One DFL official told reporters that the Party would not be swayed "by a Pittsburgh pact," referring to the agreement between U.S. Steel and the USWA made in Pittsburgh.¹²⁰ Another DFL leader told reporters that the union was pressured by U.S. Steel to make a bad deal and "conceded far more than they had to and far more than industry would have accepted."¹²¹ Although the DFL argument that they could out negotiate the steel industry where labor had caved was meant as a defense of industrial workers by the DFL, it was heard by many workers as an example of the DFL's increasing condescension toward unions. Leading the continuing DFL opposition was Wozniak. Even after the union came out in support of the amendment, Wozniak was still rallying the USWA to reject the taconite tax amendment as a give-away to the steel companies. Invoking traditional populist rhetoric, Wozniak told the miners, "You know everyone talks about a free enterprise system and certainly I'm for it, but I am beginning to wonder what's so free about it. I am beginning to wonder how much control has the average worker, the average primary producer, the small businessman, got over the

¹¹⁹ Mercer Cross, "Cautious Attitude on Taconite Held by DFL Leaders," *Minneapolis Tribune*, February 3, 1963.

¹²⁰ Ibid.

¹²¹ Mercer Cross, "DFL Is Preparing a Compromise on Taconite Proposal," *Minneapolis Tribune*, March 3, 1963.

means by which he lives.”¹²² Although many Iron Range residents likely agreed with Wozniak’s philosophy, they now supported tax cuts as a practical measure in the hopes of creating jobs amid economic decline. Overall, the union’s reversal left the DFL as the only major group in opposition to the amendment. Republicans were only too happy to take advantage of the continuing DFL opposition to the widely popular amendment. Throughout 1963, GOP leadership hammered the DFL for their ongoing opposition to an amendment, with a GOP leader emphasizing that the DFL was now out of step with “the steel workers union, the steel companies, the legislature, and the people of Minnesota.”¹²³

The second major development that reshaped the amendment debate in 1963 was a commitment by the steel companies, especially U.S. Steel, to build taconite plants if the amendment succeeded. For years, the steel companies had pointed to high taxes as the impediment to their investment in taconite facilities. But in 1963 the major firms indicated that they were ready to begin building plants, provided that the amendment passed. U.S. Steel began planning a large taconite processing plant at Mountain Iron, but insisted that it was contingent upon the passage of an amendment guaranteeing “fair taxes” on taconite for decades into the future. An executive with U.S. Steel was quoted in a newspaper as “confident that the people of Minnesota will support the legislators’ endorsement of the taconite fair tax amendment.”¹²⁴ The taconite plants were enormous technical facilities that required years of planning before construction could begin. Thus,

¹²² Donald D. Wozniak, transcript of speech to USWA local 1663, Hibbing, MN, November 26, 1963; in Taconite Amendment 1961 folder, Box 1987.0970.MSS.00000127, BBHMC.

¹²³ Mercer Cross, “Forsythe Asks DFL ‘Get in Step,’ Back Taconite Tax Amendment,” *Minneapolis Tribune*, February 4, 1963.

U.S. Steel began designing a plant capable of producing four million tons of taconite per year prior to the amendment. Actual construction, they said, would remain contingent on the passage of the amendment.¹²⁵ The steel companies' actions in 1963 highlight the complicated game of chicken played between the companies and the state on the tax issue. The closer the steel companies were to building taconite plants, the more Minnesota's citizens could see the tangible benefits of an amendment. But, conversely, the more steel companies planned to build plants before an amendment passed, the more they called into question whether or not they absolutely had to have tax relief to invest in taconite.

The combined weight of labor's support and the commitment of steel companies to build taconite plants was enough to push most DFL legislators to reverse their earlier opposition and come out in support of the taconite amendment. Fred Cina again led the DFL support for the amendment and on March 10 he proposed a compromise bill that limited the effects of the tax equalization to a period of twenty-five years. The quarter-century limit pacified former opposition groups in the DFL—or provided a convenient excuse for them to switch their vote—and Cina's measure was widely supported by interest groups statewide.¹²⁶ On March 18, 1963, Governor Andersen signed a statute into law that guaranteed Minnesota taconite producers "tax equity" with other manufacturing firms in the state. Although the statute was hailed as an important first step, legislators

¹²⁴ "United States Steel Steps up Planning for Taconite Plant," *New York Times*, August 30, 1963.

¹²⁵ "Constitutional Balm for an Old Sore," 112; Mercer Cross, "House Unit Approves 2 Taconite Tax Bills," *Minneapolis Tribune*, March 12, 1963.

¹²⁶ Mercer Cross, "Action on Taconite Expected in House," *Minneapolis Tribune*, March 10, 1963.

were now working quickly to prepare a new amendment that could be added to the statewide ballot in 1964. By now, the amendment had little opposition from either side.¹²⁷ The amendment sailed through the Minnesota House of Representatives and the state senate quickly approved a bill putting just such an amendment before the voters in 1964.¹²⁸ Only nine liberal senators voted against the amendment, voicing isolated arguments that the state was “giving away our resources to U.S. Steel” and suggesting that the state had basically caved to the demands of the steel industry. The vast majority of state senators approved of the measure, however. Reflecting on the continued opposition of a few liberals, one conservative senator said their opposition would be “ludicrous if it weren’t so sad.” Many liberals were not enthusiastic supporters of the amendment but ultimately capitulated to the arguments put forward by the steel industry that economic growth on the Iron Range demanded the amendment. As one Iron Range lawmaker claimed, “if this is the kind of thing the industry feels it needs . . . to invest millions of dollars, I think they ought to have it.”¹²⁹ The effects of economic decline had broken many liberals’ commitment to anti-corporate rhetoric. The amendment ultimately approved to go before voters in 1964 guaranteed Minnesota taconite producers that their taxes—occupation, royalty, and excise—would not exceed the greater of then-existing ore tax levels or the ratio of taxes they paid relative to other state manufacturing

¹²⁷ Al McConagha, “Andersen Signs Bill Providing Tax Equity on Taconite,” *Minneapolis Tribune*, March 19, 1963.

¹²⁸ Cross, “House Unit Approves 2 Taconite Tax Bills”; Mercer Cross, “Taconite Bills Easily Clear House,” *Minneapolis Tribune*, March 15, 1963.

¹²⁹ Al McConagha, “State Senate Passes Equity Amendment on Taconite Taxes,” *Minneapolis Tribune*, March 21, 1963.

industries. In essence, the amendment assured taconite companies that their state taxes could not rise disproportionately higher than other manufacturing companies in the state.¹³⁰

In sharp contrast to the failed 1961 amendment drive, the 1964 effort received the support of organized labor throughout Minnesota. USWA president David J. McDonald made a special appearance at a Minnesota labor meeting in 1963 to announce his support for the taconite amendment. McDonald told steelworkers that he supported the amendment “flatly and fully” with “no doubts or reservations.” Although he acknowledged that many union members were suspicious of the steel companies’ motives, McDonald invoked the new labor-capital tax cut consensus by telling union workers to overcome their suspicion of the company because “times have changed and so have attitudes.”¹³¹ Union leaders made a steady round of speeches and printed brochures urging their members to support the amendment. In a 1964 pamphlet for members, the USWA explained that the amendment would benefit all of Minnesota by offering jobs rather than relief dollars to unemployed miners: “The members of the United Steelworkers of America on the Iron Ranges of Minnesota want to be tax-payers and not relief recipients,” the pamphlet urged. “Passage of the Taconite Amendment . . . will give these men jobs and at the same time save you the burden of costly relief through increased taxes.”¹³² Speaking to fellow steelworkers, the union emphasized that the

¹³⁰ “Taconite Measure is Passed,” *Minneapolis Tribune*, March 22, 1963.

¹³¹ Sam Romer, “Steelworker Chief Supports Taconite Proposal ‘Fully,’” *Minneapolis Tribune*, October 22, 1963.

amendment was necessary to bring taconite plants to Minnesota rather than other states or foreign countries. For example, the USWA local director urged union members to support the taconite amendment in a Duluth speech. Noting that taconite plants were being built throughout the U.S. but not in Minnesota, the director argued, “The United Steelworkers of America . . . feel that this trend will have to be stopped or Northeastern Minnesota will be depressed for many years to come. Our only solution lies in the development of taconite plants, and here we find that the stockholders of certain steel companies are reluctant to invest their money in taconite plants in Minnesota unless they are assured of fair tax treatment for at least 25 years because of the tremendous investment involved.”¹³³ This speech, in which a union leader was urging member to support a tax cut for the steel firms in the name of investment, reveals just how far the prospect of economic decline had shifted older patterns of Iron Range radicalism by the mid 1960s.

Beneath the official union support for the amendment, however, there was deep ambivalence among many Iron Range residents about passing the amendment. Many supported the amendment based on simply wanted to do something—anything—that might promote industry on the beleaguered Iron Range. The sense that the amendment was a last chance was evident in the words of a Hibbing union official in 1964: “I tell you something—this taconite amendment, by God, it’s our last hope . . . If people vote the

¹³² Steelworkers Committee for Taconite Amendment, “Questions and Answers Concerning Taconite Amendment (No. 1),” undated pamphlet; in Taconite Amendment publicity folder, Box 2, EWD papers, MHS.

¹³³ “Taconite Backers Map Final Effort,” *Duluth News-Tribune*, October 11, 1964.

amendment down, we are finished here.”¹³⁴ Or, as an elderly Iron Range resident put it in a letter to the newspaper: “And that taconite question? Vote for it, people need jobs. Some say the companies don’t pay enough taxes. What difference does that make? The boys spend the tax money anyway and if there is a surplus, raise their own pay again.”¹³⁵ The 1964 amendment had widespread public support on the Iron Range, but that support was fueled by a desperate hope for jobs and economic development rather than a principled belief in tax incentive policy. What is significant in the context of Iron Range history is how quickly the anti-capitalist radicalism of the Iron Range was jettisoned when the mining industry was faced with long term decline and job losses.

After approval by Minnesota legislators, the amendment still required the passage by a majority of Minnesota voters to become law. To ensure that the amendment would pass at the ballot box, a powerful special interest group was established to coordinate statewide publicity in favor of the amendment.¹³⁶ The Citizen’s Committee for the Taconite Amendment was an early forerunner of the political pressure groups that proliferated in American life by the late twentieth century. These small, powerful, and well-funded committees acted as though they were a grassroots movement by ordinary citizens while, behind the scenes, they were controlled by powerful lobbying interests.

Throughout 1964, the Committee worked feverishly to ensure the amendment would pass. A statue honoring taconite was built in Silver Bay, Minnesota; Governor Karl Rolvaag declared a “taconite amendment week” during a Minnesota Vikings

¹³⁴ Homer Bigart, “Poverty Blights Iron Ore Region.” *New York Times*, January 13, 1964.

¹³⁵ Emil Pesonen, letter to the editor, *Mesabi Daily News*, Oct. 22, 1964.

football game; and the Governor's wife went on radio and television to promote a "tell ten people" campaign of word-of-mouth support for the amendment. One day in October was declared "Education Day" and schools around the state were shipped taconite pellets and literature emphasizing the "industrial importance [of mining] to education in the state." Although teachers were urged to present both sides of the taconite amendment debate in their classrooms, many teachers apparently felt there was no reason to present the opposition views and just gave students promotional literature supporting the amendment.¹³⁷ Iron Range officials held a "knighting ceremony" for the mayors of Minneapolis and Saint Paul, along with the University of Minnesota President.¹³⁸ One thousand Iron Range citizens came by caravan to a Minnesota Twins baseball game. At the game, the Rangers held a "home plate ceremony" to give honorary hard hats to state officials. To cap off the event, a taconite-themed parade float carrying the "Taconite queens" was on hand.¹³⁹ By election day, observers called the pro-amendment publicity campaign, "the most massive ever mounted . . . on an amendment issue."¹⁴⁰ Most of these events were little more than publicity stunts, but they had the desired effect. In case there was any doubt of support for the amendment, prominent newspapers and DFL politicians actively campaigned for the amendment. Most of the state's prominent politicians came

¹³⁶ "Taconite Group Has Bipartisan Executive Unit," *Minneapolis Tribune*, January 19, 1964.

¹³⁷ Richard P. Kleeman, "Many State Public Schools Issue Materials on Taconite Amendment," *Minneapolis Tribune*, October 18, 1964.

¹³⁸ "Taconite Backers Map Final Effort," *Duluth News-Tribune*, October 11, 1964.

¹³⁹ Rita Shemesh memorandum to Citizen's Committee for the Taconite Amendment, July 30, 1964; in Misc. folder, Citizen's Committee for the Taconite Amendment papers, MHS.

¹⁴⁰ Sam Romer, "Taconite Proposal Wins Approval," *Minneapolis Tribune*, November 4, 1964.

out in support of the amendment, including DFL politicians who had earlier opposed an amendment, including Hubert H. Humphrey, Don Fraser, Karl Rolvaag, Eugene McCarthy and others.¹⁴¹ The *Minneapolis Tribune* was not content to simply endorse the amendment and instead ran a five-part series explaining exactly how the amendment would lead to a taconite industry and revitalize the Iron Range economy. The articles suggested that the entire fate of the Iron Range hinged on the amendment: “The future of iron mining in Minnesota is in that rock [taconite],” the articles explained.¹⁴² The well funded and well organized bonanza of publicity in favor of the amendment virtually guaranteed its support by voters in the November general election. However, a small group of liberal legislators did form an advocacy group to oppose the amendment in 1964. The group, called the Constitutional Protection Committee Inc., was worried about the implications of the amendment for the state constitution. As one member put it, “it’s the principle of the thing that we object to as much as the taconite amendment.”¹⁴³ By this time the anti-amendment liberals were reduced to a vague argument about principles. This argument was never popular in the state and the group soon admitted they simply did not have the financial resources to match the pro-amendment Citizen’s Committee for the Taconite Amendment. Whereas the Citizen’s Committee had gained over five

¹⁴¹ See DFL party folder, Citizen’s Committee for the Taconite Amendment papers, MHS; Frank Premack, “DFL Backs Taconite Proposal,” *Minneapolis Tribune*, June 28, 1964.

¹⁴² Leonard Inskip, “Amendment Would Unlock State’s Taconite Resources,” *Minneapolis Tribune*, October 27, 1964; see also Leonard Inskip, “‘Immature’ Mining Industry Needs Capital,” *Minneapolis Tribune*, October 28, 1964; “Taconite Tax Proposal Results from State’s Loss of Iron Ore ‘Monopoly,’” *Minneapolis Tribune*, October 29, 1964; “Amendment Treats Taconite Industry as ‘Manufacturing,’” *Minneapolis Tribune*, October 30, 1964; and “State’s Stake in Taconite Huge,” *Minneapolis Tribune*, October 31, 1964.

hundred endorsements, the anti-amendment group had a difficult time even finding audiences willing to hear their side of the argument.¹⁴⁴ As amendment supporter Cina put it during a public debate on the amendment, such theoretical worries were meaningless in the face of deepening Iron Range depression. “With men going hungry on the Iron Range because they can’t get jobs, words about the sacredness of the constitution mean nothing,” Cina told the audience.¹⁴⁵

The publicity campaign ultimately paid off. On November 3, 1964, Minnesota’s voters approved the taconite amendment by a wide margin and tax equalization for taconite became law.¹⁴⁶ Newspapers in Minnesota hailed the amendment’s passage as a whole-hearted signal to the steel companies that they welcomed investment and knew that low taxes were crucial to the new industrial economy. The *Minneapolis Tribune* declared the amendment “a great proclamation to the nation’s steel industry that Minnesota wants jobs and investments and is willing to assure equitable taxation in return.”¹⁴⁷ A prominent Saint Paul newspaper concurred, writing, “The resounding victory opens the way to an era of expanding industry and increased prosperity on the Iron Range, with accompanying benefits for the entire state.”¹⁴⁸ The steel companies

¹⁴³ Mercer Cross, “5 Liberals Form Group to Oppose Taconite Plan,” *Minneapolis Tribune*, February 12, 1964.

¹⁴⁴ Bob Weber, “Taconite Foes Lack Publicity?” *Minneapolis Star*, October 19, 1964.

¹⁴⁵ “Taconite Plan is Debated by Cina, Grittner,” *Minneapolis Tribune*, February 28, 1964.

¹⁴⁶ Sam Romer, “Taconite Proposal Wins Approval,” *Minneapolis Tribune*, November 4, 1964; Robert J. O’Keefe, “4-Year Drive for Taconite Vote Ending,” *Saint Paul Pioneer Press*, November 1, 1964; Ron Waataja, “Taconite Proposal Ahead,” *Saint Paul Pioneer Press*, November 4, 1964.

¹⁴⁷ “Taconite Wins a Tremendous Victory,” editorial, *Minneapolis Tribune*, November 5, 1964.

¹⁴⁸ “Taconite Success,” editorial, *Saint Paul Pioneer Press*, November 5, 1964.

lived up to their promises, too. Within twenty-four hours of the amendment passing, U.S. Steel publicly announced that it would begin construction of a huge taconite plant at Mountain Iron. They projected that the plant would require four thousand construction workers and take three years to build. Hanna Mining and Jones and Laughlin Steel Corporation also announced plans to build taconite plants.¹⁴⁹ Although these announcements certainly heartened the amendment's backers, the instant announcements again raised the thorny question of whether the steel companies would have built taconite plants without the tax incentives granted by the amendment. In other words, was the amendment absolutely necessary for corporate investment or had the steel companies just used it as leverage to lower their tax rates? Around the world, steel companies invested approximately \$1.5 billion in iron ore pelletizing plants by 1965. Almost one billion dollars of that total was invested on the Mesabi range. This huge corporate investment certainly rejuvenated the Iron Range economy throughout the late 1960s and early 1970s, but it did little to halt the rapidly growing international competition in the iron ore market. International expansion of taconite and other pelletizing plants was even more spectacular than the Mesabi range boom. Industry experts expected pelletizing capacity in Africa, Asia, and the Pacific to grow twenty-fold from 1965 to 1975.¹⁵⁰ The taconite amendment addressed the temporary malaise of economic depression on the Iron Range, but it did little to halt the underlying disease: the slow growth of an increasingly globalized economy in the late twentieth century.

¹⁴⁹ "Mining: The Iron Amendment," *Newsweek*, Nov. 16, 1964: 74.

¹⁵⁰ "Production: A Pellet Gives Iron Ore Industry Shot in the Arm," *Business Week*, Dec. 4, 1965: 107, 110.

The long term decline of the Iron Range mining economy was not the foremost concern of most Iron Range residents immediately after the amendment's passage. Instead, residents experienced the amendment and the subsequent taconite building boom in deeply personal terms. According to one national reporter, the real benefit to residents of the Iron Range was a "psychological boom" that accompanied the belief that better times were ahead. After the 1964 taconite amendment, observers described a new economic climate of "unrestricted optimism" on the Iron Range.¹⁵¹ The story of one older Mountain Iron resident reveals how the political maneuverings of the taconite amendment were experienced in deeply personal terms. As a 57-year-old man told a reporter, the amendment's passage gave him hope that he could spend his later years surrounded by family: "I had two sons and a daughter who left town because there were no jobs. Now, they may come back."¹⁵² For Iron Range residents, the amendment did just what proponents had promised: by cutting taxes, new jobs flooded into the region and the depression of the 1950s and early 1960s was soon over.

Amid the construction boom—which included new schools as well as new taconite plants—the region paid little attention to the gradual shift away from anti-corporate rhetoric and toward a new emphasis on labor, capital, and government consensus in the name of low taxes and job growth. As one reporter put it, the taconite amendment "effectively curbs 80 years of strife, suspicion, and—at times—bloodshed between

¹⁵¹ Austin C. Wehrwein, "Economy Reversed in Mesabi Range," *New York Times*, November 21, 1965; Austin C. Wehrwein, "New Boom in Ore Stirs Minnesota," *New York Times*, May 23, 1965.

¹⁵² "Mining: The Iron Amendment," 74.

Minnesota, the miners, and the mining companies.”¹⁵³ The taconite amendment, then, came to be seen as the turning point from an pre-1964 history of labor/capital antagonism and a post-1964 story of consensus aimed at job growth. A student essay from 1963 poignantly demonstrated how individual residents, especially young people on the Iron Range, internalized the new era of consensus as a sweeping away of the old habits of conflict between labor and capital. As Gayle Anderson, a senior at Roosevelt High School in Virginia and the winner of a 1963 essay contest sponsored by Oliver Mining Company, wrote: “Taconite production must be that new generation, that heir to the great past of open pit mining on the Mesabi. But this generation must shed itself of the inbred inertia, the deluded mentality which would cling to the past, the suspicious mind which regards every action of the mining companies with bitter distrust.”¹⁵⁴ Anderson’s evocative call for harmony between miners and the mining companies is striking in the context of the Iron Range’s deep history of labor conflict. Young Iron Range residents such as Anderson were only one generation removed from the radicalism of Victor Power and the belief that the mining companies were stealing ore that rightfully belonged to the people of the Iron Range, with high taxes as a partial recompense for their loss. To Anderson’s generation, taxes were a necessary evil that had to be carefully monitored lest they prevent corporate investment and job growth.

¹⁵³ Ibid.

¹⁵⁴ Gayle Anderson, “Natural Ores to Taconite—A Transitional Emergency,” student essay reprinted in *Iron Ore and Men*, May 1963: 16; in Publications 1934-1963 Folder 3, box 4, EWD papers, MHS. *Iron Ore and Men* was the company newsletter for the Oliver Mining Company.

Conclusion

Stepping back from the immediate aftermath of the 1964 amendment, what were the long term consequences of the amendment for the Iron Range? On a national level, how did the tax cut consensus emerging even in formerly radical industrial areas such as the Iron Range affect the national political culture, especially the role of industrial workers in the New Deal coalition? From a longer historical perspective, it is clear that the amendment was not a magic bullet capable of fully solving the Iron Range's unemployment problem. Taconite mining and processing was highly mechanized, meaning that fewer workers were needed than in natural ore mining. It also required higher skill employees or workers with different skills than those developed in natural ore mining, meaning that many unemployed natural ore miners could not move easily into the taconite plants.¹⁵⁵ Within a year of the amendment's passage, business analysts admitted that taconite production would never revive mining employment on the Iron Range to its previous levels. Experts predicted 13,000 jobs in taconite by 1975, still below the 20,000 miners employed on the Iron Range in 1957.¹⁵⁶ Although taconite promised new jobs on the depressed Iron Range, ultimately it would never match the number of jobs available before the downturn of the 1950s. Historians of mining regions and resource extraction industries often talk of the "boom and bust" nature of one-industry towns relying on volatile industries such as iron ore.¹⁵⁷ However, focus on the

¹⁵⁵ State of Minnesota, Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1966-1968," Saint Paul, 1968, 9.

¹⁵⁶ "Production: A Pellet Gives Iron Ore Industry Shot in the Arm," *Business Week*, December 4, 1965: 112, 114.

cyclical employment swings in the mining industry can obscure the overall downward trend in mining employment on the Iron Range during the late twentieth century. The amendment did create a taconite boom, but increased taconite employment only slowed the rate of mining's decline on the Iron Range and did not change its overall downward direction. More problematically, the increase in taconite mining led to a full-fledged abandonment of the older natural ore mines on the Mesabi and nearby iron ranges. For example, the expansion of taconite processing on the Mesabi range caused the abandonment of the smaller Cuyuna range to the west of the Mesabi. In an area that had once supported twenty-eight iron ore mines, the last underground mine in Minnesota closed in 1967. According to one mining expert, the iron ore remaining in the Cuyuna range "was not well suited to present separation methods."¹⁵⁸ In a desperate effort to create a taconite industry, few considered the long term consequences of tax policies on the rest of the mining industry.

The taconite amendment—including both its contested political history and ultimate passage—suggests important lessons for the history of tax policy in the twentieth century. More importantly, the taconite amendment reveals just how complicated and multi-layered the transition was for many industrial workers moving away from liberalism and toward conservatism during the second half of the twentieth century. Regarding tax policy, the reversal of tax sentiment on the Iron Range demonstrates how a tax cut consensus emerged during the postwar decades and how the political discourse of

¹⁵⁷ See, for example, Mary Murphy, *Mining Cultures: Men, Women, and Leisure in Butte, 1914-1941* (Urbana: University of Illinois Press, 1997), xiii; and Aaron Brown, *Overburden: Modern Life on the Iron Range* (Duluth, MN: Red Step, 2008), 45.

¹⁵⁸ "Crosby, Minn." *New York Times*, March 26, 1967.

tax cuts was capable of turning even the most anti-corporate Americans into ardent proponents of tax cuts for corporations in the name of job growth. Historian Julian Zelizer has provocatively argued that democratic resistance to taxation has been a constant in U.S. history. Certainly, the grassroots support for the taconite amendment is one example of what Zelizer describes as the long history of “democratic pressure from voters to maintain low rates of taxation.”¹⁵⁹ However, the ardent support for corporate taxation on the pre-World War II Iron Range—best exemplified by Hibbing mayor Victor Power—suggests that industrial workers’ attitudes toward taxation were far more complicated than a general and unchanging hostility to taxes. The early twentieth century Iron Range was pro-tax, provided that the mining corporations, rather than the miners, were paying those high taxes. While someone else was paying, the miners gladly, sometimes gleefully, pushed ever higher taxes on corporations. One important significance of the taconite amendment, then, is not that it reveals an age-old hostility to taxes but rather that it illustrates the complicated “shifting of the burden” of taxation away from corporations and onto individual taxpayers in the second half of the twentieth century. By the end of the twentieth century, the modern conservative movement made hostility to taxes a central component of its political rhetoric, but in many areas such as the Iron Range, citizens were primed to receive the anti-tax message by a long history of tax policy that made them increasingly responsible for shouldering the fiscal burden of modern government.

The political transformations on the Iron Range were far more complicated than simply industrial workers moving from liberal to conservative. Although many—perhaps

most—miners supported the 1964 taconite amendment, a plan first proposed by conservative politicians, Iron Range voters did not permanently abandon liberalism or the DFL Party after the mid-1960s. Indeed, throughout the last decades of the twentieth century, the Iron Range remained one of the most reliably Democratic areas in the nation. Beneath the voting results, however, was a complicated reality. Industrial miners on the Iron Range may have followed their unions to vote Democratic, but they rarely followed the Democratic Party as it took on cultural and social issues at the end of the century. Iron Range journalist Aaron Brown notes the contradictory politics of the post-1960s Iron Range, describing average Iron Range voters as “socially conservative, economically liberal populists who are averse to change.”¹⁶⁰ In many ways, Iron Range politics became like an insect trapped in amber: it was a politics from another time held constant in an always-moving future. The Iron Range sent politicians to Washington and Saint Paul who were economically liberal but socially conservative. As described in later chapters, much of this support was due to the success of the taconite industry in maintaining a viable mining industry in the region. Iron Range voters remained liberal, in other words, because the mining economy kept going. Their quick abandonment of anti-corporate radicalism during the taconite amendment debate, therefore, demonstrates how fragile the construction of industrial liberalism was in the postwar era. Politically, industrial liberalism was constructed on a foundation of ever-expanding industry. When deindustrialization and global competition kicked out those foundations, the entire edifice began to crumble.

¹⁵⁹ Zelizer, “The Uneasy Relationship,” 282.

¹⁶⁰ Brown, *Overburden*, 185.

Put simply, the taconite amendment reveals two overlapping political identities competing for the hearts and minds of industrial workers in the postwar decades. The first was the identity of the liberal—sometimes even radical—working class. A dense nexus connecting liberalism, unions, and industrial work, this political identity was forged in the heated labor battles of the early twentieth century and finished in the national political culture of the New Deal, which lionized industrial workers as central to the modern United States.¹⁶¹ What was clear by the postwar era, however, was that this political construction relied on a foundation of industrial growth for its survival. In the face of growing global competition and sweeping deindustrialization, a liberal working class identity had few answers.¹⁶² The other identity competing for the allegiance of industrial workers was that of the conservative taxpayer. This identity downplayed the older politics of productive labor by emphasizing industrial workers' role as citizens both paying for and consuming the services of government and, from that position, demanding accountability and value for their tax dollar. These identities were in constant flux on the postwar Iron Range and it is likely impossible to precisely locate where one ended and the other began. What is significant in the taconite amendment, however, is that it reveals how industrial decline and the threat of capital flight not only undermined the economic benefits of liberalism but allowed the conservative taxpayer identity to make pragmatic economic arguments for industrial workers. In the face of threatened job loss, arguments

¹⁶¹ Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 1990); Steve Fraser and Gary Gerstle, eds. *The Rise and Fall of the New Deal Order, 1930-1980* (Princeton, NJ: Princeton University Press, 1989).

¹⁶² Judith Stein, *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism* (Chapel Hill: University of North Carolina Press, 1998).

about cutting taxes made as much sense as arguments about asserting government's power over the steel corporations.

CHAPTER 3

DEVELOPING THE LOCAL ECONOMY: THE IRON RANGE RESOURCES AND REHABILITATION BOARD AND LOCAL ECONOMIC DEVELOPMENT POLICY, 1941-2000

Chapters one and two described two of the most significant responses to industrial decline on the Iron Range in the twentieth century. Through the miracles of industrial technology, engineers such as Edward W. Davis created the promising taconite industry. However, taconite technology alone could not save the Iron Range's declining economy. The 1964 Taconite Amendment rewrote Minnesota's tax laws to make taconite commercially viable, but it also heralded a new era of tax cut politics that hollowed out industrial liberalism. While important, these were not the only policies aimed at staving off economic decline on the Iron Range. This chapter explores another crucial aspect of the Iron Range's and the state of Minnesota's attempts to fight deindustrialization in northeast Minnesota in the second half of the twentieth century.

Economic development emerged as a key policy response to sagging local economies throughout the United States during the postwar era. Development policies were not limited to the U.S., however, and spread across the globe during the Cold War through international institutions such as the World Bank, the International Monetary Fund, the United States Agency for International Development, and the growing field of development economics. On the Iron Range, the central governmental agency charged with coordinating economic development in response to deindustrialization was the Iron

Range Resources and Rehabilitation Board [IRRRB].¹ This chapter describes the history of this agency, explains its significance for a postwar history of economic development and deindustrialization, and illuminates the institutional context in which responses to industrial decline occurred.

One piece of common wisdom in the modern history of the United States is that the scale and scope of the federal government's power expanded greatly throughout the twentieth century. Moving beyond its limited role in the nineteenth century, the federal government reached into new aspects of everyday life and took on additional responsibilities for the health and welfare of the American population.² Among the most significant expansion of government's concern during this era was a growing governmental involvement with the economic welfare of citizens. Beginning during the Progressive era and expanding greatly during the New Deal and World War II, governments at the federal and state levels took it upon themselves to protect the economic security and well being of the populations within their borders. The 1935 Social Security Act was only the most prominent example of a growing American welfare state that took citizens' economic life as a primary concern. The government's interest in the economic well being of citizens arguably reached its high water mark in the United States during the Great Society, when President Lyndon B. Johnson committed the federal government to nothing less than eradicating poverty and ensuring

¹ The IRRRB went by several official titles over the years, including the Department of Iron Range Resources and Rehabilitation and simply Iron Range Resources. For simplicity, I use the term IRRRB—known colloquially as the “I-Triple R-B” on the Iron Range—when referring to the agency throughout this chapter. I also use the term “Board” and “Agency” interchangeably when referring to the IRRRB.

² This theme has been addressed by a plethora of historians. For one especially readable overview of the concept, see Godfrey Hodgson, *America in Our Time* (New York: Vintage, 1976), 99-133.

that all Americans had access to postwar prosperity. Although conservative economic policies undercut many of the earlier liberal concerns in the final decades of the century, by the twenty first century politicians of all persuasions agreed that the government had a fundamental responsibility to ensure that citizens received at least a modicum of security and access to American prosperity. This governmental concern with economic security in the twentieth century was not limited to the United States. Across Europe during the same era, liberal governments took increasingly responsibility for the economic health of the nation and the economic security of the population within their borders.³

Despite widespread historical consensus that economic security was a key aim of government in the mid-twentieth century, there is less understanding of how, precisely, the federal government acted upon the nation's economic well being. What policies did the federal government enact in response to industrial decline in the twentieth century? What government agencies were tasked with formulating or carrying out such policies? The answer to these questions, surprisingly, is that the federal government took little concrete action in response to deindustrialization during the middle decades of the twentieth century. Unlike many governments in western Europe, which enacted national industrial policies to coordinate capital and labor in industries deemed vital to the economic health of the nation, the United States never pursued a federal industrial policy

³ There is a vast historical literature on the welfare state in the United States. For a selection of different perspectives, see Edward D. Berkowitz, *America's Welfare State: From Roosevelt to Reagan* (Baltimore: Johns Hopkins University Press, 1991); Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (Cambridge: Cambridge University Press, 1990); Alice Kessler-Harris, *In Pursuit of Equity: Women, Men, and the Quest for Economic Citizenship in 20th-Century America* (New York: Oxford University Press, 2001).

in the twentieth century.⁴ Thus, American economic policy during the middle of the twentieth century contains profound contradictions. At the federal level, the government was simultaneously committed to ensuring the economic welfare of its citizens but hesitant to enact specific policies that would do so, especially in response to regions suffering from industrial decline.

If the federal government did not pursue a coordinated industrial policy during the twentieth century, then the role of state and local economic development agencies such as the IRRRB is crucial to understanding the shape and outcomes of postwar economic planning and the government's response to deindustrialization. How did relying on state and local agencies to coordinate economic development policy, rather than the federal government, shape the policy response to industrial decline in the postwar period? In other words, understanding the policy response to economic concerns in the postwar decades points toward the central role of state and local governments. Historians seeking to understand the contours of the postwar decades, particularly the role of government in responding to the first postwar waves of deindustrialization and globalization, need to focus on state and local governments.

As recent scholarship in political history has demonstrated, institutions have consequences. Historians working in the fields of policy history and the “new institutionalism” have mapped the consequences that spring from particular institutional

⁴ Otis L. Graham, Jr., *Losing Time: The Industrial Policy Debate* (Cambridge, MA: Harvard University Press, 1992). Arguably, the United States often used military spending as a poor substitute for industrial policy during the Cold War. By funneling defense money to specific regions, such as the Sunbelt south and west, the federal government played an important role in shaping regional industrial growth.

arrangements in American public life.⁵ In the case of economic development policy, historical analysis of economic development needs to examine the possibilities and limits imposed by the state and local institutions charged with carrying out these policies. How did the local focus of postwar economic development constrain the options available to policy makers? What possibilities were open at the state or local level that may have been foreclosed had economic development been pursued by the federal government?

As a partial answer to these questions, this chapter traces the history of one important state economic development agency, the IRRRB, from its creation in the New Deal era to the end of the twentieth century. Following the history of the IRRRB allows us to better understand the rarely acknowledged history of state and local economic development agencies in responding to deindustrialization. Additionally, the agency offers a useful site for historians to assess the possibilities and limits that localism imposed on the policy responses to industrial decline.

The Origins of the IRRRB

The IRRRB was created out of the economic dislocation of the Great Depression and the subsequent government experiments known as the New Deal. Like many other industrial regions of the United States, the Iron Range's economy was decimated during the Depression, with high unemployment and growing misery.⁶ The shutdown of the

⁵ For an excellent overview of the field, see Meg Jacobs and Julian E. Zelizer, "The Democratic Experiment: New Directions in American Political History," in *The Democratic Experiment: New Directions in American Political History*, ed. Meg Jacobs, William J. Novak, and Julian E. Zelizer (Princeton, NJ: Princeton University Press, 2003), 1-19.

⁶ It is worth noting that not all observers agreed that the Iron Range was suffering tremendously during the Great Depression. Writing to Eleanor Roosevelt in 1933, government reporter Lorena Hickok

region's iron mines during the slump allowed civic leaders across the Iron Range to reflect on the possibility that iron mining in the area might not have a long term future. Perhaps this should not have been surprising, given the inherently unsustainable nature of an industry based on removing nonrenewable resources. But civic leaders in the Iron Range towns took away a different lesson: they were determined to save their communities and ensure that they would not dissolve into a string of ghost towns. In other words, they wanted permanence and stability. As the IRRRB's official history describes this mindset, civic leaders in the town of Chisholm "could easily visualize an Iron Range without a mining industry, for that was essentially the case throughout the 1930s." But rather than succumbing to capitalism's creative destruction—the inherent impermanence of a mining town—these civic leaders were firm believers in the "premise that the Iron Range and northern Minnesota were worth rehabilitating for future generations."⁷ Behind the IRRRB, then, and beneath efforts to rehabilitate and redevelop declining areas in general, was a refusal to accept decline and demise as processes inherent to resource extraction industries and their communities. Economic development on the Iron Range, as embodied by the IRRRB, was always guided by this principle, a belief that the impermanent could be made permanent and stable.

described Hibbing as having "darned little destitution . . . compared with the Dakotas, for instance." From Hickok's view, the Depression-era Iron Range had "an unemployment problem . . . that will never be cured, probably." But she believed this was due to mechanization and automation in the mines, not the Depression. Ultimately, Hickok saw automation as a positive development, writing to Roosevelt, "we really have an industrial revolution on our hands, haven't we?" Lorena Hickok, *One Third of a Nation: Lorena Hickok Reports on the Great Depression*, ed. Richard Lowitt and Maurine H. Beasley (Urbana: University of Illinois Press, 2000), 129-30.

⁷ Dana Miller, "Public Policy and Economic Development: The Iron Range Experience," paper presented at the Minnesota Historical Society Annual Meeting, Minneapolis, 1990: 4; Joseph A. Foster, "The Iron Range Resources and Rehabilitation Board: Northeastern Minnesota's Economic Development Planner," (BA thesis, University of Minnesota, Duluth, 2001), 8.

This may have been the driving impulse behind efforts to create an economic development agency, but the formal shape of such an agency was initially unclear. Concerned civic leaders on the Iron Range at first pursued development money at the federal level as well as through state government. In May 1941, Iron Range banker—and later legislator—Fred Cina typed a long letter to President Franklin Roosevelt explaining the dire employment situation on the Iron Range and urging Roosevelt to provide federal aid to the region. Cina’s letter began by emphasizing the importance of the Iron Range to the nation’s steel industry, noting that the Iron Range “produce[s] 75% of the total iron ore in the United States.” Cina then explained how the increased production for defense needs had not relieved the Iron Range’s unemployment problem, since better mining technology and larger open pit mines allowed fewer and fewer miners to remove more and more ore: “the result of this increased output per man has been to curtail the employment of the men in the iron region, (mining being the sole industry) so that thousands have been forced upon the relief roles of the state, and large numbers have been provided for by the W.P.A.” Cina’s letter painted a picture for Roosevelt of an area where “the population of some 70 thousand is entirely stranded, and will be, unless a rehabilitation program is carried out by the nation.” Finally, Cina made his pitch to the President that state aid alone could not solve the problem of Iron Range unemployment, arguing “the State of Minnesota is taking its first step in rehabilitating this region . . . but this will be insufficient and wasted unless supplemented by Federal aid.”⁸ Well before the integrated federal, state, and local poverty relief efforts of the 1960s and the Great

⁸ Fred A. Cina to President Franklin Delano Roosevelt, May 14, 1941; Box 1, Folder 01.02.00000003, FC Papers.

Society, civic leaders such as Cina who were concerned with regional economic development were urging a comprehensive policy effort at all levels of government.

In spite of Cina's urgent letter to Roosevelt, the White House was uninterested in coordinating economic development efforts with the state of Minnesota. Cina's particular request received a cool reception at the White House and on Capitol Hill. While Congressmen indicated that they understood the need for relief on the Iron Range, they also noted that defense priorities now took precedence over domestic concerns such as relief. President Roosevelt was supportive but noncommittal.⁹ As Doctor New Deal gave way to Doctor Win the War, the ongoing economic problems of regions such as the Iron Range were left behind.

With no prospect of federal help, efforts to create an Iron Range development agency focused on the state level in the early 1940s. The immediate impetus for the agency's creation was the tax debate of the early 1940s that also changed the ad valorem taconite tax as described in chapter one. In addition to eliminating the ad valorem tax on taconite, however, Minnesota Governor Harold Stassen pushed for a broad set of changes in mineral taxation laws at the time. Included in the tax changes were limits on local tax levies to \$70 per capita and \$60 per capita for school districts, a move aimed at the widely regarded profligate spending of Iron Range communities, along with an increase in the occupation tax, which taxed the actual amount of ore mined, and a program to funnel a portion of the mining occupation taxes into a "rehabilitation program" for the

⁹ President Franklin Roosevelt to Fred Cina, May 24, 1941; Box 1, Folder 01.02.00000003; FC Papers; The copy of this letter held by the IRRRC does not contain President Roosevelt's signature but is on White House stationery.

Iron Range.¹⁰ The last of these provisions, the “rehabilitation program” funded by a portion of the occupation tax, was the germ for the IRRRB.

The Board itself emerged to oversee the tax money and direct it toward appropriate rehabilitation activities. Originally named the Department of Iron Range Resources and Rehabilitation, the agency was later renamed the Iron Range Resources and Rehabilitation Board.¹¹ Composed of a shifting group of state senators and legislators from the Iron Range, along with various other state employees, the IRRRB represented a cross section of the Iron Range’s political interests.¹² The Board’s primary focus was the mining region, which meant that it spent the majority of its early time and money focused on the mining industry. But it was also charged with developing the Iron Range’s “other resources, both human and natural” in addition to iron mining. As Iron Range officials understood this mandate in the 1940s, developing other resources meant creating a new wood products industry, encouraging specialized farming, building educational facilities, and promoting tourism in the region.¹³ Over the next decades, the IRRRB would take on all of these projects and more.

¹⁰ Edward G. Bayuk, “Iron Range Resources and Rehabilitation: Report to the Governor and the Legislature for the Twenty-Second Biennium, July 1, 1948-July 1, 1950,” 7; Dana H. Miller, *The Iron Range Resources and Rehabilitation Board: The First Fifty Years* (Eveleth, MN: IRRRB, 1991), 1; IRRRB, “The Iron Range Resources and Rehabilitation Board: 50 Years of Vision,” Eveleth, MN, 1991, 3. The biennial reports and meeting minutes of the IRRRB were made available to me by Sandy Layman and Cheryl Kochevar of Iron Range Resources in Eveleth.

¹¹ IRRRB, “The Iron Range Resources and Rehabilitation Board: 50 Years of Vision,” 1.

¹² Margaret E. Dewar, “Development Analysis Confronts Politics: Industrial Policy on Minnesota’s Iron Range,” *Journal of the American Planning Association* 52, no. 3 (1986): 291.

¹³ Miller, *The Iron Range Resources and Rehabilitation Board*, 1.

In tying the agency's funding to the iron ore occupation tax, state officials had created a key paradox in the agency's finances. This problem only became clear with time, but the essence of the difficulty was that the IRRRB was trying to act as a countercyclical government agent, spending money during downturns and saving during booms in the iron ore industry. However, because the Board's funding came from the occupation tax, which fluctuated depending on the amount of ore actually mined, the agency's finances followed the mining industry's revenues, making countercyclical spending difficult. As a later IRRRB report described the problem:

In the years of high employment and good economy in the mining area, the Department's income was very high. During these "good" years there was very little demand for assistance by either private industry or governmental agencies in the Range area. On the other hand, the years of limited mining operations saw a decided drop in the Department's receipts. It has been during these "bad" years that the Range communities turned to the Department for assistance, primarily funds, to develop new industry and create employment. Under the terms of the original law no provision was made to accumulate funds in the high income years to meet the needs of low-income, high-demand years.¹⁴

As this quote makes clear, the agency's initial funding structure established the Board as little more than a spigot to return mining tax revenues to the Iron Range communities. Since the agency could not initially accumulate tax money to save for long range development programs, its mandate to buffer economic downturns was difficult to achieve.

The IRRRB emerged haphazardly from the economic dislocation and high unemployment on the Iron Range during the Great Depression. When civic leaders in the Iron Range towns decided they could not accept that iron mining might simply disappear

¹⁴ State of Minnesota, Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1960-1962," St. Paul, 1962, 3.

from the region, leaving the communities to dissolve into ghost towns, they turned to federal and state government for a long term solution that might ensure a stable future for the Iron Range. Thus, the idea of a state level economic development agency was born. But the financial structure of the early IRRRB, based on fluctuating occupational taxes, made long term development planning difficult.

Economic Development in the 1950s and 1960s

The IRRRB struggled to define its place in the postwar political landscape. Although it had a mandate to alleviate the acute economic distress of the Iron Range during the Great Depression, the agency's continuing existence in the early postwar period forced it to experiment with a variety of new development projects throughout the 1950s and early 1960s. At the same time, it faced critics who argued that the agency had met its earlier goals and should now be dissolved. Although its ultimate direction remained unclear well into the 1960s, the agency's actions in the 1950s established a foundation for its later emergence as a unique state-level public-private development agency controlling mining tax revenue.

Many of the IRRRB's early problems stemmed from unclear policies and laws surrounding its creation. Originally established in response to the Iron Range's high unemployment during the Great Depression, the agency's duties were statutorily unclear amid the changed economic environment of the 1950s. Some politicians argued that the easiest solution to the agency's vague and seemingly obsolete mandate would be to simply dissolve the IRRRB. Given the Iron Range's prominence within Minnesota state politics, this was not feasible. Few state politicians were willing to risk alienating the

voters of the Iron Range. But politicians nonetheless did their best to limit the agency's power and influence by stripping its funding or diverting funds away from the IRRRB and toward other agencies. Although the IRRRB received large sums of money from the iron ore occupation tax during the 1940s and 1950s, a significant portion of these funds was transferred out of the IRRRB and into other state agencies, meaning that the IRRRB's total income from mining taxation was always somewhat misleading. Practically, the IRRRB had significantly less money to work with than what appeared on the government's balance sheets.¹⁵ Even if the Iron Range's political influence made it difficult to dissolve the agency, opponents hoped it could be reduced to an ineffectual agency distributing mining tax revenue to other parts of the state government.

Another factor contributing to many politicians' ambivalence toward the agency was an underlying belief that economic distress was endemic on the Iron Range and government action by the IRRRB would only prolong the suffering. One suggestion to the Iron Range's long term economic problems, some officials said, was wholesale outmigration from the region. If there was no work in the area, this line of thinking went, then people should just leave. A 1940s report on northeast Minnesota's industrial problems suggested this solution in frank language, arguing that migration out of the Iron Range "is probably the simplest solution to the Mesabi range problem." The report did admit, however, that this solution was unlikely for many residents, in part because many of them owned property in the region. For these people, "it is more desirable to bring

¹⁵ State of Minnesota, Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1964-1966," St. Paul, 1964, 6.

employment within reach of their homes.”¹⁶ While not all policymakers supported this view, it reveals deep ambivalence among influential officials about the underlying needs of the Iron Range and ultimate mission of the IRRRB. If the only viable long term solution to the Iron Range’s economic problems was migration out of the area, why should the state government commit to wholesale redevelopment?

In contrast to politicians hoping to dissolve the agency, supporters of the IRRRB, including Board members, argued that a regional development agency had a valuable role to play in the postwar era. IRRRB commissioner Edward Bayuk admitted in 1952 that increased ore production had lifted the most acute employment problems in the region during the early 1950s. But he nonetheless argued that the agency would and should continue working “with an eye to the future” to create a “better balanced economy as cushion for the future as well as to meet the immediate needs of . . . new vocational fields.”¹⁷ Bayuk was suggesting that although the IRRRB’s original mission was met, the agency still offered a unique opportunity to continue the planning tradition of the 1930s and 1940s in the postwar era. Prominent Minnesota businessman Charles L. Horn agreed with Bayuk, publicly stating that the IRRRB should not be dissolved and could be a valuable contributor to the Iron Range’s and Minnesota’s long term growth. In a 1951 memo, Horn admitted “that the Range Commission has made mistakes,” but he concluded that because the problems facing the Iron Range were “not just local or sectional” but “state and national problems,” only a dedicated body like the IRRRB could

¹⁶ “Industrial Survey of Northeastern Minnesota,” no date; Box 1, Folder 01.04.00000005, FC Papers.

¹⁷ Edward G. Bayuk, “Developing Human and Natural Resources in Minnesota: A Report on the Work of the Iron Range Resources and Rehabilitation Commission, 1950-1952,” 1952, 5-6.

ultimately coordinate economic development involving government, business, and academic experts.¹⁸ The vocal support of influential leaders such as Horn helped to ensure the IRRRB's continued existence in the 1950s.

The political controversy surrounding the agency was exacerbated in the 1950s when the Minnesota Attorney General's office limited the scope and nature of the projects the Board could legally undertake. By the middle of the 1950s, the Attorney General's office had sharply curtailed the type of projects the IRRRB could participate in, determining "these projects must be something new or in the form of research." In other words, the agency could not simply funnel public money into already existing industries even if they were struggling. This limitation in the scope of IRRRB projects resulted in the agency turning down a large number of requests for development projects during the decade. The Board's ability to own or lease real estate came under particular scrutiny. Previously, the IRRRB had set up pilot plants for industrial and agricultural experiments on its publicly owned lands. Eventually a special assistant attorney general was attached to the IRRRB to rule on whether specific projects were within the agency's legal scope.¹⁹ In a broad sense, the limits on the agency's activities illustrated the widespread hesitation throughout the 1950s of activist government involvement in the economy. Beneath the surface of the Attorney General's decisions was the widely shared belief that private business should not have to compete with publicly-funded enterprises and that mixing

¹⁸ Charles L. Horn, "The Range Resources Commission-A Potential Asset," memorandum, January 25, 1951; Minneapolis General Folder, MES Records, UMNA.

¹⁹ IRRRB, "Forward in Developing Natural Resources," St. Paul, 1958, 8; State of Minnesota, Office of Iron Range Resources and Rehabilitation, "Search for Resources and New Uses of Them," St. Paul, 1960, 7-8.

government financing with private enterprise set a dangerous precedent in the Cold War era.²⁰

Despite questions about the agency's existence and mission, the IRRRB pushed ahead on a variety of economic development projects during this period. In their variety, these projects suggest the ill defined nature of the agency in these years and a predominant understanding of economic development as government contributions to prop up existing businesses or seed new ones. In its 1950 report to the Minnesota legislature, for example, the IRRRB highlighted a wide array of economic development projects meant to diversify the region's economy, including aerial photography of the Iron Range, agricultural projects, cow testing, forest surveys, lumber projects, a failed iron powder project, peat research, potato farming, and titanium drilling.²¹ As this divergent array of projects suggests, the IRRRB seemed to be struggling to define its mission during its first years. It paid for many different research projects, including some that had a very low probability of success.

Logging development projects were one focus of the Board's early efforts. Since the area covered by the IRRRB's jurisdiction included traditional logging towns such as Grand Rapids, the Board included logging among its early economic development programs. Logging had a long history in the upper Great Lakes region. Prior to the beginning of iron mining in the late nineteenth century, the heavily wooded Arrowhead

²⁰ Alan Brinkley, *The End of Reform: New Deal Liberalism in Recession and War* (New York: Knopf, 1995); Lary May, *The Big Tomorrow: Hollywood and the Politics of the American Way* (Chicago: University of Chicago Press, 2000), 139-214.

²¹ Edward G. Bayuk, "Iron Range Resources and Rehabilitation: Report to the Governor and the Legislature for the Twenty-Second Biennium, July 1, 1948-July 1, 1950," 10-18.

region was home to a large logging industry. However, the Iron Range's old growth trees were logged off by the end of the nineteenth century and the industry contracted sharply—a reminder that iron ore mining and logging shared similar histories as resource extraction industries.²² To stimulate the timber industry in the so-called cutover area, the IRRRB, along with other state agencies, proposed several new programs aimed simultaneously at economic development and management of the region's timber resources. For example, Iron Range civic officials proposed that the area create community forests. Facing declining prospects in the mining industry, these officials suggested that logging in community-owned forests offered a resource extraction economy that could rejuvenate itself, unlike iron ore, and would offer sustainable employment. Interestingly, community forests also promised a local solution to the Iron Range's economic distress that did not rely on a steady stream of government money, allowing “our people to help themselves” and not “invoke the need of a subsidy which at its best can only temporarily solve the problem.”²³ These community forests were not created, but they nonetheless suggest the imaginative possibilities being discussed in the 1940s. Paper mills offered another possibility for promoting industrial development in the logging industry. Paper mills were seen as a particularly appropriate venture on the Iron Range because they could provide industrial employment for the area, rather than service

²² On the history of logging in the upper Great Lakes region, see William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991), 148-206; Agnes M. Larson, *History of the White Pine Industry in Minnesota* (Minneapolis: University of Minnesota Press, 1949); and Adam Tomczik “‘He-Men Could Talk He-Men in He-Men Language’: Lumberjack Work Culture in Maine and Minnesota, 1840-1940,” *The Historian* 70, no. 4 (2008): 697-715.

²³ C.C. Crosby and Howard Siegel letter, December 30, 1940; Box 1, Folder 01.02.00000003; FC Papers.

sector work, and would complement northeast Minnesota's overall resource extraction industrial base.²⁴ Unfortunately, logging programs were lower on the IRRRB's list of priorities than mining and they were among the first to be cut amid declining IRRRB budgets in the 1950s and 1960s. Throughout the 1960s the agency scaled back its logging programs due to a drop in revenue with the switch to taconite.²⁵

The IRRRB also emphasized farming as a viable alternative to mining in the rural landscape during these years, despite an unpromising history of agriculture in the region's harsh northern climate. Throughout the 1950s, agricultural development was an important field for the agency, with specific projects to improve vegetable, fruit, and legume farming on the Iron Range. The farming projects were coordinated by a small number of staff members at the agency, though, and they were quickly phased out when these experts left or shifted focus. By the early 1960s, the IRRRB had drastically cut its agricultural research and development projects. After a key staff member died, the agency had no full time employees working in agriculture by 1962.²⁶

Among the more creative economic development projects pursued by the IRRRB during its early years was support for Duluth entrepreneur Jeno F. Paulucci, an Iron Range businessman who pioneered the making and marketing of preprepared ethnic and

²⁴ Austin C. Wehrwein, "Labor, Business and Civic Leaders in the Mesabi Iron Range Join to Diversify Industry," *New York Times*, May 25, 1964.

²⁵ State of Minnesota, Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1968-1970," St. Paul, 1970, 5.

²⁶ Iron Range Resources and Rehabilitation, "Biennial Report, 1960-1962," 22. By the late 1960s, officials blamed natural factors for the poor farming on the Iron Range, downplaying the policy decisions of the IRRRB. Educational Research and Development Council of Northeastern Minnesota, "Economy of Minnesota: Current Economic Activity," report, 1968, 17.

frozen foods during the 1950s. Paulucci approached the IRRRB and asked for several hundred thousand dollars to expand his Chun King Asian food business, based in Duluth. Paulucci told the Commission he “needed money to expand” and threatened to leave Minnesota, taking his company’s jobs with him, if the Commission did not offer him a loan. According to Commission records, Paulucci “was even considering leaving the state. He needed more space and one state already had offered him the sort of plant he wanted.” Eventually, the IRRRB offered Paulucci a loan of \$200,000, which, they later bragged, was “paying off handsomely due to increases in farming and payroll in the Duluth area.”²⁷ While the loan to Chun King paid off, Paulucci’s threat to leave the state was a harbinger of the problem of interstate capital flight and the susceptibility of state-based economic development agencies to threats to move the plant. Once committed to spending public funds to keep jobs in a given region, economic development agencies could become pawns in business owners’ demands for public financing. By threatening to leave an area for a more lucrative deal, owners could, at times, blackmail agencies into ever larger pools of public money.²⁸

Along with these scattered early ventures, the IRRRB was also committed to the mining industry. One key thrust of the IRRRB’s early development efforts in the 1940s and 1950s was support for the fledgling taconite industry and continued development of the natural ore mines. In the agency’s first biennial report to the state legislature, for

²⁷ Bayuk, “Developing Human and Natural Resources in Minnesota,” 8-10.

²⁸ By the 1960s, Paulucci emerged as an important figure in Minnesota and national politics. He was a primary financier of Hubert H. Humphrey’s failed 1968 presidential campaign and has been in touch with many presidents. Rick Pearlstein, *Nixonland: The Rise of a President and the Fracturing of America* (New York: Scribner, 2008), 329, 347.

example, the IRRRB indicated that its primary focus was working with the mining companies to develop a taconite industry on the Iron Range. Statutory limits prevented the agency from building its own pilot plants to test taconite, but it promised to support private efforts to build such plants, claiming that the agency “stands ready to cooperate [with private mining firms] to the limit in promoting the development of this natural resource.”²⁹ As described in chapters one and two, creating the taconite industry should be considered among the most complicated of all the economic development projects undertaken on the Iron Range in the twentieth century. But, as detailed in chapter one, creating a successful taconite industry also doomed the natural ore mines, especially those mining underground ore in northeast Minnesota, northern Wisconsin, and Michigan’s Upper Peninsula. Thus, the IRRRB committed itself during its early years to continued development of Minnesota’s natural ore industry in the ultimately futile hopes of sustaining these mines into the future.

One major economic development project to prop up underground natural ore mining during the late 1940s was a plan for a government stockpile of iron ore that would be purchased by the government during slack periods and held in case a national emergency required rapid expansion of the nation’s steelmaking capabilities. Ostensibly, the stockpile was intended to provide raw materials for the steel-clad armed forces of the Cold War. Under the plan, a stockpile of iron ore would be paid for by the U.S. government and held “for use during a national emergency.”³⁰ But it was common

²⁹ State of Minnesota, Iron Range Resources and Rehabilitation Commission, “Biennial Report of the Iron Range Resources and Rehabilitation Commission, 1943-1945,” St. Paul, 1945.

³⁰ Fred Cina to Governor Edward J. Thye, June 5, 1946; Box 1, Folder 02.03.01.00000010, FC Papers.

knowledge among those familiar with the plan that the stockpile's real purpose was to provide government support to the collapsing natural ore mining industry, especially the underground mines. *New York Times* coverage of the plan, for example, claimed that "the leaders of the mining community are facing up to the fact that they cannot stop technological progress in the mines, that as the output of each miner increases with new machinery and mass production . . . the chances of the range sustaining the lives of its 80,000 inhabitants except under a Government buying scheme are poor indeed." Thus, the *Times* argued, residents of the Iron Range turned to the federal government to solve postwar economic problems at the same time that "other areas of the country are arguing against Government subsidies and Government intervention in the economic life of the community."³¹ As this national newspaper article makes clear, the fate of rapidly declining industrial regions such as the Iron Range began to diverge significantly from other, more prosperous regions of the country in the immediate postwar years. Facing decline, industrial regions asked for an expansion of government support to provide economic security.³² Conversely, prosperous regions such as the Sunbelt south and west believed government control was holding back their development and they often called for a reduced role for the federal government in regional economies.³³

³¹ James Reston, "Mine-Job Security Seen in 'Stockpile,'" *New York Times*, July 16, 1942.

³² Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, NJ: Princeton University Press, 1996).

³³ Of course, many of these Sunbelt regions relied on extensive federal subsidies, especially from the burgeoning Cold War defense industry, for their very existence. The contradiction between anti-government rhetoric and federal government spending is explored in Lisa McGirr, *Suburban Warriors: The Origins of the New American Right* (Princeton, NJ: Princeton University Press, 2001).

The stockpile plan was one option, but the IRRRB proposed other solutions for towns fearing they would be left behind by the booming taconite industry. Thus, during 1955 the IRRRB sponsored projects to mine for iron ore deposits in or near Iron Range towns. For example, the IRRRB funded a project to drill for new iron ore reserves around Eveleth. The project was initiated at the request of civic and school officials who were worried that their city would become a “ghost town” if new reserves were not discovered immediately.³⁴ The pressure from Iron Range towns on the IRRRB to explore for new areas of iron ore illustrates that many Iron Range residents saw the IRRRB’s primary function during this early period as sustaining the traditional mining economy rather than developing new industries in the region.

During the first two decades of its existence, the IRRRB struggled to clearly define its scale and scope. It moved simultaneously in several different directions, promoting farming, logging, and taconite, while also struggling with growing restrictions on its activities by a state government increasingly skeptical of direct government intervention in the economy. Ultimately, it was not until the broad federal support for regional development agencies came together in the 1960s that the IRRRB’s place within state government was assured.

The IRRRB and Area Redevelopment

By the middle of the 1960s, and especially following passage of the 1964 Taconite Amendment, the IRRRB was challenged to formulate its economic development priorities in the midst of a boom in taconite mining and production. On the one hand, the

³⁴ State of Minnesota, Office of Iron Range Resources and Rehabilitation, “Forward in Developing

taconite boom fulfilled the promise of economic development rhetoric and alleviated the unemployment crisis. If the combined work of technology and public policy could create a new industry like taconite, then economic development had a central place on the Iron Range and in other areas struggling with industrial decline. More immediately, declining unemployment lowered the pressure on development officials to provide immediate fixes for the regional economy and allowed them to focus on long term development and diversification efforts.

On the other hand, it soon became clear that taconite would not be a panacea for the Iron Range's economy. Although building taconite plants employed a huge number of construction workers, the plants were highly automated once operational. They needed fewer workers than the natural ore mines and those workers needed new and different skills, meaning that unemployed natural ore miners could not count on moving into the new taconite plants without additional education or training. Thus, the new taconite mining economy obscured more deeply entrenched employment problems that continued well into the late 1960s, including an oversupply of workers unskilled to work in the taconite plants.

The IRRRB acknowledged the need for continued economic development amid the taconite boom, but faced state officials and a broad public that did not understand the complicated structural unemployment now plaguing the Iron Range. Calls for continued development faced an uphill battle against legislators and a public that believed the Iron Range's economic problems had been solved by taconite. The IRRRB nonetheless pressed its case for ongoing economic development. In the agency's 1964 report to the

Natural Resources," St. Paul, 1958, 39.

state, the IRRRB argued that the Iron Range needed vigorous rehabilitation efforts in the 1960s just as it had during the Great Depression. The report reminded government officials that although many thousands of workers would find jobs while building the taconite plants, overall mining employment would decrease once the plants were running. “Unemployment will still be a problem when the plants are completed and the taconite operations are in full swing,” the agency’s report noted. “There will still be need for a rehabilitation program for area residents, displaced miners, [and those] considered too old and unqualified for the skilled and semi-skilled labor required by these plants.”³⁵ The IRRRB’s point was echoed in the national press, with the *New York Times* reporting that although taconite construction was booming in 1965, state officials were worried that the construction boom was only a temporary uptick in employment.³⁶ These fears were confirmed by the end of the decade. In a 1970 report, the IRRRB Commissioner noted that taconite was not resolving the underlying economic problems of the Iron Range. “The taconite industry has saved Northeastern Minnesota from an economic depression,” the Commissioner wrote, “but the area is still plagued by inadequate employment, job migration, and a lack of industrial diversity.”³⁷ The 1960s made it clear that taconite alone would not save the Iron Range’s economy.

While taconite did not eliminate Iron Range unemployment, it did create a new set of funding problems for the IRRRB. The agency was created amid a host of changes in the tax code during the early 1940s and received its funding from the occupation tax on

³⁵ Iron Range Resources and Rehabilitation, “Biennial Report, 1962-1964,” 2.

³⁶ “Minneapolis,” *New York Times*, October 24, 1965.

³⁷ Iron Range Resources and Rehabilitation, “Biennial Report, 1968-1970,” 4.

natural ore mining. The rapid rise of taconite mining and the corresponding decline in natural ore mining thus sharply decreased the money flowing into the IRRRB. As initially established, the IRRRB did not receive any tax money from taconite production. By the late 1960s this system of declining natural ore mining and the failure to channel any taconite tax money to the IRRRB created a fiscal crisis for the agency. In 1968, the IRRRB Commissioner believed that the agency was in fact being “phased out” because of the decline in natural ore mining caused by the growth of taconite.³⁸ The agency pleaded its case to the state, ominously warning legislators that “unless there is a change in the present taconite tax structure, which does not include any appropriation for the [IRRRB] from its occupational tax, the department will be gradually phased out of existence.”³⁹ Responding in part to its declining revenues, the IRRRB reorganized in 1962 into three components: administration, which included the Commissioner and a small staff, program participation, which focused on providing matching funds for projects funded in part by state, federal, or University of Minnesota money, and, finally, industrial development, which funded private projects in the region that used natural resources and provided employment in the region.⁴⁰ Along with the many consequences described in chapter one, the new taconite industry created a fiscal crisis for the IRRRB that threatened to slowly drain the agency of all revenue.

³⁸ “IRRRB Being Phased Out, Resources Group Big Help to Range,” *Hibbing Daily Tribune*, August 10, 1968.

³⁹ Iron Range Resources and Rehabilitation, “Biennial Report, 1962-1964,” 4.

⁴⁰ Iron Range Resources and Rehabilitation, “Biennial Report, 1960-1962,” 4.

The IRRRB's fiscal problem was ultimately resolved by another round of legislative action that channeled some of the taconite tax money to the agency. In 1971, the Minnesota legislature appropriated one cent per ton of the taconite production tax to fund the IRRRB. This change brought a large amount of new revenue into the agency and funded a host of economic development efforts during the 1960s and 1970s.⁴¹

The IRRRB's fiscal crisis of the 1960s was offset by the emergence of a new federal agency charged with regional economic development: the Area Redevelopment Administration [ARA]. A short-lived federal program of the early 1960s, the ARA marked a moment of possibility for the federal government to take over the tasks previously handled by state and local agencies such as the IRRRB. The ARA was thus a tentative and, ultimately, failed step toward a coordinated national policy response to industrial decline and regional deindustrialization. For a few years during the 1960s, the IRRRB took a back seat to the ARA in coordinating economic development aimed at improving the economy of the Iron Range.

The ARA was the brainchild of U.S. Senator Paul Douglas of Illinois. After touring portions of his home state during the mid-1950s, Douglas became convinced that some sections of the nation were not partaking in the postwar economic boom and believed that the federal government should step in to ensure that all regions shared in the era's economic prosperity. As a close associate from the era described Douglas's motivations, "as a result of the campaign, Douglas gained the conviction that the federal government has the responsibility for assisting depressed areas in rehabilitating themselves."

⁴¹ State of Minnesota, Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1970-1972," St. Paul, 1972, 7.

Specifically, Douglas thought that depressed areas did not have enough “indigenous resources” to create their own prosperity and thus needed “specially tailored programs.”⁴² Douglas was also influenced by industrial policies in western Europe that took on the challenge of deindustrialization as a national problem in the postwar decades. Douglas translated these beliefs into policy in 1955 when he first introduced the Depressed Areas Act, a bill for over one hundred million dollars in federal funds to create public facilities, train workers, and promote businesses in depressed regions. The bill soon got caught up in partisan politics, with Congressional liberals debating the Eisenhower administration over how much money was needed and where the administration fit within the federal government. Eisenhower eventually vetoed two versions of Douglas’s bill, which had expanded to cover both urban and rural poverty, in nearly all areas of the country. As historian Gregory S. Wilson notes, “by 1956, [Douglas’s] proposal sought to combat not just deindustrialization but also poverty in general.”⁴³ As it moved through Congress, the depressed areas legislation simultaneously grew in ambition while being cut down in size and funds. Historian Judith Stein is critical of the program’s assistance to the steel industry, noting that proposed legislation offered only “small sums” that were “thinly spread” across rural America, meaning that little concentrated development in a given industry or region could occur with the federal money.⁴⁴

⁴² Sar A. Levitan, *Federal Aid to Depressed Areas: An Evaluation of the Area Redevelopment Administration* (Baltimore: Johns Hopkins University Press, 1964), 1.

⁴³ Gregory S. Wilson, “Deindustrialization, Poverty, and Federal Area Redevelopment in the United States, 1945-1965,” in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003), 189.

⁴⁴ Judith Stein, *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism* (Chapel Hill: University of North Carolina Press, 1996), 27.

John F. Kennedy seized on depressed areas as a political gambit during his 1960 presidential campaign. Kennedy had worked on the act as a senator while chairman of the Senate Subcommittee on Labor in the Senate Committee on Labor and Public Welfare. More importantly, Kennedy's home state of Massachusetts was beset by early waves of industrial decline, particularly in former textile manufacturing towns such as Lowell, and he was thus sensitive to declining regions.⁴⁵ After winning the election, Kennedy made the Area Redevelopment Act an early priority for his administration and on May 1, 1961, he signed the Act into law.⁴⁶ At the core of the ARA were four key policy initiatives: offering low-interest loans as venture capital for expanding business in depressed areas, providing direct federal aid to depressed communities for building public facilities that would help to attract business, training programs for the unemployed, and planning help for communities hoping to attract new business.⁴⁷

Immediately upon the ARA's creation, the IRRRB began working with the federal agency to coordinate regional economic development efforts in northeastern Minnesota. From the federal perspective, the Iron Range was quickly identified as one of several underdeveloped or depressed regions. While setting up a panel to study the nation's various blighted areas and recommend development plans, president-elect Kennedy included the Iron Range among the regions that would need attention.⁴⁸ In 1962, the Iron

⁴⁵ Levitan, *Federal Aid*, 6, 17.

⁴⁶ Wilson, "Deindustrialization, Poverty, and Area Redevelopment," 190; Levitan, *Federal Aid*, 20.

⁴⁷ Levitan, *Federal Aid*, viii.

⁴⁸ W. H. Lawrence, "Kennedy Sets Up Panel to Map Aid," *New York Times*, December 5, 1960.

Range was noted as a region where the economy was “sagging badly” and “under-developed.” It was lumped together with other blighted regions such as Appalachia and the coal mining regions of West Virginia and Pennsylvania.⁴⁹ The IRRRB soon partnered with the ARA as the logical state agency to dole out federal aid. When the ARA was created, the commissioner of the IRRRB was named as Minnesota’s ARA representative.⁵⁰ The existence of the ARA dramatically changed the IRRRB’s role in the mid-1960s. Since federal funds were available, the state agency’s major task was to attract federal grants for the Iron Range. By the middle of the 1960s, bringing in large sums of federal regional development funds was one of the IRRRB’s primary tasks. The agency’s 1966 report to the state noted, “the most significant contribution of the [IRRRB] . . . to the State of Minnesota during the past biennium was the participation in Federal programs which resulted in a total of approximately \$510,000 in participating Federal funds.”⁵¹ Indeed, the Lake states region of the ARA, an area including Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, received the second-highest amount of ARA projects and the third-highest amount of federal investment. Minnesota was ninth overall

⁴⁹ James Reston, “Washington,” *New York Times*, March 25, 1962. On economic development efforts in post-World War II Appalachia, see Ronald D. Eller, *Uneven Ground: Appalachia since 1945* (Lexington: University Press of Kentucky, 2008). Gregory Wilson emphasizes state and local economic development programs in the Pennsylvania anthracite coal region and the New England textile region as key precedents for the ARA. As this chapter describes, the IRRRB and Iron Range development efforts should also be included among the predecessors to the ARA. Wilson, “Deindustrialization, Poverty, and Area Redevelopment,” 184-85.

⁵⁰ Iron Range Resources and Rehabilitation, “Biennial Report, 1960-1962,” 13.

⁵¹ Iron Range Resources and Rehabilitation, “Biennial Report, 1964-1966,” 5.

among states receiving ARA aid, ultimately receiving 2.7 percent of the ARA's spending.⁵²

The ARA did not last long, however. The program was disbanded in 1965 when Congress allowed the original legislation to run out. In a broader sense, the ARA was subsumed by Lyndon Johnson's wide-ranging war on poverty and the programs of the emerging Great Society, many of which built on the ARA. The ARA's programs were folded into a new federal agency, the Economic Development Administration.⁵³ Within the longer history of the IRRRB, however, the brief flourishing of the ARA and subsequent federal retreat from regional economic development signaled a path not taken in the nation's policy history and response to industrial decline. For a brief moment, the nation followed the route taken by the IRRRB decades earlier by committing to maintaining a viable industrial economy in depressed areas such as the Iron Range. It is ultimately impossible to know how such a policy might have turned out had it been pursued over a longer period of time, but it nonetheless illustrates that the eventual state and local focus on postwar economic development was not the only available option.

New Priorities in the 1970s

A regional economic boom brought about by taconite manufacturing, or, more precisely, an economic boom fueled by construction labor to build more taconite capacity, shaped the IRRRB's priorities during the 1970s. Although this boom would not last beyond the 1980s steel crisis, Iron Range residents and IRRRB officials during the

⁵² Wilson, "Deindustrialization, Poverty, and Area Redevelopment," 192-93.

⁵³ *Ibid.*, 196.

1970s felt flush with prosperity and moved toward long range planning rather than immediate relief efforts. By the middle of the 1970s, reporters visiting the Iron Range described an industrial mining region that had averted economic disaster and was now enjoying boom times. A Hibbing official told a national reporter in 1975, “I believe we have the biggest construction boom in the entire country” as a result of taconite plant construction. Reports from the era optimistically predicted population growth to accompany the construction boom, with some observers planning for a population increase of twelve thousand or more on the Iron Range.⁵⁴ Taconite’s success allowed the IRRRB to cut back its funding of mining and mineral research and between 1970 and 1972 the IRRRB drastically reduced its commitment to mining study. Citing the achievements of private research into taconite mining and an overall goal of diversifying the region’s industrial base, the IRRRB was reorganized to make mineral research a subdivision of the larger division of special research projects.⁵⁵ The IRRRB’s planning priorities during the 1970s were thus shaped by prosperity and optimism about the region’s future.

Free from the pressure to provide immediate relief for the unemployed and poor, the IRRRB turned to several different long range development plans during the 1970s

⁵⁴ Harvey D. Shapiro, “Taconite Rejuvenates the Iron Range,” *New York Times*, August 3, 1975. While the taconite boom certainly had a real effect on employment and Iron Rangers’ attitudes about the future, unemployment remained high in the early 1970s, with double digit unemployment in Saint Louis County and a classification of “economically depressed” by the Minnesota Department of Economic Development. The ultimate population change on the Iron Range during the 1970s was more mixed than initial projections indicated. Saint Louis County grew by 1,536 resident during the decade, while Virginia, Minnesota, actually lost population. See Historical Minnesota Census Data, Center for Small Towns, University of Minnesota Morris, www.morris.umn.edu/services/cst/dar/mdc/census/index.php.

⁵⁵ Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” 25.

such as environmental clean up and tourism development. The growing environmental movement of the 1960s brought a new, if controversial in some quarters, acknowledgment of mining's effect on the landscape. Beginning in the 1970s, the IRRRB took the lead in state government efforts to clean up the worst environmental consequences of open pit mining and begin reclamation efforts on abandoned mine pits. In 1977, the state legislature gave the IRRRB control over the Taconite Environmental Protection Fund, a pool of tax receipts from taconite producers that was intended to fund cleanup, restoration, and rehabilitation of those areas of the Iron Range that had suffered the worst environmental damage due to iron mining.⁵⁶ As historians of industry and the environment have demonstrated, industrial pollution posed a thorny problem for existing governmental agencies. Local development agencies such as the IRRRB were often the only group available to take on the problem of environmental clean up in post-industrial spaces, since the polluting company was often out of business and the impacts of environmental pollution cut across local jurisdictions.⁵⁷

Environmental clean up projects mounted during these years included not just large scale mine reclamation, but also involved smaller-scale efforts at what the IRRRB and Iron Range residents called "beautification." Among the most prominent and popular of several IRRRB beautification projects was a program to dispose of junked vehicles littering the Iron Range and destroy dilapidated buildings. The "abandoned vehicle

⁵⁶ State of Minnesota, Office of the Legislative Auditor, "Audit Report: Iron Range Resources and Rehabilitation Board," Saint Paul, April 22, 1980, 4.

⁵⁷ See Kent Curtis, "Greening Anacanda: EPA, ARCO, and the Politics of Space in Postindustrial Montana," in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003): 91-111.

program” and the building demolition program were intended “to remove unsightly and dilapidated buildings” and vehicles from the Iron Range landscape. As of 2002, the building demolition program had destroyed 6,550 old buildings across the Iron Range.⁵⁸ Part of the success of these programs is explained by the promise of free waste disposal for Iron Range residents hoping to get rid of old cars. But, in a broader sense, the program revealed how decades of economic decline in a rural area such as the Iron Range left visible traces in the junk scattered across the landscape. Through programs such as the abandoned vehicle and building program, the Iron Range maintained the neat and orderly appearance typical of more prosperous regions.⁵⁹

Developing the Iron Range’s tourism economy was another major focus of the IRRRB during the 1970s. Planners worried about a post-mining future for the Iron Range had been discussing various tourism promotion plans for the area since the 1930s, but changes to the IRRRB’s statutory authority and new sources of funding from taconite made tourism a priority for the IRRRB during this decade. Prior to the 1970s, a series of legal decisions by the state attorney general limited the scope of the projects to which the agency could legally contribute. The IRRRB’s original mandate emphasized promoting industry and the attorney general ruled that tourism did not count as an industry under the agency’s legal mandate. In the early 1970s, however, the state changed its position and

⁵⁸ State of Minnesota, Iron Range Resources and Rehabilitation Agency, “Biennial Report, 2001-2001,” Eveleth, 2002, 10; Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” 8; on the program’s ongoing popularity, see State of Minnesota, Iron Range Resources and Rehabilitation Board, “Biennial Report, 1976-1978,” Saint Paul, 1978, 7.

⁵⁹ Although these programs did eliminate a great deal of the Iron Range’s visible blight, preventing the region from the noticeable physical decay seen in postindustrial cities such as Detroit and Saint Louis, there remains a great deal of junk on the Iron Range. As Iron Range journalist Aaron Brown puts it, “Junk defines the Range” because “Iron Rangers are a proud, noble people . . . who leave things in our yards.” Aaron Brown, *Overburden: Modern Life on the Iron Range* (Duluth, MN: Red Step, 2008), 86.

ruled that “tourism has a definitive economic impact upon the area, it is to be considered as a resource and, therefore, is in keeping with the purpose and goals of the department.”⁶⁰ With this decision, the IRRRB was now free to devote time and money toward tourism projects on the Iron Range. By 1978, the agency reported that it was now “deeply involved in the development, expansion and promotion of tourism as a viable industry to the economy of the iron ranges of Minnesota.”⁶¹ Efforts to promote tourism on the Iron Range, which are described in greater detail in chapter four, would remain a major focus of the agency throughout the last decades of the twentieth century.

To better understand the various facets of economic development efforts during this period, the town of Ely, Minnesota, offers a useful example. Located on the rapidly declining Vermillion range north of the Mesabi, Ely was a microcosm for both the audacity and limits of the changes proposed by local economic development projects during the 1960s and 1970s. As Ely faced the end of its mining economy, economic development officials pursued different projects aimed first at attracting new industry to the town and, later, once those efforts had failed, projects to redesign the town’s culture to meet the needs of a new service and tourist economy. While towns on the Mesabi range were spared the worst of the declining natural ore mining industry due to the development of taconite mining, villages on the Vermillion and Cuyuna ranges were not

⁶⁰ Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” 9, 34. Despite language indicating that this was a clear cut legal decision, the question of whether or not the IRRRB could contribute to tourism projects was ambiguous prior to the 1970s. In the 1950s, for example, the agency had conducted extensive surveys about the possibilities for tourism in the Arrowhead region. This type of information gathering and research fell into a gray area of the agency’s statutory authority. State of Minnesota, Office of Iron Range Resources and Rehabilitation, “Search for Resources and New Uses of Them,” St. Paul, 1960.

⁶¹ IRRRB, “Biennial Report, 1976-1978,” 4.

so lucky. These areas did not have reserves of taconite—or, in the case of the Cuyuna range its taconite could not be magnetically separated—and they were forced to confront the end of the mining industry during the 1950s and 1960s. Civic leaders in Ely at first turned to the IRRRB for assistance in the 1950s as part of a plan to attract new industries to the northern town. In 1959, the IRRRB prepared a prospectus for businesses intended to attract relocating businesses to Ely. The prospectus hinted at the town’s desperation, however, claiming, in bold capital letters, “ELY IS DEFINITELY AND VITALLY DESIROUS OF INDUSTRIAL DEVELOPMENT.” Additionally, the prospectus hinted that Ely had a reserve of unemployed or underemployed workers willing to work for low wages, describing a pool of five hundred available workers that included two hundred women “available for part-time work.”⁶² By promoting a desperate pool of workers trapped in the remote town, including women looking for part time work, the IRRRB and Ely admitted that the only industries likely to relocate were those hoping to take advantage of a town struggling with industrial decline. During this first stage of Ely’s economic development plans, the goal was simply to attract new industries that might offer employment and replace the wages lost in the mines.

When industrial recruitment efforts failed to attract substantial new employers, Ely and the IRRRB attempted more ambitious economic development projects aimed at recreating Ely’s workforce and culture to make it amenable to a new service and tourism economy. The wide-ranging Title 1 Project, undertaken in the 1960s by Ely’s civic planners in conjunction with outside consultants, marked just such an attempt. The Title I

⁶² IRRRB, “Ely and Its Resources: ‘The Friendly City,’” September 1959, 3; Community Histories, Ely, Minnesota, Collection, IRRC.

Project coordinated Ely's employers, school, and local officials in an effort to develop the city's "human capital" for a post-mining economy. The ultimate goal of the project was changing the attitudes of Ely residents away from despair and belief that the town was declining and toward a positive vision for a post-industrial future. Part of this change involved sprucing up the town's physical appearance. A team of architects visiting with city leaders noted that the entire town would need a "face-lifting" to improve residents' spirits.⁶³ In other Iron Range towns, planning officials proposed even more drastic changes to the physical appearance and layout of towns as part of their redevelopment efforts. A 1971 planning report urged the city of Gilbert—a typical Iron Range town centered around a main street of commercial buildings—to abandon its older style of urban grid layout in favor of "a new subdivision layout" that could offer residents "a better quality of life" and attract new residents from the region.⁶⁴ One report from the project argued that "the [Title 1] project illustrates how a . . . project of short duration can through community attitude change turn a total community 'about face' in its self-image and develop its capacity to solve its own problems. . . . Today, Ely can be identified as a city with a vision and a positive future rather than a city with only an image of itself in

⁶³ Charles Brubaker, Sam Caudill, and Northeast Minnesota Chapter of the American Institute of Architects, "Report from the American Institute of Architects' Urban Design Team Study of Ely, Minnesota," July 18-20, 1970; Community Histories, Ely, Minnesota, Collection; IRRC.

⁶⁴ Aguar Jyring Whiteman Moser, Inc., "Gilbert Reconnaissance Survey," September 1971, 5; Community Histories, Gilbert, Minnesota, Collection, IRRC. Proposals such as these, which recommended that older rural towns adopt a new, suburb-like layout reveal a type of rural suburban planning and suburban ideal that has not yet been explored by historians of the postwar suburbs. For recent directions in post-World War II suburban history, see Kevin M. Kruse and Thomas J. Sugrue, eds., *The New Suburban History* (Chicago: University of Chicago Press, 2006).

the past.”⁶⁵ Although such reports frequently overstated the amount of “attitude change” among residents (see chapter four), the multifaceted attempt to develop Ely illustrates the many directions that local economic development policy was moving in the 1960s.

The most important aspect of the Title I Project was developing Ely’s human resources, itself a multifaceted project involving coordination between local schools and civic leaders. In the late 1960s, officials in the area’s public schools and junior colleges created a liaison project to coordinate “the efforts, resources, and facilities of the Eveleth Area Vocational Technical School, Vermillion State Junior College, and the University of Minnesota, Duluth with the agencies that are working to improve economic conditions in Northeastern Minnesota.”⁶⁶ Trying determine which community institutions could take a leading role in transforming Ely after the mining companies left the area, civic leaders latched onto higher education as a preeminent site for economic development. Local vocational and community colleges could provide “catalytic leadership” to help solve “economic, social, personal, and educational problems in Ely.”⁶⁷ Thus, the educational mission of these colleges was quickly subsumed under the larger mantle of community economic development. Imagined as focal points for building a region’s human capital, local colleges became key tools in development officials’ program for moving Ely away from industrial labor. Leaders of the Title I Project were ultimately satisfied with the results of their human capital development work. In a final report, they claimed, “the

⁶⁵ “Final Report, Title I Project, Ely, Minnesota,” January 1968-December 31, 1970, 17; Community Histories, Ely, Minnesota, Collection; IRRC.

⁶⁶ *Ibid.*, 1.

⁶⁷ *Ibid.*, 2.

evidence presented here is . . . proof that the human resource development efforts were productive and were sufficient to provide effective leadership for continuing development. The total of human resource development during the Title I Project has laid the groundwork necessary for civic and community improvement for many years to come.”⁶⁸ Economic development, as illustrated by Ely’s experience in the 1950s and 1960s, moved in many different directions and, more importantly, built a new network of local power brokers from the IRRRB, municipal officials, and school leaders hoping to redevelop their home towns for a post-mining future.

A Probusiness Agenda in the 1980s and 1990s

During the final decades of the twentieth century, the IRRRB gradually shifted focus, moving away from its earlier statist impulses and coming to focus on a probusiness agenda that emphasized the agency’s role as a behind-the-scenes contributor to business financing, risk mitigation, and public-private partnerships. The IRRRB’s new focus reflected broader national trends in American government and culture that emphasized the market and business as models for all realms of public life.

While the IRRRB came to emphasize a probusiness agenda of entrepreneurship by the end of the 1990s, the early 1980s marked a temporary return to the agency’s roots in creating public works projects to stave off unemployment. The IRRRB’s agenda during the early 1980s was dominated by the steel crisis and the urgent need for relief and public money on Iron Range due to skyrocketing unemployment.⁶⁹ Concerns that the IRRRB

⁶⁸ Ibid., 16.

⁶⁹ See chapter four for a more detailed picture of the steel crisis’s effects on the Iron Range.

had abandoned its earlier mission of job creation surfaced during the 1970s, as scattered critics claimed the agency's emphasis on quality of life programs was a distraction from more pressing economic development issues. One development official speaking to the Board in 1979 emphasized that creating jobs needed to remain the cornerstone of the agency's development efforts. Dismissing the social and environmental programs created during the 1960s and 1970s, the development official told the Board, "we can have all the social programs, we can talk about battered women, we can talk about juvenile delinquency, but unless you provide the job opportunities," he claimed, these social programs would not be effective.⁷⁰ The arguments of these critics were validated in the early 1980s, when rising unemployment quickly moved all other projects off the agency's agenda.

In addition to critiques of the agency's priorities, the IRRRB received criticism from other branches of the state government in the late 1970s and early 1980s. A legislative audit in 1980 found problems with the IRRRB's overall handling of grant money, arguing that "IRRRB needs to make significant improvements in handling grants to adequately fulfill their financial management responsibilities." The audit described a pattern of mismanagement and sloppy record keeping at the IRRRB that fueled perceptions that the IRRRB was little more than institutionalized pork barrel politics. For example, the IRRRB failed to provide the state's legislative auditor or the governor with a full accounting of how it spent its grant money in 1978 and 1979.⁷¹ Overall, the

⁷⁰ Vladimar Shipka, quoted in IRRRB Meeting Minutes, January 24, 1979, Eveleth, 12.

⁷¹ State of Minnesota, Office of the Legislative Auditor, "Audit Report: Iron Range Resources and Rehabilitation Board," St. Paul, April 22, 1980, 2, 7-8. The IRRRB's grant activities were again criticized

agency's fundamental direction and institutional practices were under fire by the early 1980s, setting the context for wholesale reorganization amid the steel crisis of those years.

When the U.S. steel industry collapsed in the early 1980s and unemployment on the Iron Range reached well into double digits, the IRRRB abandoned many of its long range goals to focus on providing immediate economic relief. Returning to its Depression-era roots, the agency financed several public works projects intended to put unemployed miners whose benefits had run out back to work at the federal minimum wage. Iron Range residents could earn this money while working on municipal projects for a maximum of two weeks.⁷² The agency's planning priorities in the first half of the 1980s were made under "emergency conditions" as the Iron Range's high unemployment eventually led Governor Al Quie to call the state legislature into a special one-day session to address the problem.⁷³ Given the magnitude of public assistance needed, the IRRRB tapped into a dedicated "economic protection fund" of taconite taxation revenue. Using this money for immediate economic relief would, the thinking went, jump-start the Iron Range's economy. The allocation of the money—originally intended for long term development projects rather than immediate relief—was soon caught up in partisan state politics as the outgoing Republican governor would not allow the DFL-dominated

by the Office of the Legislative Auditor in 1985. State of Minnesota, Office of the Legislative Auditor, Financial Audit Division, "Iron Range Resources and Rehabilitation Board: Statewide Audit Management Letter, Fiscal Year 1984," St. Paul, March 1985; MN DOCS Microfiche 85-0686.

⁷² IRRRB Meeting Minutes, November 9, 1981, Eveleth, 26; State of Minnesota, Iron Range Resources and Rehabilitation Board, "Biennial Report, 1980-1982," Eveleth, 1982, 34-35.

⁷³ Dewar, "Planning Analysis Confronts Politics," 292.

IRRRB to distribute the money without oversight. Several outside reviewers were eventually appointed to approve expenditures of these funds.⁷⁴ Overall, the steel crisis of the early 1980s caused the IRRRB to set aside its earlier priorities of long-range economic development to instead focus on immediate projects that could possibly put the unemployed to work. The guiding principle of the agency at the time was a need for “action, not reflection.”⁷⁵

Among the most controversial of the 1980s immediate relief initiatives was the public financing of a Hibbing wood products industrial park that attracted a chopsticks manufacturer. The chopsticks factory, as it came to be known, was initially heralded as evidence of how public financing could promote entrepreneurship in rural America during an age of globalization. But the plant soon ran into trouble and eventually became a tragicomic example of public economic development boondoggles. When Hibbing built an industrial park to attract wood products businesses in the 1980s, Canadian entrepreneur Ian Ward jumped at the chance to use public financing for his scheme to build a chopsticks factory under the name of Lakewood Industries. Ward’s plan to produce chopsticks for export to Japan was received with amusement by the national press. The Associated Press titled one story about the plant, “High-Tech Chopsticks Factory Hopes to Make a Fortune, Cookie.” Nonetheless, the opening of a manufacturing industry in Hibbing, where unemployment was rampant amid the steel downturn, led to a rush of applications from workers desperate for a job. Over three thousand hopeful Iron Range residents submitted applications for one of the first 32 spots in the factory. Even

⁷⁴ Ibid., 292-94.

⁷⁵ Ibid., 292.

after the initial rush, several dozen people called the factory each day asking about work. The factory did not offer high wages, but it tapped into a pool of employees hoping to stay in the area and desperate for work. The average pay of \$5.50 to \$7.00 per hour was considered low in comparison to mining jobs.⁷⁶

The plant was possible because of generous public funding from the IRRRB. Officials with the agency were initially hesitant to fund such an unusual venture. IRRRB development director Mark Phillips described the chopsticks factory as “a little far-fetched, especially for the Midwest.”⁷⁷ However, the plant was touted by Governor Rudy Perpich, who claimed it was the beginning of a bright new era of manufacturing on the Iron Range, and the IRRRB eventually supported the project with substantial funding. Approximately 30 percent of the factory’s initial startup funding was provided by the IRRRB, a total of \$3.4 million. Lakewood Industries received another million dollars in public money from other local sources. The city of Hibbing, desperate for industrial businesses, offered Lakewood ten free acres of land, almost a quarter million dollars in grant money, and another half million dollars in loans and tax-increment financing.⁷⁸ The plant soon ran into trouble, however, when its technology failed to produce wooden chopsticks reliably. In January 1989 the plant closed down, putting 65 employees out of work. Worse, the plant was hugely in debt, losing all of the IRRRB’s initial investment

⁷⁶ Tony Kennedy, “High-Tech Chopsticks Factory Hopes to Make a Fortune, Cookie,” *Associated Press*, December 9, 1986, www.lexisnexis.com.

⁷⁷ Frances Phillips, “Chopping His Way Into Eastern Markets,” *Financial Post* (Toronto), November 15, 1988, www.lexisnexis.com.

⁷⁸ Kennedy, “High-Tech Chopsticks Factory”; Tony Kennedy, “Chopsticks Plant Closed for Repairs,” *Associated Press*, January 20, 1989, www.lexisnexis.com.

and several million additional dollars. After trying to restart in the winter of 1989, the chopsticks factory closed for the last time in July 1989 with several million dollars of debt, thousands in unpaid taxes, and dozens left unemployed.⁷⁹

The Lakewood Industries debacle, along with similar industrial development schemes paid for with public money, soon became the focus of criticism from the public and policy officials. Local residents criticized the IRRRB and municipal agencies for trying to lure industry to the region with publicly-financed industrial buildings, arguing that such efforts were likely to only attract low wage employers. Indeed, one Iron Range resident complained to the IRRRB that industrial parks brought exploitative employers to the Iron Range, telling Board members, that such companies “paid scab wages in a Range town [and] caused more trouble . . . because of their attitude towards labor.” If the IRRRB was committed to luring such industries to the area to alleviate economic suffering, the resident said, they should create “guidelines so that we don’t get companies in there that exploit the people, [and] that don’t pay a wage that’s in line with the area.”⁸⁰ Another critique of the rush to use IRRRB money to create jobs during the steel crisis came from academic observers in the field of planning analysis. This criticism noted that by throwing public money at businesses likely to expand in the region, the IRRRB might very well be supporting enterprises that would have come to the Iron Range without any public money. Although the IRRRB funded large-scale development of a wood products industry in the region, for example, it was widely known that the market conditions for

⁷⁹ “Chopsticks Factory Closes,” *Associated Press*, July 19, 1989; “Chopsticks Factory Closes Again,” *United Press International*, July 18, 1989, www.lexisnexis.com.

⁸⁰ Norman Prah, quoted in IRRRB Meeting Minutes, January 24, 1979, Eveleth, 17.

wood products were favorable and the Iron Range was a likely place for corporate relocations. Thus, “firms that have received subsidies . . . would have located to the region—or existing firms would have expanded—in response to information about good market and resource conditions, regardless of public financial assistance.”⁸¹ In other words, the IRRRB was spending public money to support private businesses that likely would have relocated without any assistance but were happy to take the agency’s handout. Controversial projects such as these ultimately led to a larger shift in the IRRRB’s orientation toward economic development projects. By the mid-1980s, the immediate unemployment crisis had passed and the IRRRB returned to long range development projects with a newly critical eye.

Once the immediate crisis had passed, many observers felt that the steel crisis and high unemployment signaled a fundamental turning point for the Iron Range and the IRRRB. It was no longer possible, these observers said, for the Iron Range to count on the iron mining industry to provide long term economic growth and employment for the region. Although the IRRRB was founded amid similar worries during the middle of the century, the taconite boom of the 1960s and 1970s had lulled many Iron Range residents into a sense of economic security about iron mining and the steel industry.

From the IRRRB’s perspective, the slump brought renewed attention on economic development beyond iron mining. For many years the taconite industry had alleviated some of the region’s most pressing concerns about unemployment. But the crisis during the early 1980s reminded everyone in the region that the Iron Range was still largely

⁸¹ Dewar, “Development Analysis Confronts Politics,” 295.

dependent on the mining industry for its economic base. The IRRRB's Commissioner wrote in his 1984 report to the state, "it has become increasingly apparent that dependence upon a single industry, in this region's case taconite, is neither healthy nor economically viable. For while taconite is still important—and will continue to be important—it will never again be the single industry or activity which will support the Iron Range. It cannot and will not supply the dollars we need for education, for municipalities, for social programs. Because of this, the IRRRB is addressing the whole area of economic development and concentrating on a multi-faceted approach to the region's problems."⁸² Articles in the national press mirrored the Commissioner's sentiments, such as when a 1985 *New York Times* article suggested that the Iron Range's entire future was "iffy" given the collapse of the American steel industry and the growth of cheap imported iron ore from South America. "Local officials are struggling to revive the region," the article noted, "pursuing a policy of diversification forced upon them by their grudging recognition that the area's chief industry—its *raison d'être*—is in a seemingly inexorable decline."⁸³ As the IRRRB planned for economic development policies in the years after the steel crisis, it was guided by the idea that it could no longer rely on the iron mining industry as the primary driver of regional economic growth. The IRRRB committed to this new mission of diversification with enthusiasm. In a 1984 report to Governor Rudy Perpich, IRRRB Commissioner Gary Lamma wrote, "the IRRRB administration and staff remain confident that, with the support of the Governor

⁸² State of Minnesota, Iron Range Resources and Rehabilitation Board, "Biennial Report, 1982-1984," St. Paul, 1984, 2.

⁸³ Steven Greenhouse, "An Ore Carrier's Troubled Odyssey," *New York Times*, July 14, 1985.

and the Minnesota Legislature, we can work together to provide a brighter future for northeastern Minnesota and its residents.”⁸⁴

A key document in guiding the transition of the IRRRB’s mission and focus in the middle years of the 1980s was a comprehensive report of the IRRRB’s activities by the consulting firm of Arthur D. Little, Inc. This long report pulled no punches about the future of iron mining and steel-related industry on the Iron Range. The consultant’s report emphasized that the Iron Range was suffering from “a major structural shift in its economy with the decline of taconite production” and warned that the taconite slowdown “is not a temporary or short-term phenomenon” but marked a new era of decreased production that would continue indefinitely. Any attempts to entice new industry to relocate to the region would also be complicated by increasing regional competition for heavy industry. The report noted that the Iron Range was only one of many regions trying to develop new industry and diversify its economy as a result of the 1980s recession. The report thus warned that the IRRRB could not simply hope to bring new industries to the area by “smokestack chasing.” According to the consultants, the IRRRB would also feel the effects of the slowdown in the years ahead. Since the agency depended on taconite taxes to fund its operations, the report argued that decreasing taconite production meant “the IRRRB’s financial resources will be more limited in the future.” The IRRRB was urged to cut down on the scope and variety of projects it funded. Overall, the report urged the IRRRB to “pursue an aggressive and accelerated reallocation of resources from their present broad based application to more targeted economic development efforts.”

⁸⁴ State of Minnesota, Iron Range Resources and Rehabilitation Board, “Action Plan, 1984-86,” Eveleth, June 1, 1984, 2; MN DOCS Microfiche 85-0632.

Specifically, the agency was urged to emphasize its role as a financier of new enterprise on the Iron Range, a role that it had the institutional capabilities to handle well.⁸⁵

Pushed by economic crisis and outside consultants, the IRRRB turned in the late 1980s and 1990s toward a business development model that drew on a corporate ethos rather than its earlier state-centered, public-welfare model. In a variety of ways, the agency came to resemble a corporation itself, emphasizing a new profit-minded approach to development and encouraging an entrepreneurial mindset within the agency and among the projects that it supported. The agency's biennial report to the state legislature even mimicked a corporate annual report rather than a government document.

One of the most prominent illustrations of the agency's new focus was the turn away from direct control over large-scale projects such as Ironworld or the Giant's Ridge skiing facility. Businesses and private capital were now asked to take the lead on any development projects, with the IRRRB working at a distance to mitigate financial risk and backstop private financing. In part, the turn away from paying for projects outright was motivated by several high profile failures among IRRRB-supported projects during the 1970s.⁸⁶ Throughout the 1970s and early 1980s, some IRRRB officials grew increasingly concerned about loaning money to Iron Range businesses for projects that had little chance of becoming reality. As one IRRRB member put it during a 1975 meeting, "we have on so many occasions wound up with egg on our faces . . . we have

⁸⁵ Arthur D. Little, Inc., "Analysis of Operations, Opportunities and Implementation Strategies for the Iron Range Resources and Rehabilitation Board," 1985; MN DOCS Microfiche 85-1190.

⁸⁶ The example of Ironworld is covered in detail in chapter four.

funded people that have some project going on and nothing has ever come of it.”⁸⁷

Although it had always been important that the IRRRB put its money toward productive ventures, the agency’s sentiment was gradually shifting during the 1970s and 1980s to emphasize that government, by its very nature, could not allocate the money as productively as private enterprise and should take a more hands-off approach in business development.

The culmination of this attitude was a new financing program that removed the IRRRB and its pool of tax money from directly funding businesses and instead emphasized the agency’s role in backing private financing and mitigating business risk. Under the new bank participation loan program, the IRRRB offered to back one half of a loan to an eligible business at a rate less than that offered by commercial banks. The overall goal of the program, as described in IRRRB promotional literature, was to offer “lower cost capital while simultaneously spreading the exposure among a greater number of lenders.”⁸⁸ In part, the IRRRB was able to support economic development loans in the late 1980s because it had a large new fund under its control. As part of general changes in taconite tax laws made during the early 1980s, money from new taconite taxes was put into a special fund called the Northeast Minnesota Economic Protection Trust Fund,

⁸⁷ IRRRB Meeting Minutes, June 18, 1975, 40.

⁸⁸ State of Minnesota, Iron Range Resources and Rehabilitation Board, “87-88 Executive Summary,” Eveleth, 1988, 4. Risk management has a long history as a tool of government policy. Historian David Moss argues that risk management is one of the most “potent and pervasive form[s] of public policy in the United States,” including such crucial but often overlooked features as “limited liability law, bankruptcy law, government-printed money, and unemployment insurance.” David A. Moss, *When All Else Fails: Government as the Ultimate Risk Manager* (Cambridge, MA: Harvard University Press, 2002), 1.

better known as the 2002 Fund. Access to this money allowed the agency to increase its lending operations.⁸⁹

Whereas many other economic development projects had been controversial within the Iron Range business community—with many business owners worried that the IRRRB was financing their competition—the banking program received strong support from the Iron Range’s business class. In its 1988 report to the state, the IRRRB prominently featured a quote from one regional bank manager praising the Board for their new support for entrepreneurs in the region. Jim Seitz claimed, “dealing with the IRRRB has involved less red tape than dealing with other government bodies . . . their economic development programs effectively span the gap between public and private financing. They help us serve the financial needs of entrepreneurs in the region.” Seitz specifically explained that the new bank programs allowed regional banks to mitigate their risks when financing new businesses. He noted that the IRRRB’s “bank participation loan program enabled us to collectively put together financial structuring that diffuses the financial risk among the participants.”⁹⁰

What emerges from the rhetoric of the IRRRB throughout the 1980s and 1990s is a growing hostility not just to direct agency involvement in the region’s economic affairs, but a gnawing sense that government itself is the problem. As Seitz’s reference to “red tape” indicates, by the late twentieth century many Iron Range residents imagined government as a complicated and inefficient entity. This vision of government was in

⁸⁹ State of Minnesota, Iron Range Resources and Rehabilitation Board, “91/92 Biennial Report,” Eveleth, 1992, 3.

⁹⁰ Jim Seitz, quoted in IRRRB, “87-88 Executive Summary,” 7.

sharp contrast to earlier ideals of local government as a protector against the ravages of industrial capitalism and powerful corporate interests. The IRRRB took advantage of these new probusiness sentiments, marketing itself as a government agency that did not really act like the government. It was, according to IRRRB literature, a public-private partnership that worked. By implication, purely public agencies often did not work. The word “partner” was used frequently during the 1980s and 1990s to describe the IRRRB’s overall mission. The agency began highlighting the word “partner” and “partnership” in its promotional literature, describing itself with phrases such as “partnerships that work” and “partnerships for progress.” The emphasis on the agency as a partner to business reflected the shifting beliefs about the appropriate relationship between private enterprise and government.

Another key term at the heart of the IRRRB’s probusiness rhetoric in the 1980s and 1990s was entrepreneurship. By celebrating the entrepreneur as a potential savior for the beleaguered region, the IRRRB was mirroring larger trends in American political and economic culture. As Robert Beauregard notes, “economic development officials in the United States, especially during the conservative ascendancy of the last two decades, have elevated successful investors, developers . . . and corporate executives to near cult status.”⁹¹ The cult of the entrepreneur reached a crescendo by the late 1990s, when the technology bubble hailed computer and technology business leaders as icons who could

⁹¹ Robert A. Beauregard, “Constituting Economic Development: A Theoretical Perspective,” in *Theories of Economic Development: Perspectives from across the Disciplines*, ed. Richard D. Bingham and Robert Mier (Newbury Park, CA: SAGE, 1993), 278.

topple any economic, technical, or cultural barrier.⁹² Entrepreneurship also relieved the IRRRB of worrying about deep structural issues such as nagging unemployment or persistent rural poverty. If individual business geniuses offered salvation and renewed economies, then the role of economic development agencies was to entice and nurture entrepreneurs until one could revitalize the Iron Range.

The IRRRB was not alone as a government agency promoting entrepreneurship in the late twentieth century. Sociologist Nikolas Rose describes entrepreneurship as a key technique through which governments in North America and Europe fundamentally reworked the relationship between state and citizen in the late twentieth century. According to the logic of governing by promoting entrepreneurship, governments were to “govern through the entrepreneurship of autonomous actors—individuals and families, firms and corporations. Once responsabilized and entrepreneurialized, they would govern themselves within a state-secured framework.”⁹³ Thus, the IRRRB’s emphasis on entrepreneurship in the 1980s and 1990s was one small piece of a large, transnational shift in the ideas of government away from social models and toward the celebration of individual business acumen.⁹⁴

⁹² Thomas Frank, *One Market Under God: Extreme Capitalism, Market Populism, and the End of Economic Democracy* (New York: Anchor, 2000), 30-31, 80-81, 200.

⁹³ Nikolas Rose, *Powers of Freedom: Reframing Political Thought* (New York: Cambridge University Press, 1999), 139. Rose’s argument shares common themes with the many writers who emphasize neoliberalism as the framework for these changes. There is a vast and quickly growing literature on neoliberalism that is outside the scope of this study. For a general overview, see David A. Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2005).

⁹⁴ Ironically, the emphasis on entrepreneurship as political rhetoric did not transfer over into policies intended to promote the development of institutional capacities on the Iron Range that might well have promoted business innovation. Beauregard, “Constituting Economic Development,” 271-72.

Indeed, one of the major critiques of the IRRRB during this era was that it failed to promote an “entrepreneurial spirit” on the Iron Range and thus doomed the area to obsolescence in the new global economy. In a long 1982 article, business journalist D. J. Tice argued that the Iron Range’s history of an “us-versus-them view of the world,” conditioned by decades of isolation and labor strife, hampered entrepreneurialism among Iron Range residents. A lack of entrepreneurial spirit, Tice argued, lay behind the region’s failing economy. Tice offered several examples of how this lack of entrepreneurialism harmed the Iron Range during the 1980s. “There are at least 900 northeastern Minnesota businesses that sell products or services to the taconite industry,” Tice argued, “presumably, a good many of those products and services would be of use to mining and heavy-manufacturing operations around the world. What the arrowhead [region] seems to have lacked is entrepreneurs with the daring and desire to pursue those broader markets.” The lack of “daring” entrepreneurs was not limited to industry. It also stifled the region’s service businesses. “The Iron Range is famous for, and loudly proud of, its rich and diverse ethnic heritage,” Tice noted, “one might expect to find a good number of ethnic restaurants in the area, but they are very scarce. The region has apparently lacked entrepreneurs to launch such ventures.”⁹⁵ A buzzword in the global business press in the late twentieth century, entrepreneurship emerged during the 1980s and 1990s as a simple explanation for what ailed the Iron Range and a panacea for curing a complex set of intractable economic problems.

⁹⁵ D. J. Tice, “The Thing on the Hill (Part II),” *Minnesota Corporate Report*, November 1982, 98-99.

The IRRRB accepted this new probusiness rhetoric by rejecting the definition of so-called big government. Instead, the IRRRB presented itself as a flexible and business-minded institution that stood ready to promote entrepreneurship but not intrude on business prerogatives. In its 1988 report to the state legislature, the agency named this probusiness approach “government with a heart.” The name came from the praise of a city manager who had worked with the IRRRB to finance a new wastewater facility in an Iron Range town. “The IRRRB always seems to be there to help you,” the manager said, “I’ve been real impressed working with them because they’re government with a heart . . . I know that sounds corny, but that’s really the best way to put it . . . With the IRRRB, it seems like we’re a team of people working on something together.”⁹⁶ The phrase “government with a heart” invoked new possibilities for a slimmed-down, probusiness liberalism that offered government assistance without the burdens and red tape of older government involvement. This rhetoric was reflected in national politics during the era as well, in the entrepreneurial rhetoric of the New Democrats and the compassionate conservatism promised by Republican George W. Bush in his 2000 presidential campaign.

Conclusion

From a broader national perspective, the haphazard creation of a regional economic development agency such as the IRRRB illustrates the uncertain and tentative path of government economic planning between the New Deal and the Great Society. The domestic policies of the early Cold War years are traditionally described as conservative

⁹⁶ Garrison Hale, quoted in IRRRB, “87-88 Executive Summary,” 9.

policies in an era of retrenchment between the activist governments of the 1930s and 1940s and the reemergence of political and cultural radicalism in the 1960s. However, the creation and growth of agencies such as the IRRRB during this era suggests that comprehensive government planning shifted largely to the state and local level in the immediate post-World War II era. As the federal government retreated from its activist role in economic planning, a wide variety of state and local agencies took up the challenge of coordinating an economy undergoing tremendous upheaval throughout the postwar years. In the case of Pennsylvania's anthracite coal mining regions, for example, Thomas Dublin and Walter Licht argue, "for a decade after World War II, the industrial development campaigns were strictly local undertakings." As historians such as Thomas Sugrue, Thomas Dublin, and Walter Licht have described, there was a plethora of development policy initiatives born during this era, operating under a variety of titles, including economic development, rehabilitation, or urban renewal.⁹⁷ From a national perspective, the IRRRB emerged as one of several economic development agencies created at the state and local level to combat industrial decline and ensure that the government had an active hand in shaping an economic future based on industrial production. The unique feature of the IRRRB, which perhaps explains its later success in achieving economic development, was the active involvement of state government, in contrast to other locales where economic development was exclusively local.

⁹⁷ For an overview of some of the literature describing postwar development plans, see Lizabeth Cohen, *A Consumers' Republic: The Politics of Mass Consumption in Postwar America* (New York: Alfred Knopf, 2003); Thomas Dublin and Walter Licht, *The Face of Decline: The Pennsylvania Anthracite Region in the Twentieth Century* (Ithaca, NY: Cornell University Press, 2005), 114-35; Joseph Heathcott and Máire Agnes Murphy, "Corridors of Flight, Zones of Renewal: Industry, Planning, and Policy in the Making of Metropolitan St. Louis, 1940-1980," *Journal of Urban History* 31, no. 2 (2005), 151-89; Sugrue, *Origins of the Urban Crisis*.

The primary role of state and local agencies in economic development policy emphasizes the important, perhaps central, role that local government played even during the height of Cold War liberalism, a time typically associated with a rapidly expanding federal government. The key role of the IRRRB in coordinating economic development policies, including federal policies during the 1960s, is a reminder that federal liberalism during this era was often channeled through state and local agencies that proved crucial to shaping the direction and texture of liberalism. In short, understanding economic development nationally requires attention to state and local government agencies such as the IRRRB.

Unfortunately, as historian Thomas Sugrue has recently argued, state and local governments too often “remain a terra incognita” for historians.⁹⁸ A focus on national narratives has pulled historians’ attention toward federal agencies and presidential policies, often at the expense of state and local governments that often proved more consequential to the fate of those policies and the lived experience of so-called big government during the twentieth century. As Sugrue argues, by the middle of the twentieth century the federal government’s power had expanded to reach into nearly all aspects of American life. “To an extent unimaginable in the nineteenth century,” Sugrue notes, “ordinary Americans lived life in the shadow of the state.” Yet federal power typically arrived in form of local officials, often driven by complex motivations.

⁹⁸ Thomas J. Sugrue, “All Politics is Local: The Persistence of Localism in Twentieth-Century America,” in *The Democratic Experiment: New Directions in American Political History*, ed. Meg Jacobs, William J. Novak, and Julian E. Zelizer (Princeton, NJ: Princeton University Press, 2003), 304.

Relying on state and local government to handle economic development had lasting consequences on the contours of American industrial decline and the lives of people remaining in depressed regions such as the Iron Range. The emphasis on state and local governments in economic development planning cut off national options that might well have had far different results. In contrast to the American example of local responses to industrial decline, historian Steven High describes a deeply nationalist response to deindustrialization in Canada's manufacturing heartland. Canadian workers facing downsizing and layoffs called on the national government to protect their jobs, in many cases achieving success in provoking a national outcry over Canadian deindustrialization.⁹⁹ The tension between the local and the national also had consequences for the political culture in industrial regions, where many workers have oscillated wildly between liberal, and even radical, responses to their depressed communities and a jingoistic patriotism that celebrates the United States as a land of prosperity and opportunity.

The history of the IRRRB certainly allows historians to better understand the local nature of economic development policy and the consequences of leaving industrial policy to the states and municipalities in the postwar era. But a close analysis of the agency's history also suggests important lessons on the theoretical tensions inherent within economic development itself. Behind all the policies of the IRRRB, and beneath the many economic development agencies that sprouted across the U.S. during the postwar decades, there often was a simple desire to hold things constant. Economic development, while ostensibly future-directed, contained a hidden fear of change. On the Iron Range,

⁹⁹ Steven High, *Industrial Sunset: The Making of North America's Rust Belt, 1969-1984* (Toronto: 225

that fear, or desire, to hold things constant centered on the mining industry. At its core, economic development on the Iron Range was intended to ensure that the region would always have a mining industry. Yet the curious tension was that this desire to hold things constant—to keep the mines going in the face of never-ending economic turbulence—led economic development planners to change all manner of things on the Iron Range: the tax code, the kind of ore being mined, the state government, and the miners' lives. Economic development, as a theory, put blinders on policy makers. In their desire to hold things constant, to keep the mines going, they could not see how they changed everything else around them.

Analyzing economic development policy from a theoretical or critical perspective is enormously difficult because of the broad support it enjoys and the pragmatic orientation of economic development as a policy. Public policy scholar Robert A. Beauregard notes how economic development, more than other kinds of public policy, “displaces critical assessment.” Beauregard describes how economic development policy’s “inherent sensibility, avowed pragmatism, and unflinching optimism overwhelm intensive probing of its theoretical tendencies and ideological biases. Economic development seems like such an appropriate thing to do, regardless of one’s political persuasion, that one cannot criticize without being seen as a nay-sayer and an opponent of progress.”¹⁰⁰ But, as this chapter suggests, economic development has often proceeded with little critical or theoretical concern. What type of future should policies try to develop? Of the many divergent interests in any given community, whose concerns should be prioritized when making development policies? Answering these kinds of questions might well make for a

University of Toronto Press, 2003.)

more democratic and useful future for economic development, on the Iron Range and elsewhere.

¹⁰⁰ Beauregard, "Constituting Economic Development," 267.

CHAPTER 4

CREATING HERITAGE ON THE IRON RANGE: IRONWORLD U.S.A. AND THE POLITICS OF INDUSTRIAL NOSTALGIA

The Iron Range's saga of industrial decline and development played out in laboratories and tax commission meetings in the decades after World War II. But the Iron Range's post-World War II history was also a saga of dreams—of memories about the region's past and plans for the future. These two visions, one looking backward and the other facing forward, came together in debates over heritage tourism and industrial nostalgia on the postwar Iron Range.

This chapter examines several different efforts to create an industrial heritage program on the Iron Range during the last decades of the twentieth century. Heritage plans took several different forms across the region, including turning abandoned mines into historical sites, recreating old mining villages, and, most importantly, building a comprehensive mining museum and interpretative center to make the Iron Range's history both accessible and marketable. In addition to describing these different heritage plans, this chapter also explores the cultural and political tensions that ran beneath industrial heritage and tourism on the Iron Range. Put schematically, industrial heritage often pitted two distinct groups against each other. On one side was a small but enthusiastic and professional core of local government officials, regional planners, and owners of service sector businesses who were convinced that the Iron Range needed to develop a diversified, post-mining economy and saw industrial heritage and the related

tourism industry as the best path to achieve this goal. On the other side was a loose group of disgruntled industrial miners, only some of whom still worked in the remaining active mines, and community members who believed that the Iron Range was a productive industrial region that should remain a valuable producer of raw materials for the steel industry. These two groups proposed radically different futures for the Iron Range at the end of the twentieth century. Those promoting industrial heritage saw a region moving past its industrial history and building a new culture and economy based on service sector businesses, while those hoping to remain an industrial mining region wanted to expand existing mines and devote the necessary public resources to ensure that the Iron Range would remain a productive iron mining region into the future. Similar conflicts over divergent futures played out across industrial America in the 1970s and continue today.

The role of industrial heritage museums and public history in conflicts over the ultimate meaning of the Iron Range raises difficult questions about the political consequences of history in deindustrializing regions. The Iron Range's experience in developing industrial heritage programs suggests that the use of history as an economic development tool is often a way to depoliticize difficult conflicts over the meaning of the past and the direction of the future. By promoting the Iron Range's heritage of industrial mining, the concerns and dreams of current miners and many community members were removed to an apolitical realm of nostalgia, where their industrial past was celebrated but they were also cut out of the debates about the directions for a post-industrial future.

In other words, industrial heritage on the Iron Range celebrated industry but removed it to a nostalgic past where it had little to say about the present or future. On the Iron Range and elsewhere, efforts to promote industrial heritage as a tool for reviving

declining regions suggest that planners and public historians have been key actors in removing industry from narratives about modernity and vibrant national futures. As literary scholar Carlo Rotella points out, redevelopment plans based on celebrating the industrial past contain an “untroubled fatalism” about an industrial future.¹ If industry is already surrounded by the rich, rusted patina of heritage, how can it play any vital role in the future of individual workers, the Iron Range, or the nation?

Efforts to memorialize mining on the Iron Range were part of a broad, transnational movement in the late twentieth century to revitalize declining industrial regions through tourism, heritage, public history, and culture-sector work. While post-industrial revitalization efforts took many forms, almost all shared an assumption that history, especially the physical remains of past industry, offered useful raw materials for marketing an area as a distinct place with a unique past—a heritage—worth visiting. History, and especially historical structures, became a key element of post-industrial revitalization plans across late twentieth century America. Rotella notes how structures such as abandoned factories “become the basis of ‘imageability,’ a quality of combined depth and sharpness in both a place’s physical appearance and its cultural reputation.” Behind the importance of “imageability,” which made industrial sites potent markers of heritage, was a concern with creating authentic and unique experiences for tourists in a seemingly inauthentic world of interchangeable places. As Rotella puts it, the push for industrial heritage as the building block for authentic tourist experiences was based on a

¹ Carlo Rotella, *Good with their Hands: Boxers, Bluesmen, and Other Characters from the Rust Belt* (Berkeley: University of California Press, 2002), 9.

belief that “visitors have to know how to get there, and they have to know they are *somewhere* once they do get there.”²

Several examples, drawn from the diverse work of historians, anthropologists, and literary scholars, help to locate the Iron Range’s heritage plans in a wider context. First, public historian Cathy Stanton’s account of heritage development efforts in Lowell, Massachusetts, reveals both the possibilities for using public history as a tool for urban revitalization and the contradictions inherent in such efforts. A hub for textile manufacturing in the nineteenth century and deindustrialized by the mid-twentieth century, the city of Lowell offers a prime example of what has come to be known as “culture-led revitalization” in postindustrial cities. This type of revitalization is premised on promoting cultural spaces and events, such as heritage sites, unique shopping districts, and arts festivals.³ In Lowell these public history efforts were centered on the Lowell National Historical Park. The promotion of industrial heritage and public history in cities like Lowell coincided with several trends in public policy and the history profession that contributed to the emphasis on heritage as a development strategy. Most importantly, heritage projects were supported by changes within the history profession, especially in the United States, during the last third of the twentieth century that gave rise to a new class of professional public historians concerned with community engagement and conveying history to non-academic audiences. As Stanton notes, “public historians are among [the] creative classes, and it is not entirely coincidental that public history

² Ibid., 197.

³ Cathy Stanton, “Performing the Postindustrial: The Limits of Radical History in Lowell, Massachusetts,” *Radical History Review* 98 (2007): 84. For a longer analysis of public history in Lowell, see Cathy Stanton, *The Lowell Experiment: Public History in a Postindustrial City* (Amherst: University of Massachusetts Press, 2006).

developed into a professionalized field at the same time that postindustrial societies were becoming more performative.” Arguing that “the field of public history per se emerged in the United States during the 1970s,” Stanton points out the three themes that fed into public history’s emergence: “First, there was the well known (at least to historians) ‘job crisis’ in academic history departments, which led many academically trained historians to look for employment elsewhere. A second factor was the leftist sensibility of many historians who came of age in the 1960s, and their desire to connect their work in meaningful ways to histories and causes linked with various progressive and social justice movements. . . . Finally, these left-leaning knowledge workers began searching for jobs in the public sector at a time when there was a great deal of public funding in many parts of the developed world for educational and cultural projects.”⁴ Specifically, public history projects were bolstered by funding made available for heritage projects across the country through the Historic Preservation Act of 1966, which inspired legions of publicly connected history projects.⁵ While the Historic Preservation Act was a national umbrella for public history, various state initiatives also pushed heritage projects throughout the 1970s and 1980s. In 1980, for example, the Minnesota Historical Society urged local agencies in Minnesota to preserve the state’s architectural heritage.⁶ These initiatives at

⁴ Stanton, “Performing the Postindustrial,” 83-84.

⁵ *Ibid.*, 84.

⁶ Minnesota Historical Society and Minnesota State Planning Agency, *Historic Preservation for Minnesota Communities* (St. Paul: Minnesota State Planning Agency, 1980). Interestingly, Edward W. Davis became deeply involved in Minnesota’s historical preservation efforts during this period. Davis, who began an underwater archeology project to search for relics of the fur trade in northern Minnesota, was honored with an award from the Association for State and Local History in 1967. Based on a hunch, Davis led several divers to a site in northern Minnesota where they discovered brass and copper kettles deposited from fur traders. The kettles were donated to the Minnesota Historical Society. Davis suggested that

the federal and state level began a movement for architectural preservation and heritage promotion at the end of the twentieth century.

What is also significant about these public history and heritage projects is that they were largely top down affairs, coordinated by small cadres of elite public history and planning officials. As Stanton describes this process in Lowell, “the newly dominant mode of place-making in much of the contemporary world is a highly professionalized and rationalized one. It may make use of vernacular and even oppositional groups and narratives, but these are very often subsumed into a larger process that is more likely to be controlled from planning and design departments than from neighborhoods and experiences are constructed as products in themselves, seeking to attract ever more mobile capital, workers, and visitors by making themselves ‘visitable,’ by branding themselves using narrative design or other place-making strategies.”⁷ As this chapter will demonstrate, efforts to promote historical tourism on the Iron Range were controlled by a small number of government and tourism officials who relied on a body of professional knowledge and rarely considered the wishes and alternative plans of the mining community, leading to tension throughout the postwar decades.

Cities such as Lowell that had long ago lost their industrial base did not necessarily have to confront the wishes of active industrial workers when planning heritage projects. However, cities and regions trying to promote post-industrial development in the midst of active industry, as was the case on the Iron Range, faced

historical metal objects might be well preserved in cold water, which led to a joint project between the Minnesota Historical Society and the Royal Ontario Museum that recovered thousands of metal objects from the early fur trade. “Divers Discover 175 Year Old Kettles on Trade Route,” *Minnesota History News*, October 1960, 1-2; “Dr. E. W. Davis to Get History Merit Award,” *Duluth Tribune*, September 2, 1967; E. W. Davis, *Pioneering with Taconite* (St. Paul: Minnesota Historical Society Press, 1964), vi-vii.

⁷ Stanton, “Performing the Postindustrial,” 82.

additional complications. Anthropologist Kathryn Dudley describes one such project in Kenosha, Wisconsin, where city officials and urban planners tried to market the city as a bedroom community for commuters to Chicago and Milwaukee rather than a blue-collar manufacturing town. As Dudley notes, many of Kenosha's white collar residents, including civic leaders, teachers, and business professionals, were deeply hostile toward the "blue collar mentality" they believed permeated the local automobile factory and the union.⁸ Recognizing that union auto workers received high wages—often as high or higher than many white collar professionals—for what many professionals considered low skill work, some in the city's elite felt that blue collar workers were purposefully holding back the city's development for fear of losing their central place in the city's cultural life. Ultimately, Dudley points out how a trope of economic progress and a historical romanticization for the waning industrial era was used by Kenosha's civic leaders to push a variety of development schemes meant to move the city away from auto manufacturing and labor unions.⁹ What is significant in Dudley's account is the way in which history was invoked to overcome the objections of industrial workers to post-industrial development schemes. By promising to celebrate Kenosha's industrial history, city planners pacified industrial workers while moving ahead with their plans to displace them from their central position in the city's life.

Carlo Rotella adds another layer of complexity to the story of industrial heritage projects in his account of a failed effort to promote historical tourism in the blue-collar

⁸ Kathryn Marie Dudley, *The End of the Line: Lost Jobs, New Lives in Postindustrial America* (Chicago: University of Chicago Press, 1994), 49-100.

⁹ *Ibid.*, 53-55.

city of Brockton, Massachusetts. Brockton, a former shoe-manufacturing city, hired internationally famous landscape artist Patricia Johanson to design a master plan for the city. Johanson's ambitious proposal centered on the boxer and famous native son Rocky Marciano. Johanson hoped to restore the Marciano family home and create a series of historical tours based on his running routes that honeycombed through Brockton. The core of Johanson's idea, Rotella argues, was to create "a green cultural center that both celebrated and laid to rest [Brockton's] industrial past" out of "the atmospheric ruins of the mill city that once upon a time produced shoes and Rocky Marciano"¹⁰ What makes Brockton's story so complicated was tension not just between industrial workers and those supporting post-industrial redevelopment, but also fissures between proponents of redevelopment with competing visions. On one side were promoters of heritage who argued that celebrating the city's industrial heritage of working-class sons made good, such as Rocky Marciano, "could provide not only a hook to attract interest . . . but also a guiding impulse of cultural continuity in a time of disorienting change." However, these promoters were stymied by strong resistance from other planners who were skeptical of drawing on the industrial past altogether. From their perspective, "an aggressively orthodox insistence on the industrial past and its legacies contributes to Brockton's failure to come to terms with a new urban era." As Rotella describes, opponents of industrial heritage believed the city had to "shed or denature its traditionally forbidding aura of working-class toughness, especially because over the last couple of generations that aura has modulated into a dead-end reputation typical of depressed Rust Belt cities." Interestingly, however, these planners also proposed a plan based on the city's past.

¹⁰ Rotella, *Good with Their Hands*, 168.

Rather than Marciano and shoe manufacturing, this camp hoped to emphasize the city's connection to Thomas Edison—who had a laboratory in Brockton—as part of a long history of “high tech” innovation in the city.¹¹ As these examples illustrate, attempts to redevelop declining industrial areas through heritage were widespread in the late twentieth century. In many instances, though, invoking heritage as both the tool and outcome of development created deep tensions about the past, present, and future of industry within local and national culture.

The Iron Range's efforts to promote its industrial heritage connected with other patterns in the late twentieth century, especially a small but growing movement to preserve the artifacts of early industry. Such efforts have taken many forms, but they typically emphasize preserving the relics of industrial labor and technology, including abandoned factories, machinery, or mine pits. Connecting with widespread efforts to revitalize urban areas and create authentic places for visitors, planners began developing increasingly complex and dynamic industrial heritage projects, such as the numerous industrial heritage trails that have sprung up in North America and Europe.¹²

Industrial heritage on the Iron Range has emphasized preserving the abandoned open pit mines and the enormous mining machinery for public display. Photographer and landscape critic Peter Goin and C. Elizabeth Raymond describe efforts to put mining machinery on display as “the trope of the huge tire.” As practiced on the Iron Range, they note, “industrial tourism . . . enshrines the massive steam shovels and trucks that were the

¹¹ Ibid., 189.

¹² Steven C. High and David W. Lewis, *Corporate Wasteland: The Landscape and Memory of Deindustrialization* (Ithaca, NY: Cornell University Press, 2007), 41-42.

tools of transforming the landscape and builds viewing platforms for the abandoned pits.”¹³ While the original intent of displaying these enshrined industrial machines was usually to connote the technological ingenuity and raw audacity of industrial mining, displaying enormous machines without additional context leaves them open to multiple and often contradictory interpretations by viewers. As Goin and Raymond note, “historical exhibits featuring mining machinery are often at a loss to explain how particular isolated pieces fit into the complex system of exploration, ore mining, processing, and refining that together constitute the mineral industries. The machines are mute about the meanings that may have been attributed to the landscapes by workers or by displaced tribal peoples. The result is that mining, for all its iconographic intrigue, remains somewhat obscure as an actual American enterprise.” Thus, for many casual visitors to industrial heritage sites on the Iron Range, the ultimate meaning of the mines remains vague. The Iron Range is presented “alternately as a technological wonderland or a recovering natural area.”¹⁴ While industrial heritage offered tantalizing possibilities to planners hoping to transform the Iron Range into a post-mining tourist destination, the reality of industrial heritage sites in the area, and elsewhere, offer visitors a conflicted and vague narrative about industry’s history and legacy.

In addition to illustrating themes within international debates over heritage tourism and urban redevelopment at the end of the twentieth century, the Iron Range’s experience

¹³ Peter Goin and Elizabeth Raymond, “Recycled Landscapes: Mining’s Legacy on the Mesabi Iron Range,” in *Technologies of Landscape: From Reaping to Recycling*, ed. David E. Nye (Amherst: University of Massachusetts Press, 1999), 273, 271.

¹⁴ Peter Goin and C. Elizabeth Raymond, *Changing Mines in America*, (Santa Fe, NM: The Center for American Places, 2004), xii, 7.

with heritage tourism and public history demonstrates how deindustrialization and the transition away from industrial labor was interpreted by many as a cultural shift as well as an economic transition. Many industrial workers experienced deindustrialization as a feeling of being removed to the realm of history and nostalgia—members of a group whose time had past and now would slowly rust into obscurity.¹⁵ What made this transition particularly wrenching for many industrial workers was how far it moved them from the experiences of the early and middle decades in the twentieth century, when many had firmly believed that their lives and their labor were an indispensable part of national modernity.

This point has been made by the scholars mentioned above, suggesting that post-industrial development has been inexorably linked to the cultural displacement of industrial workers to the margins of American culture and society. Nowhere is this clearer than in Kathryn Dudley's close analysis of industrial workers' attitudes toward post-industrial development plans in Kenosha. Reflecting on these workers' responses to the new Kenosha, Dudley emphasizes the shifts in sensibilities and culture required to move from the industrial to the post-industrial era: "Coming to terms with the collapse of the postwar order is a cultural problem that confronts every American, not just those in the rust belt industries. The social transformation under way is not simply an economic trend reflecting America's changing place in the world: it is also a cultural process. Many of the cultural symbols, beliefs, and values that once fortified a sense of moral order in

¹⁵ The theme of groups being marginalized from modernity and imagined as a relic of a bygone era has been explored extensively by historians of American Indians' experiences in the twentieth century. See Philip J. Deloria, *Indians in Unexpected Places* (Lawrence: University Press of Kansas, 2004).

our capitalist economy have been cast into doubt.”¹⁶ Ultimately, Dudley argues that manual workers have become a new type of “American primitive” who stand outside the progress of modernity.¹⁷ Steven High and David Lewis similarly describe deindustrialization as a cultural process in addition to an economic transformation, which involves “the displacement of industry and industrial workers to the cultural periphery.” As a broader consequence of deindustrialization, “industrialism has lost its cultural centrality in North America. Industrial workers who once inhabited a central place have been displaced to the periphery: they have become outsiders looking in.”¹⁸ Themes of displacement and “outsiders looking in” run throughout the history of the Iron Range in the late twentieth century. Indeed, a personal and communal struggle against marginalization is a defining theme of the region’s postwar history.

But within American culture more broadly, the struggle by industrial workers to remain vital and central to the modern nation is largely over. Today, industrial workers serve primarily as absent symbols of heritage. Carlo Rotella points to firemen, for example, as the preeminent symbol of heritage in urban neighborhoods, noting that “old-time firemen . . . seem to incarnate horse-and-wagon manhood, beer in buckets, History itself.”¹⁹ To understand how this displacement occurred and what routes were not taken when creating heritage projects, this chapter explores the history of heritage projects on

¹⁶ Dudley, *The End of the Line*, xxiii.

¹⁷ *Ibid.*, 175-78.

¹⁸ High and Lewis, *Corporate Wasteland*, 25.

¹⁹ Rotella, *Good with their Hands*, 192.

the Iron Range.

Tourism and the Service Economy on the Iron Range

Although it was not until the 1970s and 1980s that planners and officials on the Iron Range made a concerted effort to promote tourism, there were scattered calls throughout the early twentieth century to turn the region into a tourist destination. As early as the 1930s, visitors to the Iron Range noted the region's northwoods beauty and imagined a post-mining tourism economy for the region. One early observer was sociologist Paul Landis, who visited the region during the 1930s to study social life in Iron Range towns during the Great Depression. Between observations about Iron Range society, however, Landis commented that tourism would be the logical response to the eventual decline of mining in the region. Landis presciently predicted that as mining declined, civic boosters would attempt to promote tourism by "advertising of the hinterlands as a summer vacation center of unusual attractions."²⁰ However, Landis was pessimistic about tourism's long-term viability on the Iron Range, arguing, "while this seasonal trade [tourism] stimulates business, it cannot assure permanence to the community."²¹ Writing half a century before widespread efforts to promote Iron Range tourism, Landis anticipated several of the major tensions that would bedevil Iron Range tourism plans. While tourism offered economic possibilities for a remote region, it was ultimately a seasonal trade that relied on wealthy visitors as the basis for sustainable communities.

²⁰ Paul H. Landis, *Three Iron Mining Towns: A Study in Cultural Change* (Ann Arbor, MI: Edwards Brothers, 1938; reprint, New York: Arno, 1970), 51.

²¹ *Ibid.*, 16-17.

By the middle decades of the twentieth century, a small but important tourism industry had developed in the Lake Superior region. Writing for the *Saturday Evening Post* in 1961, travel reporter Clay Blair, Jr., was surprised to learn that tourism was Minnesota's third largest industry, fueled largely by a lucrative recreational fishing trade. Blair noted with some amusement that northern lodges were attempting to extend the tourism season into the winter by promoting winter sports such as cross country skiing and snowmobiling, but he found little local interest in winter activities beyond ice fishing.²² Blair was not mistaken in his realization that tourism was playing a larger part in the Iron Range's overall economy by the 1950s and 1960s. A 1961 survey found that 5,810 employees worked in resorts throughout St. Louis and Itasca counties, a number that was increasing as overall mining employment was falling.²³ A 1965 advertisement by the Minnesota Power and Light Company promised nothing less than "a new era of prosperity" for northeast Minnesota based in part on "a new revitalized tourist and resort business" and "expanding cultural and recreational facilities."²⁴ Many observers and planning officials saw tourism as a possible savior for the iron mining areas once mining was finished.

²² Clay Blair, Jr., "Minnesota Grows Older," *Saturday Evening Post*, March 18, 1961, 85. On the development of tourism in the upper Great Lakes region, see Aaron Alex Shapiro, "'One Crop Worth Cultivating': Tourism in the Upper Great Lakes, 1910-1965," (PhD diss., University of Chicago, 2005); and Eileen Walsh, "The Last Resort: Northern Minnesota Tourism and the Integration of Rural and Urban Worlds," (PhD diss., University of Minnesota, 1994).

²³ Educational Research and Development Council of Northeast Minnesota, *Economy of Northeast Minnesota: Current Economy Activity* (1968), 33. A copy of this report is available at the IRRC.

²⁴ Advertisement in *The Mesabi-Vermilion Iron Range* (Biwabik, MN: Iron Range Enterprises, 1965), 1.

Throughout the 1950s and 1960s, local and state government officials supported early plans to create a tourist economy on the Iron Range. As historian Aaron Shapiro has noted, tourism in the upper Great Lakes relied heavily on local and state government support, a reminder that tourism in the region “is not a natural product, but rather is developed, managed, and packaged.”²⁵ Among the most important initiatives of government agencies to support Iron Range tourism were numerous surveys that described in great detail the potential market for tourism and the amount of money available if the region could lure tourists. The IRRRB conducted one such survey in the late 1950s, in which it strongly supported further government action to build an infrastructure for tourist development in the region. Specifically, the IRRRB recommended forming “private and public associations” to “strengthen programs to encourage the improvement and rebuilding of resorts, hotels, motels, and camping and trailer courts, and their recreational facilities in the area.” The survey report also called for tourism management courses at local high schools and community colleges and programs to loan money to tourist businesses.²⁶ Later surveys went into far greater detail about the type of vacationer who might come to the Iron Range if appropriate facilities were built. A survey from the late 1970s, for example, described a “typical vacationing party” that might travel to northeast Minnesota. The party “is very attractive—young, well-educated, upper income, and in family parties.”²⁷ While these tourist surveys offered

²⁵ Shapiro, ““One Crop Worth Cultivating,”” 1.

²⁶ State of Minnesota, Office of Iron Range Resources and Rehabilitation, “Search for Resources and New Uses of Them,” Saint Paul, 1960, 37.

a wealth of statistical data, it is also worth noting that they offered an imaginary market to justify spending on tourism projects. Readers of the report were invited to imagine these attractive but fictional parties visiting tourist projects supported by local and state officials.

One survey recommendation that became reality was resort management courses in local community colleges and high schools. An expanding tourist economy needed workers with far different skills than those encouraged by the mining industry, especially customer service abilities.²⁸ By creating courses in resort and tourist training, Iron Range schools hoped to train a new generation of workers and offer the possibility of employment in the region. The courses began in the early 1960s when Iron Range junior colleges created a Resort Management Institute with the stated goal of training “tourist oriented business operators.” The colleges also started “a series of certificated [sic.] courses to train tourism employees on a continuing basis.”²⁹ When tourism was discussed in Iron Range high schools, the economic logic of the industry was made even more explicit for the students. A 1968 report for Iron Range high school students, for example, began with pleasant phrases about how the area’s natural resources could be harnessed for tourism. “The natural beauty of the area, its fresh air, recreational opportunities, historic monuments and other tangible and intangible things which attract people’s

²⁷ Midwest Research Institute [MRI], *Assessment of the Tourism Development Components of the Iron Range Interpretative Program* (Minnetonka, MN, 1980), 56. Available at the IRRC.

²⁸ For an overview of the difficulties involved in service sector employment, see Arlie Russell Hochschild, *The Managed Heart: Commercialization of Human Feeling* (Berkeley: University of California Press, 2003); and Cameron Lynne Macdonald and Carmen Sirianni, eds., *Working in the Service Society* (Philadelphia: Temple University Press, 1996).

²⁹ “Final Report, Title I Project, Ely, Minnesota,” January 1968-December 31, 1970: 5; Community Histories: Ely, Minnesota, Collection; IRRC.

curiosity and desires can and do become a source of income for the area by being ‘sold’ to tourists coming to enjoy them.” However, the report then bluntly stated tourism’s importance as a replacement for the declining mining industry. Students were told that since “no single large source of income has been found to replace or ease economic conditions when the iron ore production declines,” the report claimed, “an expansion of tourism would help to diversify this area’s source of income.”³⁰ Although planners often touted tourism’s benefits in lofty language, the industry was also pushed on young Iron Range residents in a more threatening manner. Young people on the Iron Range were told to embrace a tourist economy or face the prospect of unemployment, decline, and dispersal from the region.

An example from 1965 demonstrates how turning tourism’s promise into action proved far more difficult than initially presumed. While tourism in the abstract was a boon to the Iron Range’s struggling economy, the messy realities of Iron Range geography, economics, and culture made new tourism projects complicated and expensive. One major tourism project planned for the Iron Range in the 1960s was the development of a recreation and resort area on a lake outside Hibbing. Suggested in a 1965 study, planners recommended developing 6,000 acres around Carey Lake as a “medium density recreation development.” By turning an unused area into a planned landscape with campgrounds, a supper club, a lodge, a golf course, hiking trails, and wildlife habitat, the Carey Lake project would hopefully meet “the present and future demands generated by tourist-vacation traffic.” In blunter language, planners admitted that the development “would certainly help improve the economic base of that portion of

³⁰ Educational Research and Development Council, *Economy of Northeast Minnesota*, 33.

the Iron Range region presently lacking adequate facilities for the tourist industry.” Despite optimistic promises for the Carey Lake development, the feasibility study contained site information that was critical of the project’s overall prospects. Reviewing the site and competing recreation areas, consultants suggested that the development was not likely to be “a financial success.” The ground itself was a problem, as the proposed area was made up mainly of “vast, low, wet, peat swamps” that hardly met a tourist’s vision of a sublime northwoods landscape. Because of the swamps, “only a small percentage of the total site could actually be considered for intensive development. The remaining portions of the site are generally in a swampy condition at least parts of the year.” Carey Lake itself was not particularly attractive. The consultant’s report noted that the lake “does not have the attractiveness of most north country lakes” and was unlikely to draw tourists away from other, more scenic lakes in northeast Minnesota.³¹ Although promoters were eager to build an infrastructure for tourism on the Iron Range, many sites were simply not attractive for tourism. The Iron Range existed because of iron deposits, not its natural beauty.

Given the difficulties in building tourist sites that would appeal to vacationers looking for natural recreation, state and local planners explored the possibility of embracing the region’s industrial mining history as a possible means of promoting tourism by the late 1960s. In 1969, the state of Minnesota created the Iron Range Trail across northeast Minnesota. As approved by the state legislature, the Trail was intended to connect the three iron ranges and “related points on the North Shore of Lake

³¹ Roger S. Williams, “Carey Lake Area Recreation Development: A Feasibility Study,” (Duluth, MN, Aguar, Jyring and Whiteman Planning Associates, 1965), 1, 34-38, 4.

Superior.”³² It was hoped that hikers, bicyclists, and other sightseers would use the Trail to explore northeast Minnesota. As described in a promotional pamphlet, the Trail would “provide the public with an opportunity to view and understand iron mining in the state” by marking “scenic and recreational areas as well as historic sites and local tourist centers where visitors may obtain more details on the area’s attractions.”³³ Although the Trail was controlled by the Minnesota Department of Natural Resources, the IRRRB immediately saw the tourism potential of the Trail and made it the center of a growing tourism development plan.³⁴

While the Iron Range landscape spoiled the Carey Lake plans, many other tourism projects were complicated by the ambivalence and even hostility of many Iron Range residents to tourism in general. For industrial miners who envisioned their region as a hard working resource center that provided raw materials for what they believed was the nation’s key economy, plans to transform the area into a haven for wealthy outsiders were diametrically opposed to their understanding of the Iron Range. There was a complicated irony in this stance, of course, since many Iron Range residents were acutely aware of their region’s dependence on the outside capital of the mining companies. But many believed that through labor unions and working class towns, the Iron Range had successfully fought to control itself against outsiders. Appealing to a new group of wealthy out-of-town tourists upset this delicate balance.

³² Aguar Jyring Whiteman Moser, Inc., “Iron Range Interpretative Program: A Report to the Legislature,” (Duluth, MN, 1971), iii.

³³ *Minnesota’s Iron Range Trail* (St. Paul, MN: Minnesota Department of Conservation and Minnesota Department of Economic Development, undated brochure), 1.

³⁴ State of Minnesota, Department of Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” St. Paul, 1970, 34.

Although anti-tourism hostility on the Iron Range rarely appeared in the official plans of economic development officials, close attention to the voices of Iron Range residents reveals their deep ambivalence about promoting tourism during this era. Reading a survey of local attitudes toward tourism, one report was surprised to discover that, “many of the individuals on the Range interviewed . . . expressed skepticism about tourism development.” The report concluded that trying to promote tourism against the community’s wishes was bound to fail, noting, “the lack of strong, vocal community support for tourism on the Iron Range may well be the most difficult of all problems to overcome. Community support and patronage cannot be mandated. They will occur when, and only when, residents come to believe that support for tourism is in their own best interests.” The report encouraged the IRRRB to create programs aimed at enlightening Iron Range residents about the economic benefits of tourism.³⁵

The anti-tourism sentiment of many Iron Range residents was driven by concerns about working in low wage service sector jobs and cultural beliefs that the Iron Range should remain a productive landscape dedicated to resource extraction. Although tourism promoters saw resorts and heritage museums as viable options for a post-mining economy on the Iron Range, many residents understood that work in the tourism sector paid substantially less than unionized mining jobs and offered even less job security. By the 1960s, many Iron Range residents had personal experience working in the tourism industry or related service sector work. The ongoing decline of mining employment meant that more and more Iron Range residents could expect to work in non-mining jobs during their working life. Of course, women on the Iron Range had a longer and more

³⁵ MRI, *Tourism Development Components*, 3-4.

substantial history of non-mining employment given their discrimination from mine work until the 1970s.³⁶ But the turn toward service sector employment was widespread by the 1960s. In 1966, for example, service sector work became the predominant employment category on the Iron Range, meaning that mining was no longer the region's largest source of employment.³⁷ Thus, Iron Range residents were well aware that jobs in service sector work such as the tourism industry paid, on average, only one third as much as mining work.³⁸ Additionally, residents of the region were worried that the tourism industry could not grow quickly enough to make up for the loss of mining jobs. A 1964 newspaper article described attempts to build ski resorts in the Lake Superior mining area and emphasized its natural beauty, but warned that "the tourist industry is not growing fast enough to offset the loss of jobs and income caused by the decline of mining."³⁹ The tourism industry also contributed to economic inequality. Many miners believed, whether accurate or not, that government officials promoting tourism were working with resort owners who stood to profit disproportionately from a new tourism industry on the Iron

³⁶ Even after women were allowed into formerly male jobs in the mines, they faced harrowing discrimination and harassment on the job. See Clara Bingham and Laura Leedy Gansler, *Class Action: The Landmark Case that Changed Sexual Harassment Law* (New York: Anchor, 2002). For additional histories of women entering the historically male-controlled field of industrial mining in the 1970s and 1980s, see Marat Moore, *Women in the Mines: Stories of Life and Work* (New York: Twayne, 1996).

³⁷ Educational Research and Development Council of Northeast Minnesota. *Economy of Northeast Minnesota: Current Economic Activity*, 38.

³⁸ D. J. Tice, "The Thing on the Hill (Part II)," *Minnesota Corporate Report*, November 1982, 96. Questions about the wages and quality of tourism and service sector jobs continued into the late twentieth century. Although the economic boom of the 1990s witnessed job creation in much of rural America, including the Iron Range, analysts questioned the quality of the jobs created during the boom. Many of the service jobs created in rural areas paid far less than mining jobs. From 1993 to 2003, earnings growth in rural areas was less than half of the growth seen in metropolitan areas. Sue Kirchhoff, "Rural Areas Labor to Save Jobs," *USA Today*, November 13, 2003.

³⁹ Homer Bigart, "Poverty Blights Iron Ore Region," *New York Times*, January 13, 1964.

Range. A laid off miner described just such a worry when explaining why he was hesitant to develop the Iron Range as a tourist destination. He claimed to have nothing against tourism itself, but worried that the tourism industry would do nothing to alleviate economic decline on the Iron Range and would, in fact, lead to further economic inequality in the area since tourist facility owners would benefit disproportionately.⁴⁰ Although proponents of tourism saw it as a panacea for the ailing Iron Range, many area residents had legitimate concerns about the economics of turning the Iron Range into a tourism-based economy.

Along with these hard-headed financial concerns, many Iron Range residents believed that re-creating the region as a tourist destination contradicted their own understanding and definition of the Iron Range as a productive, extractive landscape. To the eyes of many residents, the Iron Range's beauty was not inherent in the wooded landscape but instead emerged from the combined efforts of human labor, technology, and geology to dig iron ore and transform it into valuable iron and steel. This view of the landscape was hard for many outsiders to understand. The Iron Range appeared to many outsiders as a tremendous scar, a fully artificial landscape where humans took the land and "flipped it like a pancake."⁴¹ But many Iron Range residents saw this same landscape as visible evidence of many decades of productive labor. The pits reminded them of the thousands of workers who had made this out-of-the-way place their own.⁴² Industrial

⁴⁰ Bill Cook oral history interview, Keewatin, MN, August 9, 1986; Unemployment on the Iron Range Oral History Collection, A-86-694, IRRC.

⁴¹ Aaron Brown, *Overburden: Modern Life on the Iron Range* (Duluth, MN: Red Step, 2008), 90.

workers on the Iron Range were not alone in their ambivalence or even hostility to attempts to reinterpret the industrial landscape for tourists' consumption. High and Lewis note that across North America working people have expressed deep uneasiness toward the movement to preserve historical buildings. This movement, they claim, "at its core, valued industrial buildings for their architectural beauty and for their potential reuse as post-industrial spaces," a mindset that ultimately displaced industrial work to an outmoded past. "The factory-scape might be retained," High and Lewis note, "but the jobs are gone, as were the workplace cultures on which industrial workers depended for status and solidarity."⁴³ Driven by concerns over the low wages, employment insecurity, and conflicting understanding of the physical landscape, many Iron Range residents approached tourist promotion efforts with deep skepticism.

Despite the worries of many Iron Range residents, by the 1970s the IRRRB and other groups in the area were committed to creating a tourist economy on the Iron Range. In part, officials at the IRRRB were lured by the prospect of tourist dollars flowing to the Iron Range. Several large tourism and recreation plans were being created in northern Minnesota during this period and Iron Range officials wanted to ensure that their region received part of the tourism trade. The construction of Voyageur's National Park in far northeast Minnesota was a particularly significant catalyst for the IRRRB's tourism promotion efforts. IRRRB officials imagined tourists streaming to the new park and

⁴² Goin and Raymond, "Recycled Landscapes," 271. Cultural geographer Kent Ryden describes similar ambivalence about a tourist's view of the landscape in the Idaho silver mining region. Miners there view the landscape as a productive area, not a magnet into which tourists can escape. Kent C. Ryden, *Mapping the Invisible Landscape: Folklore, Writing, and the Sense of Place* (Iowa City: University of Iowa Press, 1993), 98-99.

⁴³ High and Lewis, *Corporate Wasteland*, 31.

began thinking of ways to divert them. At a 1973 IRRRB meeting, an executive with the Minnesota Department of Economic Development explained how travelers to and from the park could contribute to the Iron Range's economy: "We have a captive audience to build from and grab the tourism dollar. In excess of ninety per cent of [the] million people visiting Voyageur's Park are going to take Highway 53. That affords an excellent opportunity to funnel them off into the Range area and we feel it is vital that they do be funneled off for two reasons: Number one, to give those people a varied experience as far as a tourist experience, to make them want to come back again; and also the fact that the Voyageur's Park is going to realize a rather short season and if we put all those people in that park in that short period of time we are going to experience tremendous problems in that area."⁴⁴ Officials with the IRRRB were less enthusiastic about recreational tourism in the park, but nonetheless saw the tourists as a potential source of revenue for the Iron Range. As one IRRRB member in 1975 explained, "all the talk of the Voyageurs National Park has been in the news and all the tourists that are going to be in the area. I think that between the mosquitoes in June and the snow in July up at Voyageurs Park that these people are going to be leaving that area . . . they are going to be leaving after four hours. And any way we can quote, unquote, delay them in northeast Minnesota before they come back to the bright lights of Minneapolis-St. Paul is to our benefit."⁴⁵ Driven primarily by dreams of tourist dollars, Iron Range officials turned to tourism as a way to diversify the region's economic base by the 1970s.

⁴⁴ IRRRB Meeting Minutes, February 27, 1973, St. Paul, 9.

⁴⁵ State Senator George Perpich, quoted in IRRRB Meeting Minutes, June 18, 1975, 45.

The Iron Range Interpretative Center

But what kind of tourism industry should—or could—be created on the Iron Range? The ultimate answer was heritage tourism. Given the deep ambivalence of Iron Range residents toward tourism in general and the very real physical landscape left by generations of iron mining, the region’s industrial history emerged as a likely building block for a tourist economy during the 1970s. The overall plan to promote heritage tourism on the Iron Range, described here, reveals the possibilities and contradictions of using history to promote economic development in post-industrial areas such as the Iron Range. Heritage tourism on the Iron Range was, as one report described, “a unique attempt to build a tourism base—where no base previously existed—by concentrating public monies in the preservation and promotion of the region’s rich natural, historic and cultural resources.”⁴⁶

Planners interested in developing a post-industrial tourist economy began exploring the possibilities for heritage tourism on the Iron Range by the early 1970s. For example, a 1972 report by an architectural and planning agency emphasized how industrial tours of the Iron Range could promote economic development. “Industrial processes are intrinsically interesting to nearly everyone,” the report stated. Noting available tours in iron mining pits—both operational and defunct—the report claimed, “all of these tours are important generators of tourist interest and deserve more widespread attention.” The report called for additional “guided tours” to interpret “the Iron Range story.” Possible options included bus tours of historical and industrial sites or

⁴⁶ MRI, *Tourism Development Components of the Iron Range Interpretative Program*, 7.

tours for “rockhounds” interested in geology. “Rail buffs” might be attracted to rail tours across the Iron Range.⁴⁷ The long tradition of factory and mine tours may well have given planners the idea for broader tourism development emphasizing industry and mining history.

By the middle of the 1970s, many of the heritage tourism efforts underway on the Iron Range came to orbit around a single history museum and heritage site: the Iron Range Interpretative Center, later known as Ironworld, U.S.A., and again rebranded as Ironworld Discovery Center. Ironworld, as described by an Iron Range journalist, “is one of those strange places that you have to see to believe.”⁴⁸ The facility in Chisholm has, over the years, served as a museum, a convention center, an archive, a concert facility, a food court, and a festival center. In short, it has been asked to serve many masters, often contradicting one another. A close review of the Center’s origins and development suggests some of the many tensions inherent in heritage tourism on the Iron Range and the conflicts arising from the use of history as a tool for economic development.

The idea for the Interpretative Center emerged among planners and state officials in the early 1970s. In the initial plans sketched out at the IRRRB in 1972, the Iron Range Interpretative Center was conceived as a flexible, multi-purpose site that “will tell the story of Minnesota’s Iron Mining Region. This will include the natural and human history of the area in addition to the mining aspects of this fascinating story.” In part, the Interpretative Center grew out of the Iron Range Trail project. Officials felt that the Trail,

⁴⁷ Aguar Jyring Whiteman Moser, Inc., “From Depot to Cultural Center” report, March 9, 1972, 21; in Community Histories: Duluth, Minnesota, Collection; IRRC.

⁴⁸ Brown, *Overburden*, 134.

while useful, did not have definite starting or ending points and was not connected with the Iron Range towns it passed through. Thus, planners initially envisioned that the Interpretative Center “will provide the answer to the difficult question, ‘Where does the Iron Range Trail start and end?’ It will eliminate the confusion of the present system which does not provide direction to the visitor who is interested in the Iron Range Trail.”⁴⁹ Travelers on the Iron Range Trail would—in the planners’ imaginations, at least—use the Interpretative Center to coordinate their travel and connect the Trail’s many attractions with the Iron Range. Of course, the insistence that the Iron Range Trail have a single, central point of information also reveals the continuing uneasiness about tourism among Iron Range officials. Behind the Center’s initial plans was a fear that tourists on the Trail would not recognize or acknowledge the region’s mining history or, at the least, the Center was an effort to exert greater control over tourists’ experiences. Given these many different concerns, plans for the Interpretative Center quickly grew and the Center was soon envisioned not just as a site for tourist information, but a multi-purpose facility that would be a bustling hub of tourism and heritage travel on the Iron Range. In their 1972 report to the state, IRRRB planners described their expanded vision for the Interpretative Center:

The proposed major Interpretative Center will be an imaginative, flexible and dramatic facility. Major emphasis will be placed upon participatory and self-guided activities. Flexibility is a key element. The facility will have to provide space and ways to do everything from handing out literature to exhibiting enormous pieces of mining equipment. There are four major categories of functions the Interpretative Center will provide: 1. Geological and natural history interpretation. 2. Historical and cultural interpretation. 3. Mining industry interpretation. 4. General visitor information service and relaxation facilities. It is

⁴⁹ State of Minnesota, Department of Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” St. Paul, 1972, 34.

important to point out that the proposed major Interpretation Center should not be regarded, merely, as a museum or collection of static displays. Among the methods that could be employed are models, audio visual presentations, photographic techniques and participatory activities as well as imaginative displays and exhibits.⁵⁰

By preparing plans for a “dramatic” historical center that would combine Iron Range history with tourist information, Iron Range planners sought to simultaneously generate a tourism economy and ensure that any potential tourists celebrated the region’s mining history. These two goals created significant tension.

Planners also imagined the Interpretative Center as a significant source of revenue for beleaguered Iron Range communities. Their projections called forth an imagined Center bustling year round with tourists. Needing to sell the expensive Center to both the state legislature and Iron Range residents, planners at the IRRRB projected hundreds of thousands of visitors flowing through the Interpretative Center and, in their plans at least, out into the Iron Range towns where they would spend their money and support local businesses. Initially, IRRRB planners projected that an Iron Range Interpretative Center would draw as many as 225,000 visitors to the region yearly. This projection—which would prove wildly optimistic—was based on the annual attendance figures from Chisholm’s smaller Minnesota Museum of Mining, which drew approximately 30,000 visitors per year in the late 1960s and early 1970s even though the Museum was only open for three months each year. The records are unclear on how the 30,000 annual visitors to the Minnesota Mining Museum grew almost ten-fold into the quarter million visitors planned for the year-round Interpretative Center.⁵¹ By 1974, projections for the

⁵⁰ Department of Iron Range Resources and Rehabilitation, “Biennial Report, 1970-1972,” 36.

Center anticipated a quarter million visitors per year, a workforce of 21 employees, and \$12.9 million pumped into the local economy directly through the Interpretative Center.⁵² Promises of visitors—and the money they would bring—were the key argument put forth by the IRRRB to justify the expensive Center. By projecting thousands of visitors, bringing dozens of jobs and millions of dollars, planners allowed both state politicians and Iron Range residents to imagine a busy Center that worked like a valve: bringing a steady flow of outside money to the Iron Range, but also controlling that flow and channeling it toward safe ends—such as celebrating the Iron Range’s mining history—that did not threaten the industrial communities of the Iron Range and their accumulated cultures. This double move, both encouraging tourism but also controlling it, lay behind most of the Iron Range’s tourism efforts in the late twentieth century.

Moving the Interpretative Center from an IRRRB plan to a completed project required significant funding. During the mid-1970s, the IRRRB slowly secured significant grants from federal, state, and local governments to pay for the Center. The major funding for the Center came in 1974, when the federal Economic Development Administration pledged over half a million dollars toward the project.⁵³ The Upper Great Lakes Regional Commission paid \$150,000 and the city of Chisholm, chosen as the site for the Center because of its location near the center of the Mesabi range, contributed \$75,000. At the state level, the IRRRB put up the bulk of the funds for the project,

⁵¹ Ibid.

⁵² State of Minnesota, Department of Iron Range Resources and Rehabilitation, “Biennial Report, 1972-1974,” St. Paul, 1974, 11.

⁵³ “\$650,000 Federal Funding Assures Construction of \$2 Million Interpretative Center,” *Chisholm Free Press*, April 14, 1974.

contributing \$780,000, while other state agencies, such as the Minnesota Department of Economic Development, the Minnesota Revolutionary Bicentennial Commission, and the Minnesota Resource Commission, contributed smaller amounts.⁵⁴ As plans progressed in the early 1970s, IRRRB officials pushed for the Center to open in time for the 1976 national bicentennial celebration. At a 1973 IRRRB meeting, an agency member explained the need to hurry the Interpretative Center program along “so that by the time we do get to the year 1976 and have the great nationwide celebration that this will be in good shape.”⁵⁵ The bicentennial not only brought unprecedented attention to U.S. history in the mid-1970s, but it also made critical funding available for historical projects such as the Interpretative Center.

With funding in place, construction of the Iron Range Interpretative Center in Chisholm began in August 1974.⁵⁶ The 33,000 square foot building, perched near the edge of an abandoned mine pit—slowly filling with water to create an aquamarine lake ringed with red cliffs—was not completed until 1977. The building proved far more expensive than initial estimates, eventually costing \$1.78 million to build.⁵⁷ The Center finally opened to the public on August 19, 1977, after almost ten years of planning and three years of construction.⁵⁸

⁵⁴ State of Minnesota, Iron Range Resources and Rehabilitation Board, “Biennial Report, 1974-1976,” St. Paul, 1976, 15.

⁵⁵ IRRRB Meeting Minutes from May 18, 1973, St. Paul, 28; available at IRR.

⁵⁶ Department of Iron Range Resources and Rehabilitation, “Biennial Report, 1972-1974,” 11.

⁵⁷ IRRRB, “Biennial Report, 1974-1976,” 15.

⁵⁸ State of Minnesota, Iron Range Resources and Rehabilitation Board, “Biennial Report, 1976-1978,” St. Paul, 1978, 9.

The historical narrative initially offered to visitors at the Iron Range Interpretative Center was a crucial component of the Center's underlying function to promote tourism and economic development on the Iron Range while simultaneously controlling outside interpretations of and influence on the Iron Range. Many Iron Range residents, including many of the planners at the IRRRB, were deeply conflicted about tourism. They acknowledged its importance in creating a mixed economy beyond mining, but they also feared its corrosive influence in a close-knit industrial region with an identity shaped in large part by hostility to those outside influences that made life in a mining region so capricious. A close focus on the region's mining history was the compromise upon which Iron Range planners could agree. By emphasizing the region's unique history of rich natural resources, the hard work required to transform those resources into valuable commodities, and the rich lives created in and around the mines, the Iron Range Interpretative Center emerged as *the* focal point for a nostalgic history of the Iron Range that simultaneously celebrated an industrial past while moving forward into a post-industrial future.⁵⁹

The Iron Range Interpretative Center's historical narrative focused on five main categories: "geological and natural history," "historical and cultural interpretations," "the era of natural ores," "the taconite age," and "today-tomorrow."⁶⁰ IRRRB promotional literature promised a historical narrative that "takes the visitor through a time capsule of

⁵⁹ Marvin G. Lamma, *Minnesota's Iron Country: Rich Ore, Rich Lives* (Duluth, MN: Lake Superior Port Cities, 2004).

⁶⁰ Department of Iron Range Resources and Rehabilitation, "Biennial Report, 1972-1974," 11. It is worth noting how the division between natural ores and taconite—a division that was very much in doubt throughout the middle of the twentieth century (see chapters one and two)—was naturalized in the Interpretative Center's narrative by the mid-1970s.

history as the area is transformed from a region of dense wilderness to a highly industrialized society in the span of less than one hundred years.”⁶¹ Implicit in this narrative was a story of human progress through technology and labor. Beginning with the natural resources of geology, the narrative demonstrated how industry transformed the region’s rocks into iron ore through hard work and mechanical ingenuity. When depleted resources—the natural ore in this case—threatened the progressive trajectory of the story, a new technological savior appeared in the form of taconite. Taconite, and promises of future ingenuity, launched the Iron Range into “today-tomorrow.” This narrative was not just conveyed through exhibit scripts. The design and layout of the building also contributed to the narrative of progressive ascent from geology to a post-industrial future. Visitors at the Center entered the facility on the ground floor—near the natural resources that spawned the Iron Range—and moved up and out as they progressed through the facility. The experience culminated with the view from a glass-enclosed walkway cantilevered out over the mine pit below. Standing in the cool, steel and glass walkway, looking out over the abandoned mine, visitors were subtly reminded about a modern future for the Iron Range that acknowledged and transcended the work of the past.

Well before it opened, the Iron Range Interpretative Center was embroiled in controversy. Built to span the divide between tourism promotion and the Iron Range’s mining economy, the Center soon developed into a space on which Iron Rangers of all persuasions could project their fears about an uncertain future. Battling over funding,

⁶¹ IRRRB, “Biennial Report, 1976-1978,” 10.

exhibits, and visitors, those debating the Center were, in part, arguing for their visions of the Iron Range's future.

The first major controversy that developed at the Center concerned the role that the mining companies would have in the new Center, specifically whether the mining companies would donate money to the building and its exhibits. The catalyst for the controversy was a funding shortfall. The IRRRB simply did not have enough money to pay the large fee owed to consultant Joseph Wetzel for designing and fabricating the exhibits inside the Center. Wetzel, a Boston-based exhibit designer, was hired by the IRRRB because of his reputation for high quality exhibit design and planners believed he brought legitimacy to the upstart museum. During initial planning meetings Wetzel pushed the IRRRB to bring in additional consultants, whom he insisted would bring authority to the museum. He bragged that the "executive producer of Sesame Street" would be involved with the design and "these people bring a very fresh and particular prospective to the planning of a museum exhibit program."⁶² Although Wetzel and the consultants were hired to fabricate the museum's exhibits, the IRRRB simply could not afford to pay the almost seven hundred thousand dollar bill owed to Wetzel. The IRRRB hoped that the mining industry would cover the funding shortfall, but admitted that additional funds from the mining companies were not assured.⁶³ Ominously, the Center was bogged down in a funding controversy before it opened to the public.

The mining companies initially refused to contribute the requested four hundred thousand dollars toward completing the museum. Their refusal incensed several members

⁶² IRRRB Meeting Minutes, March 26, 1975, 4.

⁶³ IRRRB Meeting Minutes, September 11, 1975, 19-27.

of the IRRRB, who noted that the companies spent hundreds of thousands of dollars each year for advertising but would not pay for a museum about their industry. Without the money, the IRRRB threatened to prevent the museum from opening, killing the project before it could be completed.⁶⁴ Trying to attract the needed funding, politicians held out the Iron Range's history as incentive to support the museum. Groups that contributed would be remembered favorably, while the stingy would be abused in the Center's historical narrative. IRRRB member and Iron Range legislator George Perpich fumed over the mining companies' failure to invest in the Iron Range's history, arguing, "you know I've never heard a mining company donating much of anything . . . If a town is burning up, they'll send out a water truck, grudgingly." Perpich suggested that if the mining companies would not pay for the exhibit design, the museum's narrative should focus on mining accidents and generally "show [the mining companies] in an unfavorable light." Adding insult to injury, Perpich proposed that the museum pass out flyers arguing that the steel industry did not contribute to the community in equal proportion to other industries throughout Minnesota.⁶⁵ Another IRRRB member suggested that the USWA be invited to contribute to the museum, in the hopes that adding a pointed labor perspective to the museum's script would persuade the mining companies to pay for a counterpoint message.⁶⁶ For their part, the mining companies were actively involved in the construction of a large statue of an iron miner immediately across from the Interpretative Center site in Chisholm. The statue was built from material donated by the

⁶⁴ IRRRB Meeting Minutes, June 23, 1976, 5

⁶⁵ IRRRB Meeting Minutes, May 20, 1976, 34-42.

⁶⁶ IRRRB Meeting Minutes, February 18, 1976.

mining companies and the firms argued that it was too much to support both the statue and the Interpretative Center.⁶⁷ Although the Interpretative Center was envisioned by some as the stepping stone toward a bright post-industrial future, the museum quickly bogged down in the messy finances and labor-capital hostility of the industrial-era Iron Range.

Deep divisions within the IRRRB exacerbated the early funding problems at the Center, as the IRRRB squabbled over the necessity of the Center and whether it was a good use of the taconite tax money entrusted to the Board. For example, during a heated Board meeting on March 3, 1976, the ongoing problem of funding the exhibit design reached a boiling point. The Center needed an additional five hundred thousand dollars to pay for exhibit construction, but this amount was close to the sum total of the money available in the IRRRB's accounts. When one Board member motioned to grant the money to the Center, another Board member threatened to leave the room so that the Board would not have quorum and could not vote on the motion. The Board member explained his extreme opposition to the Center, saying, "[the Interpretative Center] hasn't been one of my all time favorites from day one" and argued that spending all of the IRRRB's money on exhibit construction would "an unconscienable [sic.] act on the part of the IRRRB" that would provide fodder for anti-IRRRB sentiment.⁶⁸ The financial shortfall caused rancor between the IRRRB and the Center staff as well. During the debate in the summer of 1976, the IRRRB suggested that Center director Robert Scott deserved some of the blame. Board members felt that the failure to attract mining

⁶⁷ IRRRB Meeting Minutes, February 25, 1976, 27-30.

⁶⁸ Norbert Arnold quoted in IRRRB Meeting Minutes, March 3, 1976, 17-18.

company financial commitments was due to Scott and during the June 23 meeting they recommended that Scott be removed from his position as director.⁶⁹ Eventually, the IRRRB resolved the funding problem by paying a greatly reduced amount—\$150,000—for the exhibit design. The IRRRB stipulated that “none of this money would be used to construct exhibits which deal directly with the mining industry.”⁷⁰ This intense debate over funding the Center, which erupted before the Center opened, promised more debates about funding and finances once the Center was up and running.

Indeed, after the Center opened in 1977 it remained a focus for controversy, especially surrounding its tenuous finances and inability to generate enough revenue meet expenses. At the core of this debate over the Center’s finances were conflicting ideas of the overall mission of the Center. Was it supposed to operate as a profitable tourist draw? Or should it fulfill an important public function, conveying the Iron Range’s history to visitors, with the acknowledgement that it might never break even and would be a long-term expense for the IRRRB’s finances? These questions remained unresolved throughout the late 1970s and early 1980s, leading to proponents on all sides being disappointed by some aspect of the new Center. The IRRRB, for example, consistently pushed the Center to break even financially and fretted over the Center’s drain on their overall finances. Only a few years after the Center opened, the IRRRB worried about the Center’s high costs and low attendance figures. During 1979 meetings, the Board considered closing the facility during the winter to save money on salaries and heating

⁶⁹ IRRRB Meeting Minutes, June 23, 1976, 2.

⁷⁰ IRRRB Meeting Minutes, July 1, 1976, 4.

costs.⁷¹ Conversely, Center staff, especially director Robert Scott, insisted that the Center's success could not be defined in purely financial terms. When IRRRB members urged Scott to charge entry fees to offset expenses at the Center, Scott vigorously protested, "it has always been the intention of the program that it would be free of charge . . . to allow as many people to come and learn the history Iron Range."⁷² Throughout its first years of operation, the Center was the site of conflicting ideas about the nature and goals of historical tourism and historical memory on the Iron Range.

Early attendance figures at the Center were disappointing and fueled the IRRRB's fears that the Center would never operate without significant government funding. Although built to accommodate 225,000 visitors a year, attendance during the first seasons was less than 100,000.⁷³ By 1980, outside reviewers noted the harsh reality that the Center was only attracting 70,000 to 80,000 visitors per year and was unlikely to dramatically increase its draw. The review urged the IRRRB to deal with the difficult decision of where the Center should go in the future. Arguing that the Center could reasonably expect to draw, at most, 150,000 visitors per year, the report argued, "the IRRRB must face the fact that the Interpretative Center may never be financially self-supporting." To deal with this problem, the Center was urged to cut back on staff, perhaps even "contract out" all operations, and stop further development at the site.⁷⁴ By setting unrealistically high attendance goals—necessary, perhaps, to justify the Center as

⁷¹ IRRRB Meeting Minutes, November 26, 1979, 23-35.

⁷² IRRRB Meeting Minutes, January 28, 1976, 55-57.

⁷³ MRI, *Tourism Development Components of the Iron Range Interpretative Program*, 14-17, 56.

⁷⁴ *Ibid.*, 1, 48-49.

the base for a tourist economy—the Center was seen as a failure from its first years of operation.

The IRRRB did not halt development at the Center, however. In response to lackluster attendance in the late 1970s, the IRRRB instead expanded the Center significantly, adding five additional components, a Hall of Geology, an ethnic crafts demonstration area, a conference or performance center, a historic cable car, and an Iron Range Research Library.⁷⁵ By the end of the decade, then, the Center was moving simultaneously in many different directions, trying to connect with any possible audience in the hope of drawing visitors and their money. Among the most significant expansions of the Center’s first years was the Iron Range Research Library—later renamed the Iron Range Research Center [IRRC]—a historical research library and archive that marked the IRRRB’s most significant attempt to use history both as a tool for development and a conservative force moderating the effect of change on the Iron Range.

The IRRC was first conceived in 1977 when the IRRRB decided to expand the newly-constructed Center. Construction of a research library began in 1978 and the facility was opened in 1980.⁷⁶ As was the case with the Interpretative Center, proponents of the IRRC hoped that history and, in this case, scholarly historical study would contribute to economic development efforts. According to the IRRC’s proponents, “not only will the Research Center work toward the goal of ensuring that the social, cultural, economic, political and religious history of the region is preserved, plans call for the

⁷⁵ State of Minnesota, Iron Range Resources and Rehabilitation Board, “Biennial Report, 1976-1978,” St. Paul, 1978, 11-12.

⁷⁶ *Ibid.*, 12.

facility to become the data base for research materials for developing programs of economic development, urban renewal and industrial diversification.”⁷⁷ Hoping that history would offer a “data base” to guide future economic development efforts, the IRRRB and backers of the IRRC dreamt that the Iron Range could move boldly forward into a post-industrial future while retaining the lessons of the past.

Practically, the Research Center was intended to lend historical credence to the newly created museum, covering the Center—and hopefully the entire Iron Range—in a veil of history and historical importance. Iron Range planners realized that creating historical tourism sites without a deep background of scholarly history ran the risk of building little more than history-themed tourist traps. But creating an archive to serve as the primary site for preserving the Iron Range’s history opened up a pandora’s box of problems as various local historical societies, the Minnesota Historical Society, and individual Iron Range residents battled over who had the right to preserve their memories and how their past should be interpreted. The conflict over control of the Iron Range’s history played out—as historical conflicts often do—as an institutional fight over boxes on shelves. Although the IRRC was built to house the Iron Range’s historical archives, it needed material to fill the archives. By the early 1980s, local historical societies scattered across the Iron Range had been collecting local archives for many years and held the collections that the IRRC would need to legitimately present itself as a viable historical research center. The local historical societies were hesitant to hand their carefully collected and maintained archives over to the IRRC, however, without some assurance that they would retain some control over the use of those archives. Adding fuel to this fire

⁷⁷ IRRRB, “Biennial Report, 1978-1980,” 1980, 10.

was the initial plan to have the Minnesota Historical Society, the state's main historical archive and research organization based in Saint Paul, control the IRRC. The combination of outside control and moving to a new facility created hard feelings. Many Iron Rangers who had a long involvement with local history through the historical societies felt that the IRRC was taking over their domain and ignoring their input. This conflict was phrased as battle between the Iron Range and outsiders. As a representative from one Iron Range historical society put it, "This structure [the IRRC] belongs to the people of the Iron Range, not people from the big city. And the people from the Iron Range want to have some role in that research center." Local Iron Range historians were particularly upset that officials from the Minnesota Historical Society—whom they associated with the Twin Cities—would be controlling the facility.⁷⁸ During a 1981 IRRRB meeting, for example, representatives from the Iron Range historical societies criticized MHS's handling of the archive and expressed fears that the Iron Range's history would no longer be controlled by Iron Range residents.⁷⁹ As the meeting grew more heated, one Board member insisted that the MHS did not respect the Iron Range Interpretative Center and the attached IRRC. "[MHS] didn't want to get involved when [the IRRC] was started . . . In fact, they said it was going to flop. That is no way to interpret history. It's going to be a carnival. It's going to be Disneyland." The Board member then insisted that the Iron Range was "the most important area of our state" and even "the most important area of our country because without the Iron Range the rest of this country would not have been developed. The steel from our mines made this country

⁷⁸ Catherine Rukavina, quoted in IRRRB Meeting Minutes, June 15, 1981, Eveleth, 43.

⁷⁹ IRRRB Meeting Minutes, June 15, 1981, Eveleth.

grow—put us in an industrial revolution which made the U.S. a leader in the world.”⁸⁰

The conflict over who would control the IRRC and thus the Iron Range’s historical memory revealed the deep conflict over the public presentation of history for tourist consumption on the Iron Range. IRRRB members and tourism planners simultaneously recognized the importance of promoting historical tourism and wanted to retain complete control over its history.

While the Iron Range Interpretative Center and the attached Iron Range Research Center were the focal points of historical tourism projects on the Iron Range in the 1970s and 1980s, they were accompanied by several smaller projects intended to promote historical tourism throughout the region. These projects, ranging from statues to reclaimed mines to bold efforts at restoring an abandoned town, were driven both by necessity and the desire to use history to create a controllable economic future on the Iron Range.

As mentioned above, the mining companies built a large statue of an iron miner to commemorate the industry in the late 1970s. The statue, titled “The Emergence of Man Through Steel,” was built in 1976 as part of the national bicentennial celebrations. A local sculptor was hired after he promised to use rocks from Minnesota’s three iron ranges in the base of the statue and sculpt a large representational figure of an iron miner. The seventy-foot tall statue featured a highly realistic miner, described by the sculptor as “projecting strength, humility and weariness.” Local boosters believed the large statue was a push against the tide of abstract modern art in the late twentieth century, with one

⁸⁰ Ron Dicklich, IRRRB Meeting Minutes, June 15, 1981, Eveleth, 68.

local official describing the statue as “a victory of realism in art over the abstract.”⁸¹

Although discussions of the statue turned to overly simplistic renderings of the art world, these artistic critiques served as proxies for broader debates about corporate power and human labor’s value within the increasingly abstract corporate imaginations of late twentieth century global conglomerates.

The Iron Range was not alone in funneling debates about deindustrialization through statues. As art historian Kirk Savage argues, multinational corporations were strong proponents of abstract sculpture throughout the 1960s and 1970s. U.S. Steel commissioned famous sculptor Richard Serra to design a piece for their corporate headquarters in Pittsburgh in the 1980s. As the steel industry declined dramatically during ensuing years, Serra’s abstract sculpture came to symbolize the steel industry’s turn away from its core business of making steel and foolish ventures into corporate finance and acquisitions.⁸² In Youngstown, Ohio, as well, public statues became a focal point for community debates about the steel industry in the era of deindustrialization. Youngstown hired sculptor George Segal to sculpt a statue commemorating the steel industry in the late 1970s. Segal’s sculpture, “The Steelmakers,” featured representations of two steelworkers and was placed prominently in front of a downtown department store. When the town’s steel industry collapsed suddenly in the late 1970s, the statue, which cost the city \$150,000, became a symbol of loss for the devastated city. Vandals

⁸¹ “A 70 Foot High, Sixty Ton Monument to Iron Ore Miner Now Under Construction,” *Free Press* (Chisholm, MN), April 15, 1976.

⁸² Kirk Savage, “Monuments of a Lost Cause: The Postindustrial Campaign to Commemorate Steel,” in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003), 237-256.

uprooted one bronze worker and placed him outside of town as though the statue was hitchhiking out of Youngstown.⁸³

Another early effort to use mining history to promote tourism was the Soudan Underground Mine park in the Vermillion range north of the Mesabi. The collapse of underground iron ore mining on the Vermillion Range in the 1960s led several regional development planners to promote historical tourism of the underground mines as an economic remedy for the collapse of the underground mining industry. The Tower Soudan underground mine in Tower, Minnesota, became the focal point of underground mine tourism during the 1970s. The Soudan mine was closed in 1962 as the taconite boom made natural ore obsolete. After the Soudan mine closed, a local development council urged the mine's owner, U.S. Steel, to turn the mine over to the state of Minnesota to create a park. Local boosters were hopeful that a mine park "will spark a new wave of tourism in their area in the coming years and many feel it will provide a lasting boost to their economy."⁸⁴ U.S. Steel turned the mine property over to the state, perhaps hoping to avoid the financial responsibility of owning abandoned mining property, including environmental clean up costs and insurance.⁸⁵ By the early 1980s, the abandoned mine itself was folded into historical tourism efforts on the Iron Range. Tours of the abandoned underground mine would both promote a tourist economy in the

⁸³ High and Lewis, *Corporate Wasteland*, 77-78.

⁸⁴ Iron Range Enterprises, *The Mesabi-Vermilion Iron Range*, 11.

⁸⁵ For a discussion of how steel companies factored shut down costs into mill closing decisions, see Glenn Beamer, "Sustaining the Rust Belt: A Retrospective Analysis of the Employee Purchase of Weirton Steel," *Labor History* 48, no. 3 (2007): 277-99. On the environmental clean up of post-mining landscapes, see Kent Curtis, "Greening Anaconda: EPA, ARCO, and the Politics of Space in Postindustrial Montana," in *Beyond the Ruins: The Meanings of Deindustrialization*, eds. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003), 91-111.

Vermillion range area and introduce visitors to the esoteric and quickly disappearing world of underground iron ore mining. The mine's historical interpretation was guided by a 1982 consultant's report that encouraged the mine to use the deep shaft as a literal metaphor for "descending" into the region's mining history. The planning document recommended that the mine tour emphasize three distinct time periods from the mine's history, the late 1800s, the 1920s, and the 1960s, with an emphasis on authenticity in each section. Visitors would literally descend deeper into the past as they traveled to different levels of the mine.⁸⁶ Visitors were to be "treated as if they are V.I.P.'s touring the mine, as foremen [tour guides] explain the processes of ore removal and problems being encountered." The consultants encouraged tour guides to let visitors "give advice, or even assist with a piece of work."⁸⁷ Such interpretations were likely to fuel the worst fears of the anti-tourism forces on the Iron Range, suggesting that historical interpretations in the mines would not be sympathetic to mine workers but instead cast tourists as management officials.

As the mine developed as a tourist site, the historical interpretation presented to visitors emphasized the technology of mining and the many innovative machines and techniques used in the mine to excavate iron ore from deep below the surface. A planning document described how this interpretation would be presented to visitors: "Locked in back caverns far away from the main shaft are the unchanged remnants of experiment after experiment in ways to remove the hard ore from the earth. To each remnant is tied a

⁸⁶ MGL & Associates. "Tower-Soudan State Park: Interpreting the Soudan Underground Mine." 1982, 6-13.

⁸⁷ Ibid., 8.

human story of astounding ingenuity, imagination and daring.”⁸⁸ The mine certainly contained fascinating machinery and innovative technologies, but this exclusive emphasis on mining technology also may have been an attempt to cut off other, more critical interpretations of the mine. By focusing on mining technology, the planners hoped that visitors would not leave with skeptical views of mine working conditions, the long term environmental impact of mining, or the processes of capitalism that left the mine abandoned. The mine’s historical planners explicitly stated that the focus on technology should be used to cut off critical interpretations of the abandoned mine, writing, “it is imperative that this mine be seen in the context of advancing technology and developing society in general, and as an integral part of industrial change in America and the world.”⁸⁹ As the planners likely realized, tours of the abandoned mine were likely to leave visitors with more questions than answers. If not addressed immediately, many of those questions were likely to turn to disturbing themes of industrial decline, community abandonment, and the processes of creative destruction at the heart of capitalism.

Among the largest scale historical tourism efforts during this period was the creation of the Hill-Annex Mine historical site. Formerly an enormous open pit natural ore mine outside Calumet, Minnesota, the IRRRB took control of the closed mine in 1979 from the Jones and Laughlin Steel Corporation.⁹⁰ Although planners were eager to add a large open pit mine to the IRRRB’s tourism program, former miners on the Board were

⁸⁸ Ibid., 1. In his brief booklet on the Soudan park, Michael Eliseuson also focuses largely on mining technology. Michael Eliseuson, *Tower Soudan: The State Park Down Under* (Saint Paul: Minnesota Parks Foundation, 1976), 23-30.

⁸⁹ MGL & Associates, “Tower-Soudan State Park,” 5.

⁹⁰ IRRRB Meeting Minutes, May 11, 1979, Eveleth, 1-33; “Calumet: Hill Annex mine added to program,” *Duluth News-Tribune*, February 24, 1979.

deeply skeptical of the mine's prospects as a tourist draw. Having worked in similar open pit mines, these Board members associated the pits with heavy, dangerous work and could not see how visitors could possibly interpret their former work sites as spaces of awe and wonder. Speaking critically about the Hill Annex Mine project, one Board member casually exclaimed, "those of us who have been down in the mines, naturally, are not very excited about it." Former miners understood the mines in economic terms and many were deeply suspicious of plans to spend large sums of money on abandoned mines just to promote tourism. As a Board member joked, if the IRRRB devoted any more money to the abandoned Hill Annex mine, "we will have a working mine."⁹¹ They likely believed that mines were a productive resource and that money spent on them should be an investment in exchange for ore. Just as miners had clashed with tourism planners over recreational tourism, so too did they have very different visions of the meaning and significance of the abandoned mines.

Calumet Historical Restoration Project

Of all the historical tourism projects undertaken on the Iron Range in the 1970s and 1980s, none were as audacious as the Calumet Historic Restoration Project. The plan, which aimed at turning a declining mining town into a perfect replica of a 1920s "frontier" settlement for historical tourism, illustrates planners' and government officials' desire to use history as a means to promote tourism and economic development. The plan, known as the Old Calumet Restoration Project [OCRCP], proposed a wholesale reinvention of a declining mining town. In addition to the extensive physical work

⁹¹ IRRRB Meeting Minutes, June 16, 1979, Eveleth, 6.

required to turn a 1970s town into a replica of an imagined 1920s community, the OCRP required substantial cognitive work, as it asked planners and potential funding agencies to see the small town not as a deindustrializing settlement, but as a historical resource ready to be tapped by a combination of planning and funding. Although the ambitious plan was ultimately never completed, an in-depth reading of the plan demonstrates how attempts to promote historical tourism on the Iron Range required difficult and multifaceted work to recast the modern mining region as a deeply historical place.

The plan to restore “Old Calumet” was first noted in the early 1960s as part of a broader Iron Range Development Plan. The OCRP was fully described in the Iron Range Interpretative Program presented to the state legislature in April 1971.⁹² From its inception, the OCRP forged an alliance between Calumet’s history—now described as a resource—and tourism-based economic development. This plan appeared straightforward at the time, but if viewed from a critical perspective it is clear that the project required a subtle recasting of the importance and meaning of history itself on the Iron Range. Through projects such as the OCRP and other efforts to promote historical tourism, past events and people were reconceived as a resource from which economic development could sprout.

Initially, the restoration project received enthusiastic support from local media who emphasized the importance of preserving the Iron Range’s industrial history amid development projects aimed at a post-industrial future. In a 1971 editorial, a Duluth news station argued that the history of the Iron Range needed to strike a “dramatic note” and

⁹² Architects IV Fugelso, Porter, Simich, Whiteman, “Restoration Plan for Old Calumet, Minnesota,” Duluth, MN, 1974, 1; in *Community Histories: Calumet, Minnesota, Collection*; IRRC.

praised the plan to recreate Calumet as a 1920s village as a welcome effort.⁹³ The editorial also bemoaned the failure “to restore, preserve and to dramatize the colorful history of Minnesota’s Iron Ranges,” a failure that the editorial blamed largely on “the people who live here in northeastern Minnesota” who were “too close to the Ranges to see this great need.” Although unstated, the editorial highlights the tension inherent in the OCRP’s recasting of Calumet as a historical resource. The town, while small and declining in population by the 1960s, was nonetheless a home for contemporary residents who would now be asked to build a future in a place significant only for its past.

Supporters of the project sought to alleviate some of these concerns by suggesting that Calumet’s industrial decline was an inevitable—and perhaps even welcome—step toward the town’s rebirth as a center for historical tourism. In an informal history of Calumet written as the restoration project was under consideration, a local booster portrayed Calumet’s wholesale abandonment as an opportunity in disguise, as the town was now ripe for reconstruction as a historical village: “Many of the buildings that are still standing are empty. And to bring back the history of this town they have decided to restore this town . . . Calumet is considered an original range mining town. An opportunity that they feel will never come again.”⁹⁴ Explaining the goals of the Calumet restoration project to the IRRRB in 1973, a planner described the project as an opportunity to “bring life . . . to a real dying, decaying community that is really just holding its own and breathing its last . . . this would be an opportunity to bring this

⁹³ KDAL Television 3/610 Radio, “A Statement of Editorial Opinion,” September 15, 1971; in Community Histories: Calumet, Minnesota, Collection; IRRC.

⁹⁴ “Calumet,” undated manuscript, 2; in Community Histories: Calumet, Minnesota, Collection; IRRC.

community to life, rather than just an aesthetic museum, but really have the whole community a very definitely invested part of the past that can stand on its own two feet economically.⁹⁵

A formal proposal for the project also emphasized how historical tourism would preserve and honor the legacy of Rangers: “The era of the early 1900s witnessed rapid development and extensive immigration. The story of how and why this development took place and who the people were, portrays a fascinating story . . . one that should never be lost.”⁹⁶ Although these supporters’ description of Calumet as “an opportunity that they feel will never come again” is somewhat confusing—the town was, after all, slowly declining in population but clearly not going anywhere—efforts to justify the project hint at the tensions surrounding attempts to promote tourism based on historical reconstruction. By relegating the town’s industrial past to the realm of history and nostalgia, supporters of the reconstruction plan were trying to simultaneously appease the living residents of Calumet, who had built their town and their lives from the mining industry and likely saw it as a vital matter of present concern rather than past nostalgia, while moving the town toward a viable economic future in a post-mining world.

In addition to questions about the motivation behind the OCRP reconstruction project there was another, seemingly more straightforward question: how exactly would the town of Calumet be “restored” to its 1920s condition? Planning reports describe just how much construction would be required to recreate the town as it existed in the 1920s. According to the planners, “The first phase [of the project] should include absolute

⁹⁵ Robert Scott, quoted in IRRRB Meeting Minutes, April 10, 1973, St. Paul, 42-43.

⁹⁶ Architects IV, “Restoration Plan for Old Calumet, Minnesota,” 1.

minimums or just enough to ‘open the doors to the project.’ Needed are enough buildings for people to visit, interesting items they may purchase, a convenient place to park and exhibits to observe and participate in to make the experience most enjoyable.” The plan called for turning a garage into an “old fire hall” where “old fire equipment would be displayed with audio equipment relating stories of the serious fires that ravaged Main Street buildings in the early days.” An operating pool hall presented a problem, however, as it was “not itself of historic importance” and its appearance was “not in keeping with adjoining historic buildings.” The solution proposed was to use the pool hall building as “a center for renting bicycles” or “arranging for horse and buggy rides or other forms of transportation.” The plan further called for the main street to be closed to vehicles at times with “piles of logs and beer barrels” that would “suggest the ruggedness of those early years on the Range.” Important buildings that had been demolished could be cheaply framed “to suggest the appearance of important landmarks no longer standing,” while keeping costs low by creating only “skeleton frames of their likeness . . . using old lumber.” Doughboy Park in Old Calumet would be developed to honor three groups: the military, town “pioneers,” and “miners who lost their lives working in the Hill Annex Mine.” Although the scope of the initial plan, or phase one, was limited because of funding considerations, plans for an ambitious phase two included possibilities such as a printing shop that “could sell papers to tourists with their names in headlines, like ‘John Doe Arrested for Bootlegging in Old Calumet,’” a sign maker who would sell signs and other crafts, an ice cream parlor, a replica jail, a replica livery stable, and a replica blacksmith shop. The optimism of planners was reflected in their suggestions for long range items such as an air strip to bring in tourists, a “winter recreation area,” and the

subdivision of adjacent open land for a “tourist center” for “motel development and other tourist services that would not be located within the historic district due to strict district guidelines.”⁹⁷ Clearly, recreating Calumet as it existed in the 1920s involved far more than stripping away fifty years of progress. Recreating Old Calumet would mean literally rebuilding the town anew.

Thus, the plans for the OCRP reveal a fundamental contradiction in the use of history as an economic development strategy: Old Calumet, which supposedly existed before present-day Calumet, had to be constructed out of the 1970s town. As the plan moved forward, supporters and planners performed complicated mental gymnastics to justify the significant physical construction work required to bring back the past. For many observers, the key to resolving this contradiction was to emphasize historical authenticity, which, in theory, would allow even a newly constructed Old Calumet to be historically accurate. The attention to historical authenticity arose most palpably when defending the plan against the possibility that Old Calumet would be nothing more than a tourist trap. Considering the tremendous work required to restore Calumet to its 1920s state, even supporters of the project admitted that Old Calumet would not be a restoration so much as a new, historically themed entity. Yet this created a difficult problem because, as observers noted, a historical tourism site that relied on an “inauthentic” history was just a tourist trap. An editorial supporting the project acknowledged this problem, pointing out that the efforts to create a 1920s village in Old Calumet ran the risk of turning into a tourist trap such as Central City outside of Denver. Yet even in Central

⁹⁷ Architects IV, “Restoration Plan for Old Calumet, Minnesota,” 11, 13, 20, 23, 25, 30, 30-33, 34.

City, the editorial claimed, “its real value is far beyond that [of a tourist trap]. It provides a true vignette of the past; authentic history brought to life.” For Old Calumet to work, the editorial argued, “painstaking research and dedication will be needed. Authenticity is paramount in any restoration, for without authenticity, there is nothing. While Calumet, returned to its original state, will also draw tourists, it is much more important that it be a completely valid example of the early iron mining towns.”⁹⁸ The project’s planners expressed a similar concern and likewise argued that a strictly authentic restoration would prevent this problem. Planners admitted that they were worried the plan could verge on a tourist trap, but argued that strict oversight of building design and “making certain that merchandise sold is in keeping with a goal of authenticity” would prevent this from happening.⁹⁹ At the earliest stages, the planners of the OCRP turned to authenticity as a means to justify their construction of a new town that recreated an older version of Calumet.

Yet the agreement that historical authenticity could prevent the OCRP from becoming a tourist trap left a key question unanswered: what did historical authenticity mean? Caught between a desire to maintain historical authenticity and the need to create a new Old Calumet out of 1970s Calumet, planners turned to several odd tactics in their quest for authenticity. The most obvious step in this process was removing certain objects from Calumet buildings that were not deemed authentic by 1920s standards. Some buildings would require substantial work, such as relocating a telephone booth, adding

⁹⁸ KDAL Television 3/610 Radio, “A Statement of Editorial Opinion.”

⁹⁹ Architects IV, “Restoration Plan for Old Calumet, Minnesota,” 34.

new awnings and windows, and removing “antennas, and . . . modern day signs.”¹⁰⁰ A note on a restoration plan includes the following instructions for restoring the town’s houses: “To restore the houses in Calumet they must: remove T.V. antenna; put wood trim over the windows; put wood siding and trim over the house; put wood boards over the concrete block on bottom.”¹⁰¹ The status of the town’s abandoned structures was more complicated, as they were perhaps the most authentic buildings, but their dilapidated state worked against the project’s overall goal of promoting tourism. Thus, in one version of the restoration plan, the author argues that planners should work to turn the town’s “dilapidated and abandoned” buildings into a recreation with “the look of the 1920s.”¹⁰² As these ambitious plans make clear, creating historical authenticity was an ongoing process that requires constant and difficult work in the present to make an imagined past accessible.

The realities of 1970s Calumet also forced planners to contemplate some recreations that had little or no connection to the town’s history. In an effort to reconstruct the town as it might have existed in the 1920s, planners suggested constructing entirely new buildings. Creating these “ghost buildings along Main Street” would mean constructing new buildings intended to be abandoned, since the originals had already been torn down.¹⁰³ In a plan that called for new buildings intended strictly to be

¹⁰⁰ “Calumet,” 3-4. It is unclear if planners researched whether Calumet had phone booths and antennas in the 1920s.

¹⁰¹ *Ibid.*, 8.

¹⁰² *Ibid.*, 3.

¹⁰³ *Ibid.*, 4.

abandoned and for refurbishing abandoned but still standing buildings to keep them from looking abandoned, one can sense the profoundly arbitrary nature of historical authenticity in Old Calumet. Although Calumet's historic district had only one church, planners argued that "if a church building considered . . . to be of historical significance becomes available, it could be moved to 'Old Calumet' from another range location." The tightrope of historical authenticity required planners to maintain an uneasy balance between authentic structures—such as church that had really existed in the past—and the demands of a tourist center, which included bringing that church to a new location to make it more accessible to potential tourists. From an on-the-ground perspective, maintaining historical authenticity was a decidedly arbitrary venture that deemed some difficult ventures authentic, such as moving an old church to the town from another site, while determining that concrete block foundations, which might well have existed in 1920s Calumet, were inauthentic. Historical authenticity, from this angle, did not so much resolve the contradictions inherent in constructing a new Old Calumet as it offered a unifying logic for the ultimately arbitrary decisions of planners.

From a financial standpoint, the creation of "Old Calumet" was daunting. The 1974 plan estimated overall costs at \$1.1 million, with even a limited "Phase I" costing \$568,400. The total valuation for the village of Calumet at the time was only \$242,000.¹⁰⁴ Planners were apparently unfazed that recreating the town as it once was would cost over four times the 1974 value of the town. As was demonstrated by several historical tourism projects on the Iron Range, returning to the past was often prohibitively expensive in the present.

¹⁰⁴ Architects IV, "Restoration Plan for Old Calumet, Minnesota," 37-38.

By the end of the 1970s, the IRRRB had committed to heritage tourism as a key component of its overall economic development plan, moving forward on numerous projects that sought to simultaneously celebrate the Iron Range's history of industrial iron mining while hopefully drawing tourists and the money they would spend in the region. Although several of these projects had difficulty meeting their financial goals, planners envisioned their continued success in the years to come.

The Steel Crisis of the Early 1980s

However, the many different historical tourism projects underway on the Iron Range by the late 1970s were upended in the early 1980s by the deep recession at the beginning of the decade and the steel crisis that decimated much of the U.S. steel industry. After decades at the center of the U.S. economy—and in the center of the public image of heavy industry—the steel industry collapsed during the early 1980s as the bloated and outmoded U.S. steel companies succumbed to global competition and changing technology.¹⁰⁵

The iron mines of northeast Minnesota were doubly affected by the steel crisis, suffering under the collapse of the steel corporations that owned the taconite mines and a growing stream of cheap foreign ore. Although the arrival of foreign iron ore into the American market began in the postwar decades, as described in chapter two, by the last

¹⁰⁵ For a few of the many books describing the 1980s steel crisis, see John P. Hoerr, *And the Wolf Finally Came: The Decline of the American Steel Industry* (Pittsburgh: University of Pittsburgh Press, 1988); William T. Hogan, *World Steel in the 1980s: A Case of Survival* (Lexington, MA: Lexington Books, 1983); Sherry Lee Linkon and John Russo, *Steeltown U.S.A.: Work and Memory in Youngstown* (Lawrence: University Press of Kansas, 2002); Jack Metzgar, *Striking Steel: Solidarity Remembered* (Philadelphia: Temple University Press, 2000); and Judith Stein, *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism* (Chapel Hill: University of North Carolina Press, 1998).

quarter of the twentieth century this stream had grown to a flood of iron ore that increasingly displaced the Mesabi range as a primary producer of raw material for the world's steel industry. South American iron ore had challenged Lake Superior ores for many decades in the middle of the twentieth century, but by the 1980s advances in shipping technology and the full development of Latin American mines meant that South American ore could undersell Mesabi ore even at the Great Lakes steel mills. For example, Brazilian ore was available to Great Lakes steel makers at twenty-percent lower prices than Mesabi ore by the early 1980s.¹⁰⁶ The rapid growth of foreign ore supplies and increasing global competition, a development that spanned the twentieth century, hit the Iron Range with full force by the early 1980s.

The steel crisis of the early 1980s was undoubtedly traumatic for many parts of the industrial United States, as cities such as Pittsburgh, Youngstown, Ohio, and Johnstown, Pennsylvania, drowned under waves of mill closures and wholesale community abandonment. The mining communities of the Iron Range, still predominantly one-industry towns despite several decades of economic development efforts, were similarly affected by the industry's collapse. Across the Iron Range in the 1980s, the steel crisis radically cut back work in the mines, drained the cities of population, and even caused many Iron Range residents to completely revise their attitudes toward the economic importance of the region within the national and world economy. The most direct effect of the steel crisis was to dramatically cut back work opportunities in the taconite mines. Between 1980 and 1988, the number of workers employed in mining on the Mesabi range dropped by almost 60 percent, from 14,000 to

¹⁰⁶ Steven Greenhouse, "An Ore Carrier's Troubled Odyssey," *New York Times*, July 14, 1985.

5,500.¹⁰⁷ By 1982, many Iron Range towns had staggeringly high unemployment levels. It was not uncommon to find 25 percent unemployment throughout the region and the mayor of Hibbing guessed that in many towns unemployment “might be as high as 50 to 60 percent.”¹⁰⁸ A labor survey in the Babbitt and Embarrass area in April 1983 revealed the depth of Iron Range joblessness amid the steel crisis. Only 26.1 percent of respondents were employed, while 35.8 percent of respondents identified themselves as “unemployed and seeking employment” and another 35.6 percent claimed to be “unemployed and not seeking employment.”¹⁰⁹ While these grim statistics suggested widespread unemployment, out of work miners responded differently to the crisis depending on their age and work experience. One miner who lost his job in 1985 said that there was a distinct age difference in response to the mine shutdown. He claimed that friends who began working in the mines right out of high school in the late 1950s and early 1960s refused to move on and hung around the area hoping to be called back. Those workers who were somewhat younger were more likely to move away, moving to places such as Utah, Colorado, and the Twin Cities.¹¹⁰

In the mining towns, the effects of the steel crisis soon rippled out of the mines to rock the social foundations of the communities. Overall, the recession of the early 1980s

¹⁰⁷ William E. Schmidt, “Heavy Industry Is Up, and So Is a Corner of Minnesota,” *New York Times*, November 20, 1988.

¹⁰⁸ William Serrin, “Recession Silences the Mines of the Minnesota Iron Range,” *New York Times*, August 7, 1982.

¹⁰⁹ Babbitt Embarrass Area Development Association, *Babbitt, Minnesota, Fact Book* (Babbitt, MN, 1984), 22; community files, IRRC.

¹¹⁰ Bill Cook oral history interview, Keewatin, MN, August 9, 1986; Unemployment on the Iron Range Oral History Collection, A-86-694, IRRC.

led to a 5.5 percent decline in the Iron Range’s population between 1980 and 1988.¹¹¹ It was hard to maintain the basic continuities of social life amid this type of deep economic disruption. One Iron Range resident remembers the trauma of being in school during the early 1980s, where “during the first year after Butler [Taconite] closed, kids would just disappear from . . . class, each moving with their family as their parents tried to find work.”¹¹² For those Iron Rangers who abandoned the region during the early 1980s, the deep nation-wide recession meant that they had few opportunities in other parts of the country. For example, a 1982 *New York Times* report on increasing homelessness throughout the U.S. featured the story of the Thom family from Ely, Minnesota. James Thom owned his own home and a gas station in Ely until the closing of several mines led to the loss of his business and home. Like a Joad family for the Reagan era, Thom, along with his wife and two children, were living in a school bus in Denver, hoping to make it to Tucson, Arizona, and the jobs they believed were available in the promised sunbelt.¹¹³ Records do not reveal the ultimate fate of the Thom family.

While not as dramatic as the Thom family’s plight, the stories of other miners laid off during the 1980s steel crisis reveal how the economic downturn cascaded through the everyday lives of Iron Range residents. After being laid off from Hanna Mining Company in the 1980s, Marsha Benolken did not know what else to do as a career. Someone at the unemployment office told her there was public money available to return

¹¹¹ Schmidt, “Heavy Industry Is Up, and So Is a Corner of Minnesota.”

¹¹² Brown, *Overburden*, 12.

¹¹³ Iver Peterson, “Homeless Crisscross U. S. Until Their Cars and Their Dreams Break Down,” *New York Times*, December 15, 1982.

to school, so she took up the offer and used assistance to return to community college. Although she had previously attended the community college for three weeks before dropping out, Benolken found that she now enjoyed school because it was “something different” than mining. After two quarters, though, she realized she did not want to pursue secretarial work so she quit again and applied to work at a small factory in Hibbing, where she hoped to run a forklift. Benolken also described the toll that the layoffs took on her family’s budget, which was built on two incomes: “It was hard. When you have two incomes, you have bills or whatever for two incomes and when you go to one income people say, ‘oh luckily he has a job,’ but with the house and the car payment there’s not much left over. Right away I thought of how are we going to make it? And you’re used to living a certain way, so you really have to adjust. It’s hard.” When asked specifically what she had to give up, Benolken said she began buying generic groceries and no longer went out. She and her family went camping instead. By the early 1980s, many families were relying on dual incomes to make ends meet and Benolken’s story highlights the growing precariousness of many American family budgets by the late twentieth century. Ultimately, Benolken believed it was unlikely that she would ever again have a job that paid as well as the mining job she lost. Knowing that the unions kept pay high, Benolken was resigned to a future of lower paid employment and diminished expectations.¹¹⁴

The steel crisis’ longest lasting legacy was a reevaluation of the Iron Range’s role in the United States and a post-industrial future. Many Iron Range residents interpreted

¹¹⁴ Marsha Benolken oral history interview, Nashwauk, MN, August 9, 1986; Unemployment on the Iron Range Oral History Collection, A-86-692, IRRRC.

the 1980s steel crisis as evidence that their work as industrial miners and the larger steel industry were no longer central to the nation's economy and culture. For a generation of residents who were raised on folk stories about the importance of the iron ore beneath the Iron Range, stories that inevitably focused on steel's role in winning both World Wars, the shutdowns came as a psychic whiplash. Perhaps the Iron Range was not at the heart of the American—and thus the world's—economy. And, if this was the case, then what was the area but a provincial outpost in the north woods filled with abandoned mines? Pat McGauley, director of the IRRRB in 1982, expressed how the steel crisis changed the attitude of many residents toward the future of the region: ““When things have been slow in the past, people have recognized that since the beginning of the ore mining, there have been good times and bad times, and that you just ride out the bad times. But people always thought, ‘We’ve got the ore. They’ve got to come here to get our ore.’ Now people have realized that there’s iron ore all over the world—better ore, cheaper ore . . . They’re aware that there are many things beyond our control, and that they don’t have to come for our ore.””¹¹⁵ For laid off miner Bill Cook, recognition of the Iron Range’s precarious future was expressed as a desire to see his children avoid mine work. Asked what he would tell his children if they said they wanted to work in the iron mines, Cook replied, “I don’t think it’s a good idea. Hopefully my kids will have enough intelligence to get a degree first.”¹¹⁶ The steel crisis of the 1980s devastated the Iron Range’s economy and further contributed to the sense among many that the region was an anachronistic holdout from a quickly vanishing industry past. Efforts to promote

¹¹⁵ D. J. Tice, “The Thing on the Hill,” *Corporate Report Minnesota*, October 1982, 66.

¹¹⁶ Cook, oral history interview.

industrial heritage during this era were caught in a bind: by promoting heritage they often fueled the belief that the Iron Range belonged in the realm of history, but without heritage tourism, there were few routes for economic development amid the steel crisis.

Ironworld U.S.A. and the Ethnic Revival

With the 1980s steel crisis focusing the attention of Iron Range politicians and policy officials on economic relief and development, the early efforts to promote heritage tourism, including the Iron Range Interpretative Center, were quickly folded into an urgent regional economic development plan that put increased emphasis and money toward any project that might conceivably bring jobs to the Iron Range. As a former IRRRB member put it, this “second phase of tourism development” on the Iron Range “abandoned all pretext of a program based on history, culture and education. The main emphasis was on jobs.” Given the urgent need for government stimulus in the area, tourism projects undertaken in the early 1980s were built with haste and “precluded the time consuming process of applying for federal, state and foundation money.”¹¹⁷ Additionally, the new push for rapid public spending was spurred by the priorities of Governor Rudy Perpich, a dentist from Hibbing who made Iron Range relief a centerpiece of his administration.¹¹⁸ Several policy makers felt that the push for rapid public spending on Iron Range tourism and public relief projects meant that the IRRRB

¹¹⁷ Dana Miller, “Public Policy and Economic Development: The Iron Range Experience,” paper presented at the Minnesota Historical Society Annual Meeting (Minneapolis, 1990).

¹¹⁸ Betty Wilson, *Rudy! The People’s Governor: The Life and Times of Rudy Perpich* (Minneapolis, MN: Nodin, 2005); Paul Delaney, “Rudy Perpich: From the ‘Dumps’ to Governor,” *New York Times*, December 7, 1976.

largely ignored planning analysis in formulating regional development priorities in the early 1980s.¹¹⁹ Although heritage tourism projects on the Iron Range had always been asked to serve two masters, history and economic development, the flood of public money in response to the steel crisis meant that heritage tourism was being asked to do more economic development work than ever on the Iron Range. These dual masters remained in conflict throughout the decade.

The major development resulting from the increased public spending on heritage tourism in the 1980s was a significant expansion of the Iron Range Interpretative Center and a new focus on white ethnicity in the region's heritage sites. Even though it was only seven years old at the time, the Iron Range Interpretative Center was remodeled and expanded in 1985 and 1986 as part of a seven million dollar project intended to make the Center "one of the most modern, dynamic and popular tourist attractions in the United States." Along with this optimistic rhetoric, the expanded Center was intended to bring many more tourists to the Iron Range. After the expansion, IRRRB officials hoped that the Center's annual attendance would reach 350,000 visitors. The figure was optimistic given that only 750,000 visitors had come to the Center over its previous seven years.¹²⁰ Renamed Ironworld U.S.A., the updated Center reopened in 1986.¹²¹ Advertisements accompanying the reopening invited viewers to "Imagine Ironworld" and see where "a

¹¹⁹ Margaret E. Dewar, "Development Analysis Confronts Politics: Industrial Policy on Minnesota's Iron Range," *Journal of the American Planning Association* 52, no. 3 (1986): 291-92.

¹²⁰ State of Minnesota, Iron Range Resources and Rehabilitation Board, "Biennial Report, 1982-1984," St. Paul, 1984.

¹²¹ State of Minnesota, Iron Range Resources and Rehabilitation Board, "Biennial Report, 1984-1986," St. Paul, 1986, 7.

phenomenon occurs.”¹²² In many ways, the expanded museum raised the stakes for using industrial heritage to promote economic development on the Iron Range. Officials dedicated even more money to the project in the hopes that an enlarged museum might succeed where it had struggled before or, more cynically, admitting that a museum was as good a place as any to spend public money amid the steel crisis.

In addition to enlarging the museum, the expansion of heritage spending on the Iron Range during the 1980s marked a new emphasis on ethnicity as the focal point of Iron Range history. By celebrating white ethnicity on the Iron Range, Ironworld was following a broad trend in American culture at the time that scholars have labeled the ethnic revival. As historian Matthew Frye Jacobson argues, post-1960s American culture was awash in the rhetoric and symbolism of white ethnicity. The search for “roots,” then, offers another example of how the idea of a rooted heritage permeated various aspects of American life in the last decades of the twentieth century.¹²³ The Iron Range Interpretative Center’s focus on ethnicity and ethnic heritage expanded in the early 1980s when the Center opened an Ethnic Arts Center. The Ethnic Arts Center was a 7,000 square foot space for demonstrating ethnic dancing, crafts, and artifacts.¹²⁴

The focus on white ethnicity was also institutionalized through school curriculum. Curriculum suggestions from the era reveal how ethnicity was emphasized as a key component of personal identity across the Iron Range, beginning in the classroom. Many

¹²² A copy of this advertisement is available in the Ironworld folder, IRRC.

¹²³ Matthew Frye Jacobson, *Roots Too: White Ethnic Revival in Post-Civil Rights America* (Cambridge, MA: Harvard University Press, 2006).

¹²⁴ State of Minnesota, Iron Range Resources and Rehabilitation Board, “Biennial Report, 1980-1982,” St. Paul, 1982, 11.

of these activities predated the steel crisis, but by the 1980s they were important components in a broader program that foregrounded ethnicity as central to life on the Iron Range. For example, a guide for Iron Range teachers urged them to teach ethnic studies in the classroom and “help students to be knowledgeable and secure in their own ethnic identities.” Ethnic studies curriculum should help to “continue interest in maintaining the unique characteristics of the various ethnic cultures as they are manifested in the music, art, drama, food, clothing, architecture, organizations, and recreation of the area.” Ethnic identity was seen as the perfect vehicle to connect students’ classroom learning with their parents’ lives. In one recommended teaching activity, Iron Range parents were sent a sheet where they were to indicate their child’s ethnic heritage. Once parents identified their children’s ethnicity via the take home checklist, teachers were urged to display the class’s ethnicity as an ethnic map: “When you have received the forms, make a table showing the ethnic groups represented in your class. Put the table on butcher paper, newsprint, or on the board.” Then, “list children’s names and, with different colored string or yarn, tie name to large map of country of origin;” and “for each ethnic group, list contribution made to Iron Range (famous people, cultural traits, music, organizations, etc.). Help them to formulate in their own words the generalization at the beginning of this activity.”¹²⁵ Ethnicity, then, was not only institutionalized in cultural venues such as Ironworld but was also performed in the daily routines of Iron Range residents at the end of the twentieth century.

Among the most prominent celebrations of ethnicity on the Iron Range during this

¹²⁵ Dean A. Hendrickson, “Iron Range Ethnic Heritage Studies,” Iron Range Historical Society and University of Minnesota, Duluth, College of Education, Chisholm, MN, 1970, 38, 5, 21-22. Available at IRRC.

period were the ethnic festivals held at Ironworld. Like many small towns across the nation, the Iron Range had a long tradition of vibrant communal celebrations, including festive Fourth of July events in many towns.¹²⁶ By the 1970s and 1980s, however, a new kind of festival appeared on the Iron Range that sprang less from communal celebration and more from the imperatives of planned heritage tourism. In 1978, the Iron Range Interpretative Center held the first Minnesota Ethnic Days celebration. By 1980, over 40,000 visitors attended the twelve-day ethnic festival. The celebration was organized around various ethnicities, with each ethnicity featured on a different day. During the day, five elements of each ethnicity were featured: “performance of music and dance,” “demonstration of ethnic food preparation and ethnic crafts,” “displays of the finery of each group,” “films of the native homeland,” and “opportunities to taste the various ethnic foods.”¹²⁷ The Minnesota Ethnic Days celebration highlights how the ethnic revival on the Iron Range during the 1970s and 1980s emerged mainly from the needs of heritage tourism promoters eager to play up any distinguishing feature of the region in its bid for tourists. As performed during the celebration, ethnicity was largely an arbitrary construction, drawing on those parts of the immigrant experience that could be most easily marketed to tourists. Hence by the early 1980s the Iron Range Interpretative Center began hosting the Iron Range Country Hoedown, an “afternoon of entertainment [that] presents the traditions, music and dance of the Ozarks.”¹²⁸ Connecting the Iron Range to

¹²⁶ Mary Lou Nemanic, *One Day for Democracy: Independence Day and the Americanization of Iron Range Immigrants* (Athens: Ohio University Press, 2007).

¹²⁷ IRRRB, “Biennial Report, 1978-1980,” 6, 8.

¹²⁸ IRRRB, “Biennial Report, 1980-1982,” 13.

the Ozarks was stretch, but a “hoedown” had enough of an appropriate veneer of rural authenticity that it could attract tourists.

Food and ethnic cuisine also fit the pattern of authentic ethnic traditions and soon became central to the ethnic revival on the Iron Range. In 1981, volunteers at the Iron Range Interpretative Center published *The Old Country Cookbook*, bringing together many ethnic recipes from the Iron Range and also featuring historic photos of the region.¹²⁹ Ultimately, however, there was little depth to this emphasis on ethnic food at Ironworld or across the Iron Range. Visitors and tourists gained little understanding of how cuisines fit into social and cultural networks or why many immigrants felt it was so important to retain food traditions. Instead, as photographers Peter Goin and Elizabeth Raymond argue, Ironworld “maps the Mesabi as a kind of historical food court, where immigrant cultures are manifested as distinctive cuisines.”¹³⁰ The turn toward white ethnicity as a source of heritage during the 1980s was another illustration of the complexities involved in promoting heritage as economic development.

Promoting white ethnicity at Ironworld did not dramatically change Ironworld’s financial problems. Throughout the 1980s, outside analysts criticized the museum and its underlying approach to economic development through heritage. A 1980 consultant’s report challenged the IRRRB’s strategy, pursued since the 1960s, of developing an Iron Range tourism industry based on pass-through visitors. The report argued that visitors rarely had extra time on their vacations to stop in the Iron Range and limited pass-through stops brought little economic benefit. The report went even further, arguing, “the

¹²⁹ Ibid.

¹³⁰ Goin and Raymond, “Recycled Landscapes,” 271.

mistakes made by the IRRRB—and by most others that have tried to tie history in with tourism—is in assuming that in promoting history, one promotes tourism.”¹³¹ Critiques such as these challenged not just Ironworld, but the entire logic of heritage tourism on the Iron Range.

These tensions have not been adequately resolved at Ironworld and, arguably, have not been tackled across the Iron Range. Was Ironworld a museum meant to teach visitors about the past or was it, as its Director said in 1980, “not a museum” but “a communications tool.”¹³² The dual imperatives of emphasizing history and promoting economic development through tourism remain in tension throughout the region even as it has become increasingly clear that heritage tourism cannot produce the broad economic gains its promoters initially touted. IRRRB officials nonetheless continued to promote Iron Range tourism throughout the 1980s. For example, they developed a sophisticated advertising campaign to bolster Iron Range cultural programs such as Ironworld. Titled “Iron Range Country,” the advertising campaign featured billboards, radio advertisements, and print advertisements urging tourists throughout the Twin Cities, Iowa, and Chicago to “Come North, Visit Iron Range Country” and “Do the Range . . . We dare you to see it all!”¹³³ Ironworld remained a focus for these tensions about tourism well into the 1990s and the first years of the twenty-first century. The museum turned toward corporate funding in the 1990s as public financing for the facility was cut back. In

¹³¹ MRI, *Tourism Development Components of the Iron Range Interpretative Program*, 34-36, 20.

¹³² Carol R. Sheppard, “Interpretative Center Preserves Iron Range Heritage,” *Mining Congress Journal*, September 1980, 27.

¹³³ IRRRB, “Biennial Report, 1980-1982,” 21.

an ironic twist on the 1970s battles over allowing corporate funding of the museum, Iron Range businesses were asked to contribute \$2,500 to join Ironworld's "Heritage Corporate Club."¹³⁴ After a comprehensive review of the facility in 1994, the IRRRB recommended that Ironworld be turned over to a private firm in the Twin Cities to manage for the 1994 season before announcing any longer term plans. A Twin Cities company was hired to manage the facility and charged with "increasing revenue and decreasing operational costs through cost-effective management."¹³⁵ In other words, the facility was privatized. Perhaps the saddest setback in Ironworld's saga came when the facility almost collapsed into the very ground it was built to celebrate. In 2004, Ironworld had to be closed because of extensive foundation settling due to "mine-induced subsidence." Built on top of abandoned underground mine pits, many unmarked, the entire facility risked falling into the ground. The museum was reopened in 2006 only after "structural reinforcements."¹³⁶ Sinking into the geology it celebrated, Ironworld remains a cautionary tale about the use of history to promote economic development.

Conclusion

When asked in 2000 why he would not leave the Iron Range despite a lifetime of hard times, USWA Local 4108 president Jerry Fallos said, "this is our life. This is our heritage."¹³⁷ Fallos's comment echoed the sentiments of many workers across the Iron

¹³⁴ J. T. Gehrke, "Ironworld Pursuing Corporate Sponsorship," *Hibbing Daily Tribune*, May 7, 1998.

¹³⁵ State of Minnesota, Iron Range Resources and Rehabilitation Board, "1993-1994 Biennial Report," Eveleth, 1994, 4, 24.

¹³⁶ State of Minnesota, Iron Range Resources, "Biennial Report, 2005-2006," Eveleth, 2006, 13.

Range and throughout post-industrial America at the dawn of the twenty first century. Industry and industrial labor was important in these stories not because it could contribute to a vital future, but because its long history had culminated in a rich patina of heritage—the sum total of lifetimes of hard work and tough towns build around the mines and mills. While the sentiment behind these stories is certainly real, this invocation of heritage should give us pause. Fallos and other miners on the Iron Range were only one or two generations removed from the global migrations that brought their grandparents or parents to the woods around Lake Superior. The emphasis on heritage obscures the region’s relatively short history and emphasizes a deep rootedness in place that, frankly, is not supported by the area’s history. As this chapter has argued, heritage on the Iron Range is both omnipresent and constructed. That is, the constant talk about heritage should not obscure the term’s creation in the imperatives—financial and emotional—of postwar planners struggling to balance post-mining development with the fears and dreams of industrial miners anxious about losing their position at the center of American life the twentieth century. This story is relevant for a broad swath of post-industrial America. Heritage, especially the broad-shouldered, social realist industrial heritage common throughout the Rust Belt, was not a natural or inevitable result of history, but rather was a contingent and specific response to the political, cultural, and economic conditions of deindustrializing regions in the post-World War II decades.

While it would be easy to dismiss the rhetoric of heritage as a harmless way of remembering American industry in its twilight, the focus on heritage has also shaped the political response to deindustrialization in ways that proved deeply problematic.

¹³⁷ Dante Chinni, “An Uncertain Future in Iron Country,” *Christian Science Monitor*, November 21, 2000.

Specifically, industrial heritage as practiced in places such as Ironworld emphasized the local industrial community as the logical and natural site of political activity. By foregrounding the local community, however, heritage cut off the possibility of alternative languages and alternative collectivities that might have proven far more effective at countering or at least ameliorating the worst effects of deindustrialization. The emphasis on heritage as a tool for negotiating tensions in postindustrial America problematically foregrounds the local community at the expense of broader trans-local and transnational affiliations. This is a particularly difficult issue for industrial workers whipsawed by changes in the global economy during the late twentieth century. The problem for many industrial workers was not that they had insufficient communities—indeed the rich communities that supported industrial work have often lived on well past the industries they once served—but rather that many workers did not have a language appropriate for the scale of problems confronting them. As historian Jefferson Cowie describes this dilemma, “the pull of place and community has been a powerful force in labor relations, but the limitations of local identity also create constraints on a more expansive notion of working-class politics in an era in which capital transcends boundaries with complete ease.”¹³⁸ Working in a similar vein, historian Steven High has recently argued that labor historians are deeply complicit in these narratives of working class localism. Reviewing several books on the history of deindustrialization, High argues that the “capital versus community” stories of deindustrialization “have left little

¹³⁸ Jefferson Cowie, *Capital Moves: RCA's Seventy-Year Quest for Cheap Labor* (Ithaca, NY: Cornell University Press, 1999), 182.

room for larger trans-local modes of identification.”¹³⁹ In other words, the rich social worlds of working class communities—an emphasis of historians and activists for many decades—may have foreclosed alternative lexicons for understanding the nature of global capital at the beginning of the twenty first century.

Of course, the emphasis on community as the fundamental terrain for political action and social life was—and is—not limited to historians of deindustrialization. Throughout the last decades of the twentieth century, community was enshrined as the building block of public life in the United States and many other nations. Historian Thomas Sugrue locates the particular trends in political history that led to the emphasis on community, noting political pressures from the left and the right in the U. S. since 1970 that emphasized community. As Sugrue describes, since the 1970s liberal and conservative political activists have supported a devolution of political power from the federal government to the state and local level. From the right, politicians attacking so-called big government and encouraging market-based solutions to public problems promoted a thoroughgoing localism. On the left, the push for localism found its voice in calls for community solutions and “empowerment” rather than expertise. Sugrue notes that these political ideologies were matched by public policies that returned formerly

¹³⁹ Steven High, “Capital and Community Reconsidered: The Politics and Meaning of Deindustrialization,” *Labour/Le Travail* 55 (2005): 186. Recently, scholars in many different fields have critiqued the value and usefulness of community as a category of analysis. For one sharp critique, see Miranda Joseph, *Against the Romance of Community* (Minneapolis: University of Minnesota Press, 2002). Sociologist John Urry points out how “geographically propinquitous communities based on more or less face-to-face social interactions” are but one way of categorizing human communities. John Urry, *Mobilities* (Cambridge: Polity, 2007). Historian Becky Nicolaides provocatively argues that postwar suburbanization was responsible for recreating community as a negative concept in the 1960s and beyond, claiming that while community contained “social good” in the pre-World War II era, postwar suburbanization caused a “destructive redefinition” of the concept. Becky M. Nicolaides, “How Hell Moved from the City to the Suburbs: Urban Scholars and Changing Perceptions of Authentic Community,” in *The New Suburban History*, ed. Kevin M. Kruse and Thomas J. Sugrue (Chicago: University of Chicago Press, 2006), 97.

federal powers to state and local control. As he argues, “from Nixon to Clinton, the federal government restructured federalism by devolving power to the states and localities.”¹⁴⁰ Sociologist Nikolas Rose expands on Sugrue’s political history, suggesting that community was not just an important political ideology at the end of the twentieth century but the defining pole of public life around which political subjectivities orbited by the end of the twentieth century.¹⁴¹

For a specific example of how the focus on a rooted, local ethnic identity conflicted with other ways of understanding the Iron Range, we might consider the example of musician Ron E. Lyght. An African American country musician from Duluth who settled in Eveleth, Lyght was in many ways the anti-Bob Dylan. Where Dylan fled the Iron Range at a young age and re-created a mythical past to distance himself from his provincial roots, Lyght embraced the Iron Range. After settling in Eveleth, Lyght even recorded an album of songs honoring the area titled *I’m from ‘da Range*. Yet as an African American in an almost entirely white region, Lyght was destined to remain an outsider in the insular Iron Range towns. During a 1984 oral history interview, Lyght noted the irony of Iron Rangers simultaneously celebrating their own immigrant roots while remaining insular and hostile to outsiders. The white residents of the Iron Range, Lyght noted, forgot that everyone who came to work in the area came from somewhere else. It was hard to claim an identity rooted in place in such a transient community and

¹⁴⁰ Thomas J. Sugrue, “All Politics is Local: The Persistence of Localism in Twentieth-Century America,” in *The Democratic Experiment: New Directions in American Political History*, ed. Meg Jacobs, William J. Novak, and Julian E. Zelizer (Princeton, NJ: Princeton University Press, 2003), 317.

¹⁴¹ Nikolas Rose, *Powers of Freedom: Reframing Political Thought* (Cambridge: Cambridge University Press, 1999), 167-196.

Lyght's argument with the oral history interviewer suggests how the emphasis on the Iron Range as a local ethnic community built tensions into relationships that did not easily fit within this pattern:

Ron Lyght [RL]: They [Iron Rangers] forgot that there's another world. And now because of the layoffs and everything else, now they're forced to face the reality that now I gotta go someplace else. Now how's the shoe gonna fit? The same shoe you wore when people had to come here for a job, which they forgot about too. It didn't start with these people here. All these people that are here today weren't here then. When I was a kid half these people that are here today weren't even around, they come from someplace else and that's the thing they forgot . . . so what are mistreating this guy here because he has to come from New York to get a job. Don't mistreat him, let him work. They ain't taking your jobs, those jobs don't belong to you. Those jobs belong to whomsoever U.S. Steel or whomsoever any of the mining companies decide to give them to.

Interviewer [I]: You have to remember, though, this is a real ethnic oriented area, a close-knit community. There aren't a lot of immigrants left who came from the old country and settled here, but they think, and maybe it's hard for you to understand, but they think that they are more deserving to this piece of land than someone who just came in.

RL: Why?

I: Well, I don't know, I think it's because of their ethnicity.

RL: What's that got to do with anything? You come from Yugoslavia, you come from someplace else and you're proud of that heritage . . .

I: 'Cause they settled the land, I think.

RL: They didn't start the land, the land was here before you came. It belongs to the Indians, that's who it belongs to, as far as people. You didn't think twice about coming and taking it from the Indian.¹⁴²

¹⁴² Ron E. Lyght, oral history interview, Eveleth, MN, 1984: IRRRC. As labor historian Jefferson Cowie has demonstrated in several sites in the U.S. and Mexico, one common theme in industrial history is a gradually building sense among workers that they own or deserve the jobs and industry in their towns. Deindustrialization and capital flight are so demoralizing in part because they puncture this incorrect assumption about international corporations' commitment to any one locale. Cowie, *Capital Moves*. Additionally, my against the grain interpretation of this oral history recording is informed by the rich literature on oral history interpretation. For excellent examples, see Alessandro Portelli, *The Strange Death of Luigi Trastulli, and Other Stories: Form and Meaning in Oral History* (Albany: SUNY Press, 1991); and

As Ron Lyght's argument with the oral history interviewer demonstrates, the very success of the Iron Range's ethnic community discourse cut off alternative stories of connection on the Iron Range.

Another consequence of the emphasis on community as the site of authentic working-class experience was the absence of the nation in debates about deindustrialization. Since the political rhetoric of community in industrial towns was so prevalent, many observers interpreted American mine and mill shutdown stories through a purely local lens. The overall narrative framing of deindustrialization, as Steven High has argued, became a "capital versus community" story that pitted ruthless international corporations against rooted working class communities.¹⁴³ Ironically, this community-based framework, favored by sympathetic journalists and academics, often ignored the national language used by laid off workers to describe the causes of their plight.¹⁴⁴ Reflecting on the causes of the 1980s steel crisis, for example, one Iron Range steelworker and labor activist pinned the blame for the shutdowns on the federal government's failure to help industry: "It's not just a depression in the steel industry. From here to Chicago to Gary to Detroit to Cleveland to Pittsburgh to Buffalo, the major industrial power base in this country is in deep trouble. You can go through small

Daniel James, *Doña Maria's Story: Life History, Memory, and Political Identity* (Durham, NC: Duke University Press, 2000).

¹⁴³ The key text in establishing this framework is Barry Bluestone and Bennett Harrison, *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry* (New York: Basic Books, 1982). For a review of Bluestone and Harrison's role in fermenting a broad public concern with deindustrialization in the early 1980s, see Jefferson Cowie and Joseph Heathcott, "Introduction: The Meanings of Deindustrialization," in *Beyond the Ruins: The Meanings of Deindustrialization*, ed. Jefferson Cowie and Joseph Heathcott (Ithaca, NY: Cornell University Press, 2003).

¹⁴⁴ Steven High, "Capital and Community Reconsidered."

recessions and the normal highs and lows, but you don't have this kind of problem unless the government is being unresponsive. You don't make steel unless you're selling cars and refrigerators and building bridges, and with the interest rates we've had, we're not doing any of those things."¹⁴⁵ Rhetoric emphasizing industrial workers' contributions to the nation should not be surprising given the centrality of steel, and heavy industry in general, to visions of the modern nation throughout the twentieth century. Particularly in the years after World War II, industrial workers such as the Iron Range's miners ascribed great national importance to their work, especially their contributions to the military.¹⁴⁶ The distance between the national rhetoric expressed by many laid off workers and the local, community-focused emphasis of many sympathetic observers perhaps goes some ways toward making sense of the simultaneous embrace of deeply patriotic politics by many former industrial workers and acknowledgement of the harshly negative economic reality they faced in post-industrial America.

The consequences of community-focused heritage were not just political, but also included economic effects as well. By the 1980s, business observers were arguing that the cultivation of close-knit community ties on the Iron Range was hobbling the region's ability to think creatively about business opportunities beyond the Iron Range. As a 1982 business report described this problem, "there are at least 900 northeastern Minnesota businesses that sell products or services to the taconite industry. Presumably, a good

¹⁴⁵ Tice, "The Thing on the Hill," 61.

¹⁴⁶ Dudley, *The End of the Line*, 137-39. Industrial miners in Europe also expressed arguments about the importance of their jobs to the nation. In France, for example, Donald Reid demonstrates how coal miners after World War II always framed local and regional problems in the context of the broader national economy. When the coal industry in each country ran into trouble in the postwar decades, it was nationalized. Donald Reid, *The Miners of Decazeville: A Genealogy of Deindustrialization* (Cambridge, MA: Harvard University Press, 1985), 8, 180.

many of those products and services would be of use to mining and heavy-manufacturing operations around the world. What the arrowhead seems to have lacked is entrepreneurs with the daring and desire to pursue those broader markets.” By focusing its attention inward, the reporter claimed, the Iron Range had lost the ability to see opportunities in the world outside the area. The Iron Range’s history had created what the reporter called an “us-versus-them view of the world,” conditioned by decades of labor strife and isolation. Although working class residents of the Iron Range had won important battles over the decades, “their battles have taken place within strict boundaries—the workers against the companies, the colony against its heartless king.”¹⁴⁷

Finally, the creation and use of heritage on the post-industrial Iron Range raises difficult questions for historians and heritage professionals. As this chapter has suggested, the turn toward heritage as an economic development strategy on the Iron Range in the 1970s and 1980s sprang from the best intentions of many different planners and heritage professionals. Heritage seemed to offer the best possible solution to the Iron Range’s thorny problems at the time: a declining mining industry, isolation from population centers, and a population that was ambivalent about turning their home into a tourist destination. Given these constraints, perhaps heritage was the least bad option available.

But, no matter the alternatives, heritage was not without consequences. By promoting the Iron Range’s industrial history, heritage also made the move away from industry seem natural and inevitable. The concerns of miners—both active and former—were moved to the realm of nostalgia, where they could be safely handled in a way that

¹⁴⁷ Tice, “The Thing on the Hill (Part II),” 98-99.

had little effect on future plans for the area. In short, heritage depoliticized industrial decline on the Iron Range. Thus, heritage on the Iron Range—and elsewhere, I would argue—offers a cautionary tale about the unintended but nonetheless very real consequences that follow from certain attempts to promote history. Historians, both academic and public, and heritage professionals would be wise to think deeply about how their attention to and interest in the past affects life in the present.

CONCLUSION

As noted in the introduction, this study of an industrial region battling against economic decline in the twentieth century addresses four main points significant for historians of the modern United States. First, the Iron Range's struggle with decline offers a useful vantage point for understanding the interconnected role of deindustrialization and liberalism in the late twentieth century. On the Iron Range, politicians at the local, state, and federal level committed themselves to active government involvement in the economic health of the region and especially the iron mining industry. Through high wage, unionized mining jobs, liberal politicians expected that Iron Range residents would continue to support their ambitious plans for active government involvement in social and economic life. Deindustrialization undercut this alliance in a way that liberals and Iron Range residents did not anticipate. As globalization and automation reshaped the iron mining industry, liberal politicians found that their policy tool kits contained few remedies for long-term industrial decline. They had surprisingly few answers for residents of the Iron Range facing shutdowns and layoffs. Conversely, deindustrialization revealed the pragmatic core of many working class Americans' commitment to liberalism. Iron Range miners supported Minnesota's DFL liberals precisely because of the economic benefits liberalism offered to them. Industrial liberalism, it turned out, was built on a foundation of industrial growth. When that growth ended on the Iron Range, politicians and residents worked diligently to

maintain their previous political patterns, but the alliance of industrial liberalism gradually eroded as the twentieth century wore on and industrial decline continued. The Iron Range has not followed the now familiar pattern of industrial workers moving from left to right in the late twentieth century, but the politics of the Iron Range suggest a more complicated transition away from industrial liberalism, even in those regions most deeply committed to it.

The Iron Range's response to industrial decline also suggests how the predominant policy response to deindustrialization, economic development policy, was enacted as a local response to national and global problems in the twentieth century. Through the IRRRB, the Iron Range and the state of Minnesota made a concerted effort to avoid the fate of many other industrial regions suffering from decline in the postwar era. In many respects, the Iron Range was unusually successful in fending off the blight of deindustrialization. It retained jobs—often at great public cost—and avoided the fate that befell smaller cities dependent on the steel industry such as Youngstown, Ohio, and Johnstown, Pennsylvania. The Iron Range thus offers an example of the possibilities inherent in vigorous economic development policy during the postwar era. If local and state governments carefully managed their resources and spent enough public money, it was indeed possible to keep industrial jobs alive and fend off the worst effects of deindustrialization. The Iron Range's success with economic development, however, also illustrates the limits of local economic development efforts in responding to what was ultimately a global phenomenon. Despite the earnest efforts of economic development professionals on the Iron Range, it was ultimately impossible to reverse the iron mining industry's increasing automation and globalization during the second half of the twentieth

century.

It is impossible to separate deindustrialization and technological change in the postwar history of the Iron Range. More than any other factor, technical innovation in the mining industry displaced jobs throughout the twentieth century. Work was increasingly shifted from human laborers to machines of increasing sophistication in the process of automation. The taconite industry offers the starkest example of how automation—and technological change in general—was a double-edged sword for the Iron Range. On the one hand, the taconite industry opened up vast new deposits for use as iron ore, likely prolonging the life of the Iron Range's mineral deposits by many years. On the other hand, the taconite industry could only become a reality by deconstructing the existing natural ore mining industry. Through technical innovation and the rhetoric of depletion, Edward W. Davis simultaneously constructed the taconite industry and dismantled the natural ore mining business. Touting taconite as a technological miracle to save a depressed Iron Range, scientists and engineers often ignored the destructive work that accompanied their creation. In a larger sense, both industrial regions and labor historians have yet to grapple with the complicated implications of technological change. In much economic development literature, for example, there is still hope that “high-tech” miracles will revive sagging rural economies or that new communication technologies will erase inequalities of distance and capital. Additionally, historians of labor and industry have often downplayed the central role of technological change and automation in reorganizing patterns of work throughout the twentieth century.

Finally, the Iron Range's attempt to promote cultural tourism and particularly heritage travel based on mining's history raises thorny questions about the role of history

and heritage in depoliticizing industrial change. On the Iron Range, history became a vehicle for moving deindustrialization out of the realm of politics and into an apolitical realm of nostalgia. In museums such as Ironworld, mining's history was simultaneously celebrated and foreclosed as a possible future for the Iron Range. The heritage professionals and historians who created this romanticized story of the Iron Range were not malicious. They were usually driven by a desire to honor and celebrate the lives of hard-working immigrants and the rich communities they created in a harsh landscape. But historical interpretations have consequences and one consequence of their interpretation was to depoliticize industrial change in northeast Minnesota.

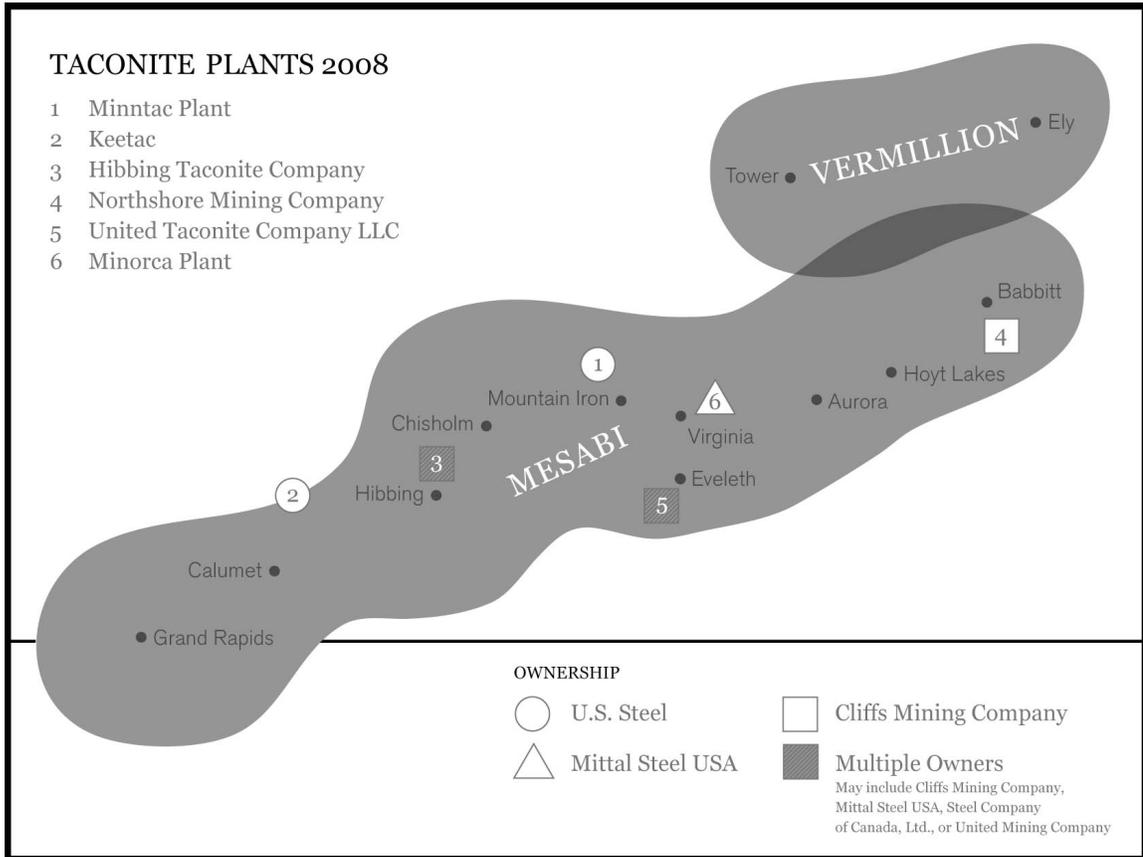


Figure 3. Iron Range Taconite Plants, 2008 (Source: *Duluth News Tribune*)

The Iron Range since 2000

The process of economic decline and the fight against it on the Iron Range did not stop in the early twenty-first century. Throughout the first decade of the century, the Iron Range swung wildly between despair and optimistic predictions of growth. While these experiences were well known to industrial regions by the early 2000s, the quickening pace of economic change on the Iron Range suggests that globalization has increased economic volatility in rural America and illustrates how local economies now respond almost instantly to global developments.

The first years of the new century began with yet another economic crisis on the Iron Range. In May 2000, a major taconite producer, LTV, announced that it would be closing its Minnesota mining operations because, according to company publicity, it “was no longer able to produce taconite pellets of competitive quality or cost.” Over one hundred LTV employees were immediately laid off and the remaining 1,200 workers were told they would lose their jobs gradually as operations wound down.¹ LTV president Richard Hipple insisted that the closing resulted from impersonal market forces, not the work of Iron Range miners. “This is not a people issue,” Hipple said, “nobody is at fault.”² It was widely acknowledged that the closing would devastate the nearby town of Hoyt Lakes, which depended on the mine for work. By 2000, however, state officials seemed to acknowledge that mine closings were simply the unfortunate cost of doing business in the global steel industry. There was seemingly little that state government could do beyond offering temporary assistance to laid-off miners. Minnesota governor Jesse Ventura was sympathetic to the miners’ plight, but ultimately believed such closings were just “the negative part of doing business.”³ The LTV closing, which closely followed the growing economy of the 1990s, was a reminder for many on the Iron Range that even prosperous times could be quickly undercut by shutdowns and layoffs.

¹ “Company News: LTV to Close Mining Operation in Minnesota,” *New York Times*, May 25, 2000.

² While it is impossible to know whether Hipple was sincere or not in his statement, by this time business leaders had developed a sophisticated rhetoric intended to ease the fallout from mass layoffs. Corporate executives frequently downplayed their personal decisions in making layoffs to contain the anger and despair of workers and industrial communities facing mass job loss. See the excellent analysis of this issue in Louis Uchitelle, *The Disposable American: Layoffs and Their Consequences* (New York: Alfred A. Knopf, 2006).

³ “LTV Corp. Closing Taconite Mine in Minnesota,” *Associated Press*, May 24, 2000, www.lexisnexis.com.

Once the LTV crisis passed, however, the rest of the decade was a good one for the U.S. steel industry and for the Iron Range. With prices for natural resources booming and newly emergent industrial powers such as China and India hungry for raw materials, the Iron Range rode a new wave of globalization in the steel industry. Business analysts noted that the early 2000s were a period of growth for the U.S. steel industry, largely caused by consolidation in the industry, first among the integrated producers, then among raw material suppliers and mini mills.⁴ The Iron Range profited handsomely from this boom with several older mines reopening or expanding amid the boom. Eveleth's Evtac taconite mine reopened in 2003 when Cleveland-based mining conglomerate Cleveland-Cliffs and Laiwu Steel of China formed a new joint company, United Taconite LLC, to manage the mine. Laiwu Steel took 30 percent ownership over the Eveleth mine as part of a broad attempt by Chinese steel firms to meet the quickly rising demand for iron ore in China.⁵ Iron Range miners often had mixed feelings about the expansion of mining during the 2000s. Miner Bill Matos, for example, described the Evtac reopening as "bittersweet." When United Taconite had previously closed the mine, Matos was only two months away from retirement with a full pension. He now needed to work another five years at the reopened plant to reach retirement.⁶ Reopening formerly shuttered mines offered new jobs, but these jobs could not overcome several decades of decline and the lost wages and time of deindustrialization.

⁴ Jonathan Katz, "Where Does Steel Go Now?" *Business Week*, February 2008, 43.

⁵ Alice Cantwell, "Court OKs Evtac Mining Sale," *Daily Deal* (New York), November 26, 2003, www.lexisnexis.com

The boom of the early 2000s made clear that the Iron Range's economy was completely enmeshed in the global economy. As described in previous chapters, Iron Range residents had always been aware of their region's connection to other mining regions around the world. In past decades, however, many residents and miners felt that the U.S. could protect itself from foreign competition if there was political will to enact trade barriers. This belief seemed to evaporate on the twenty-first century Iron Range as the mining companies were increasingly owned by Asian steel producers. Many Iron Range residents now saw that their local economy benefited from foreign demand. It was clear that the Iron Range's significance within the global steel industry had declined precipitously by 2006. In that year, the U.S. produced only 3 percent of the world's iron ore.⁷ Not only was the Iron Range supplying a smaller and smaller percentage of the world's iron ore supply, but China appeared to be supplanting the U.S. as the world's predominant steelmaking nation. Increasing Chinese demand for iron ore fueled the Iron Range's boom during these years. However, the Chinese demand was a complicated process. Little ore from the Iron Range was shipped directly to Chinese steel mills. Instead, ore from other nations, such as Canada, Australia, and Brazil that typically competed with Iron Range ore in the U.S. market was now diverted to China. Iron Range ore filled in on the domestic market. In some cases, complicated business contracts sent Iron Range ore to Canada to replace Canadian iron ore that was sent to China.⁸ Minnesota politicians recognized China's new significance in the steel industry and, in 2005, the

⁶ Amanda Paulson, "Surprise Revival for Iron Mines of Minnesota," *Christian Science Monitor*, April 22, 2004, www.lexisnexis.com.

⁷ "Minnesota's Iron Age," *Mining Magazine*, April 2007, 14.

Commissioner of Iron Range Resources joined Governor Tim Pawlenty and several business leaders on a trade mission to China. The group connected Minnesota business interests with Chinese corporations and toured several Chinese steel plants.⁹ Iron Range residents were often conflicted about their economic revival thanks to Chinese demand. Miner Joe Strlekar, for example, saw the situations as a reversal of the typical globalization story. “Instead of everything coming back into this country from China, it’s good to have something going the other way,” he told a reporter.¹⁰

The boom reached a peak in 2008 amid rapidly escalating mineral prices and an overheated global steel industry. In the spring of 2008, for example, stories in local media began touting a broader “renaissance” on the Iron Range. Business analysts pointed to a dozen industrial projects underway in the area and over six billion dollars of investment money pouring into various Iron Range projects. Once complete, these investments were predicted to create 1,400 full time jobs.¹¹ The high point of the 2008 expansion was the February announcement by U.S. Steel that it was expanding its Keetac taconite plant in Keewatin. This would be the first major expansion of taconite production on the Iron Range in two decades. The expansion, which was estimated at \$300 million, would bring 75 new full time jobs to the town and several hundred temporary construction jobs.¹²

As happened so many times during the postwar era, this boom would not last. The

⁸ Paulson, “Surprise Revival for Iron Mines.”

⁹ State of Minnesota, IRR, “Biennial Report, 2005-2006,” Eveleth, MN, 2006, 5.

¹⁰ Paulson, “Surprise Revival for Iron Mines.”

¹¹ Larry Oakes, “A Renaissance on the Iron Range,” *Minneapolis Star Tribune*, March 1, 2008.

global financial crisis that began in late 2008 and continues as of this writing in 2009 quickly ended hopes of a revival for the Iron Range. The Keetac plant that was scheduled for expansion was idled completely in December 2008. Layoffs and shutdowns at all the remaining taconite plants quickly followed in late 2008 and early 2009. What some Iron Range residents found particularly troubling about the 2009 slump was the speed with which the region's economy soured. The Iron Range went from expanding production to a deep slump in the course of several months in early 2009. Union official Mike Woods described the shutdowns as coming "almost overnight" and Sandy Layman, commissioner of IRR, noted the "breathtaking speed" of the layoffs. The only silver lining in the downturn was that the economic pain was not limited to the Iron Range. Mountain Iron mayor Gary Skalko found solace that the Iron Range was "not losing people because there aren't that many places to move to—things are hard all over."¹³ It is impossible to predict the future on the Iron Range, but it is clear that the swings between boom and bust are happening more quickly and with more force in the new global economy of the twenty first century.

Conclusion

Sunsets on the Iron Range are stunning. On summer nights the arctic light hangs on for hours until it bursts over the mine pits in vivid reds and oranges. In the winter, when

¹² "\$300 Million Expansion Planned for Keetac Taconite Operation," *Duluth News Tribune*, February 1, 2008.

¹³ Catherine Conlan, "Sudden, Painful Iron Range Slump Evokes Talk of the '80s," *Minnpost.com*, March 5, 2009, http://www.minnpost.com/stories/2009/03/05/7143/sudden_painful_iron_range_slump_evokes_talk_of_the_80s.

the air is so cold that light itself feels brittle, the thin sun streams away in rose hues by early afternoon. It can feel like the enormous open pits of red ore reflect the sun's dying light each day. The beauty of Iron Range sunsets is a reminder that the region's recent history, which is a story of decline and the fight against it, need not be a source of despair and can also, from the right angle, be a story about finding beauty amid endings.

Stepping back from the Iron Range, the history of industrial decline in the United States during the twentieth century raises a host of provocative questions. One set of questions concerns the network of industry, politics, and community that was created in places like the Iron Range in the late nineteenth and early twentieth centuries. Out of all the possible configurations for digging iron ore out of the ground and turning it into steel, how was this particular system—which I have labeled industrial liberalism—constructed? More broadly, as the era of industrial liberalism fades into the past, how can we account for it in the present? Should current policies be aimed at restoring vibrant working class communities to their central places in American political culture? Or does historical distance instead illustrate the audacity of building communities and political cultures around industry, expecting to create something permanent out of what is necessarily temporary? These questions remain pertinent for the future of the Iron Range and other declining industrial regions in the United States.

The story of the Iron Range since 1945 also raises deeper questions about how decline itself is understood. How can cultures—our culture—confront long-term economic decline with dignity and a deep respect for the people making their lives amid decline? In a world that often associates growth with vitality and progress, how can and should we account for the decline and death that are the necessary counterparts of

growth? These questions cannot be answered by a single dissertation, but hopefully this study points toward new horizons of possibility for thinking about the problem.

BIBLIOGRAPHY

Archival Collections

- Butler Brothers and Hanna Mining Company Collection, Iron Range Research Center, Chisholm, MN.
- Community Files, Iron Range Research Center, Chisholm, MN.
- Edward W. Davis Papers, Minnesota Historical Society, St. Paul, MN.
- Edward W. Davis Papers, University of Minnesota Archive, Minneapolis, MN.
- Fred Cina Papers, Iron Range Research Center, Chisholm, MN.
- H. H. Wade Papers, Minnesota Historical Society, St. Paul, MN.
- Mesabi Iron Company Papers, Minnesota Historical Society, St. Paul, MN.
- Mineral Resources Research Center Papers, University of Minnesota Archive, Minneapolis, MN.
- Mines Experiment Station Papers, University of Minnesota Archive, Minneapolis, MN.
- Unemployment on the Iron Range Oral History Collection, Iron Range Research Center, Chisholm, MN.

Books, Articles, and Theses

- Alanen, Arnold R. "Morgan Park: U.S. Steel and a Planned Company Town." In *Duluth: Sketches of the Past*, edited by Ryck Lydecker and Lawrence J. Sommer, 111-26. Duluth, MN: Northprint, 1976.
- . "Years of Change on the Iron Range." In *Minnesota in a Century of Change: The State and Its People since 1900*, edited by Clifford E. Clark, Jr., 155-94. St. Paul: Minnesota Historical Society Press, 1989.
- Anderson, David M. "Levittown Is Burning! The 1979 Levittown, Pennsylvania, Gas Line Riot and the Decline of the Blue-Collar American Dream." *Labor: Studies in Working-Class History of the Americas* 2, no. 3 (2005): 47-65.
- Appadurai, Arjun. "Disjuncture and Difference in the Global Cultural Economy." *Public Culture* 2, no. 2 (1990): 1-24.
- Asdal, Kristin. "The Problematic Nature of Nature: The Post-Constructivist Challenge to Environmental History." *History and Theory* 42 (2003): 60-74.
- Bailey, Beth L., and Dave Farber, eds. *America in the Seventies*. Lawrence: University Press of Kansas, 2004.
- Baldwin, Neil. *Edison: Inventing the Century*. Chicago: University of Chicago Press, 2001.
- Balogh, Brian. "'Mirrors of Desires': Interest Groups, Elections, and the Targeted Style in Twentieth-Century America." In *The Democratic Experiment: New Directions*

- in *American Political History*, edited by Meg Jacobs, William J. Novak and Julian E. Zelizer, 222-49. Princeton, NJ: Princeton University Press, 2003.
- Baron, Ava, ed. *Work Engendered: Toward a New History of American Labor*. Ithaca, NY: Cornell University Press, 1991.
- Bartlett, Robert V. *The Reserve Mining Controversy: Science, Technology, and Environmental Quality*. Bloomington: Indiana University Press, 1980.
- Basso, Matthew Lawrence. "Metal of Honor: Montana's World War II Homefront, Movies, and the Social Politics of White Male Anxiety." PhD Dissertation, University of Minnesota, 2001.
- Beamer, Glenn. "Sustaining the Rust Belt: A Retrospective Analysis of the Employee Purchase of Weirton Steel." *Labor History* 48, no. 3 (2007): 277-99.
- Beauregard, Robert A. "Constituting Economic Development: A Theoretical Perspective." In *Theories of Economic Development: Perspectives from Across the Disciplines*, edited by Richard D. Bingham and Robert Mier, 267-283. Newbury Park, CA: SAGE, 1993.
- Beckert, Sven. "Democracy in the Age of Capital: Contesting Suffrage Rights in Gilded Age New York." In *The Democratic Experiment: New Directions in American Political History*, edited by Meg Jacobs, William J. Novak, and Julian E. Zelizer, 146-74. Princeton, NJ: Princeton University Press, 2003.
- Bell, Daniel. *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books, 1973.
- Bender, Thomas. "Theory, Experience, and the Motion of History." *Rethinking History* 11, no. 4 (2007): 495-500.
- Berkowitz, Edward D. *America's Welfare State: From Roosevelt to Reagan*. Baltimore: Johns Hopkins University Press, 1991.
- Berlanstein, Lenard R., ed. *Rethinking Labor History: Essays on Discourse and Class Analysis*. Urbana: University of Illinois Press, 1993.
- Biernacki, Richard. *The Fabrication of Labor: Germany and Britain, 1640-1914*. Berkeley: University of California Press, 1995.
- Bijker, Wiebe E., Thomas P. Hughes, and Trevor J. Pinch, eds. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press, 1987.
- Bingham, Clara, and Laura Leedy Gansler. *Class Action: The Landmark Case That Changed Sexual Harassment Law*. New York: Anchor, 2002.
- Blakey, Roy G. *Taxation in Minnesota*. Minneapolis: University of Minnesota Press, 1932.
- Bluestone, Barry, and Bennett Harrison. *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry*. New York: Basic Books, 1982.
- Boese, Donald L. *John C. Greenway and the Opening of the Western Mesabi*. Bovey, MN: Joint Boley-Coeraine Bi-Centennial Commission, 1975.
- Braun, Bruce, and Noel Castree, eds. *Remaking Reality: Nature at the Millennium*.

- London: Routledge, 1998.
- Brinkley, Alan. *The End of Reform: New Deal Liberalism in Recession and War*. New York: Knopf, 1995.
- Brown, Aaron. *Overburden: Modern Life on the Iron Range*. Duluth, MN: Red Step, 2008.
- Brownlee, W. Elliot. *Federal Taxation in America: A Short History*. New York: Woodrow Wilson Center and Cambridge University Press, 1996.
- . “Tax Regimes, National Crisis, and State-Building in America.” In *Funding the Modern American State, 1941-1995: The Rise and Fall of the Era of Easy Finance*, edited by W. Elliot Brownlee, 37-104. Washington DC: Woodrow Wilson Center Press and Cambridge University Press, 1996.
- Burchell, Graham, Colin Gordon, and Peter Miller, eds. *The Foucault Effect: Studies in Governmentality*. Chicago: University of Chicago Press, 1991.
- Burton, Antoinette, ed. *Archive Stories: Facts, Fictions, and the Writing of History*. Durham, NC: Duke University Press, 2005.
- Buss, Terry F., and F. Stevens Redburn. *Shutdown at Youngstown: Public Policy for Mass Unemployment*. Albany: State University of New York Press, 1983.
- Caddy, John. *The Color of Mesabi Bones: Poems and Prose Poems*. Minneapolis: Milkweed Editions, 1989.
- Callon, Michel. “Society in the Making: The Study of Technology as a Tool for Sociological Analysis.” In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, edited by Wiebe E. Bijker, Thomas P. Hughes and Trevor J. Pinch, 83-103. Cambridge, MA: MIT Press, 1987.
- , ed. *The Laws of the Markets*. Malden, MA: Blackwell, 1998.
- Carroll, Peter N. *It Seemed Like Nothing Happened : America in the 1970s*. New Brunswick N.J.: Rutgers University Press, 1990.
- Carter, Dan T. *From George Wallace to Newt Gingrich: Race in the Conservative Counterrevolution, 1963-1994*. Baton Rouge: Louisiana State University Press, 1996.
- . *The Politics of Rage: George Wallace, the Origins of the New Conservatism, and the Transformation of American Politics*. 2nd ed. Baton Rouge: Louisiana State University Press, 2000.
- Chandler, Alfred D., Jr. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, MA: Harvard University Press, 1990.
- . *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Harvard University Press, 1977.
- Ching, Barbara, and Gerald W. Creed. “Recognizing Rusticity: Identity and the Power of Place.” In *Knowing Your Place: Rural Identity and Cultural Hierarchy*, edited by Barbara Ching and Gerald W. Creed, 1-38. New York: Routledge, 1997.
- Cohen, Lizabeth. *Making a New Deal: Industrial Workers in Chicago, 1919-1939*. New York: Cambridge University Press, 1990.

- . *A Consumers' Republic: The Politics of Mass Consumption in Postwar America*. New York: Alfred A. Knopf, 2003.
- Cowie, Jefferson. *Capital Moves: RCA's Seventy-Year Quest for Cheap Labor*. Ithaca, NY: Cornell University Press, 1999.
- . "Nixon's Class Struggle: Romancing the New Right Worker, 1969-1973." *Labor History* 43, no. 3 (2002): 257-83.
- . "'Vigorously Left, Right, and Center': The Crosscurrents of Working-Class America in the 1970s." In *America in the Seventies*, edited by Beth L. Bailey and David Farber, 75-106. Lawrence: University Press of Kansas, 2004.
- . "Portrait of the Working Class in a Convex Mirror: Toward a History of the Seventies." *Labor: Studies in Working-Class History of the Americas* 2, no. 3 (2005): 93-102.
- Cowie, Jefferson, and Lauren Boehm. "Dead Man's Town: 'Born in the U.S.A.,' Social History, and Working-Class Identity." *American Quarterly* 58, no. 2 (2006): 353-78.
- Cowie, Jefferson, and Joseph Heathcott. "Introduction: The Meanings of Deindustrialization." In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 1-15. Ithaca, NY: Cornell University Press, 2003.
- Cowie, Jefferson R., and Joseph Heathcott, eds. *Beyond the Ruins: The Meanings of Deindustrialization*. Ithaca: Cornell University Press, 2003.
- Cronon, William. *Nature's Metropolis: Chicago and the Great West*. New York: Norton, 1991.
- , ed. *Uncommon Ground: Toward Reinventing Nature*. New York: Norton, 1995.
- Curtis, Kent. "Greening Anaconda: EPA, ARCO, and the Politics of Space in Postindustrial Montana." In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 91-111. Ithaca, NY: Cornell University Press, 2003.
- Davis, E. W. *Pioneering with Taconite*. St. Paul: Minnesota Historical Society, 1964.
- de Certeau, Michel. *The Practice of Everyday Life*. Translated by Steven Rendall. Berkeley: University of California Press, 1984.
- De Kruif, Paul. *Seven Iron Men*. New York: Harcourt, Brace, 1929.
- Delgado, Richard, and Jean Stefancic, eds. *Critical White Studies: Looking Behind the Mirror*. Philadelphia: Temple University Press, 1997.
- Deloria, Philip J. *Indians in Unexpected Places*. Lawrence: University of Kansas Press, 2004.
- Delton, Jennifer A. *Making Minnesota Liberal: Civil Rights and the Transformation of the Democratic Party*. Minneapolis: University of Minnesota Press, 2002.
- Denning, Michael. *The Cultural Front: The Laboring of American Culture in the Twentieth Century*. London: Verso, 1996.
- Devine, Pat. "The 1970s and After: The Political Economy of Inflation and the Crisis of Social Democracy." *Soundings: A Journal of Politics and Culture* 32 (2006): 146-

61.

- Dewar, Margaret E. "Development Analysis Confronts Politics: Industrial Policy on Minnesota's Iron Range." *Journal of the American Planning Association* 52, no. 3 (1986): 290-98.
- Dobbin, Frank R. "The Social Construction of the Great Depression: Industrial Policy during the 1930s in the United States, Britain, and France," *Theory and Society* 22, no. 1 (1993): 1-56.
- Dublin, Thomas, and Walter Licht. *The Face of Decline: The Pennsylvania Anthracite Region in the Twentieth Century*. Ithaca, NY: Cornell University Press, 2005.
- Dudley, Kathryn Marie. *The End of the Line: Lost Jobs, New Lives in Postindustrial America*. Chicago: University of Chicago Press, 1994.
- Dunk, Thomas W. *It's a Working Man's Town: Male Working-Class Culture*. 2nd ed. Montreal: McGill-Queen's University Press, 2003.
- Durr, Kenneth D. *Behind the Backlash: White Working-Class Politics in Baltimore, 1940-1980*. Chapel Hill: University of North Carolina Press, 2003.
- Dylan, Bob. *Chronicles*. Volume 1. New York: Simon and Schuster, 2004.
- Edwards, Paul N. *The Closed World: Computers and the Politics of Discourse in Cold War America*. Cambridge, MA: MIT Press, 1996.
- . "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems." In *Modernity and Technology*, edited by Thomas J. Misa, Philip Brey and Andrew Feenberg, 185-225. Cambridge, MA: MIT Press, 2003.
- Einhorn, Robin L. *American Taxation, American Slavery*. Chicago: University of Chicago Press, 2006.
- Eliseuson, Michael. *Tower Soudan: The State Park Down Under*. St. Paul: Minnesota Parks Foundation, 1976.
- Eller, Ronald D. *Uneven Ground: Appalachia since 1945*. Lexington: University Press of Kentucky, 2008.
- Enstad, Nan. *Ladies of Labor, Girls of Adventure: Working Women, Popular Culture, and Labor Politics at the Turn of the Twentieth Century*. New York: Columbia University Press, 1999.
- Faludi, Susan. *Stiffed: The Betrayal of the American Man*. New York: Perennial, 1999.
- Farber, David. "The Silent Majority and Talk About Revolution." In *The Sixties: From Memory to History*, edited by David Farber, 291-316. Chapel Hill: University of North Carolina Press, 1994.
- Faue, Elizabeth. *Community of Suffering and Struggle: Women, Men, and the Labor Movement in Minneapolis, 1915-1945*. Chapel Hill: University of North Carolina Press, 1991.
- Fine, Lisa M. "Rights of Men, Rites of Passage: Hunting and Masculinity at REO Motors of Lansing, Michigan, 1945-1975." *Journal of Social History* 33, no. 4 (2000): 805-23.
- Fink, Leon. *In Search of the Working Class: Essays in American Labor History and*

- Political Culture*. Urbana: University of Illinois Press, 1994.
- . *The Maya of Morganton: Work and Community in the Nuevo New South*. Chapel Hill: University of North Carolina Press, 2003.
- Flamm, Michael W. *Law and Order: Street Crime, Civil Unrest, and the Crisis of Liberalism in the 1960s*. New York: Columbia University Press, 2005.
- Fones-Wolf, Elizabeth A. *Selling Free Enterprise: The Business Assault on Labor and Liberalism, 1945-1960*. Urbana: University of Illinois Press, 1994.
- Foucault, Michel. "Governmentality." In *The Foucault Effect: Studies in Governmentality*, edited by Graham Burchell, Colin Gordon and Peter Miller, 87-104. Chicago: University of Chicago Press, 1991.
- Francaviglia, Richard V. *Hard Places: Reading the Landscape of America's Historic Mining Districts*. Iowa City: University of Iowa Press, 1991.
- Frank, Dana. *Buy American: The Untold Story of Economic Nationalism*. Boston, MA: Beacon Press, 1999.
- Frank, Thomas. *One Market under God: Extreme Capitalism, Market Populism, and the End of Economic Democracy*. New York: Anchor Books, 2000.
- . *What's the Matter with Kansas? How Conservatives Won the Heart of America*. New York: Metropolitan Books, 2004.
- Fraser, Steve, and Gary Gerstle, eds. *The Rise and Fall of the New Deal Order, 1930-1980*. Princeton, NJ: Princeton University Press, 1989.
- Freedman, Samuel G. *The Inheritance: How Three Families and the American Political Majority Moved from Left to Right*. New York: Touchstone, 1996.
- Freeman, Joshua B. "Hardhats: Construction Workers, Manliness, and the 1970 Pro-War Demonstrations." *Journal of Social History* 26, no. 4 (1993): 725-44.
- Friedman, Tami J. "'A Trail of Ghost Towns Across Our Land': The Decline of Manufacturing in Yonkers, New York." In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 19-43. Ithaca, NY: Cornell University Press, 2003.
- Frum, David. *How We Got Here: The 70's, the Decade That Brought You Modern Life (for Better or Worse)*. New York: Basic Books, 2000.
- Geertz, Clifford. *Available Light: Anthropological Reflections on Philosophical Topics*. Princeton, NJ: Princeton University Press, 2000.
- Gerstle, Gary. "The Working Class Goes to War." In *The War in American Culture: Society and Consciousness During World War II*, edited by Lewis A. Erenberg and Susan E. Hirsch, 105-27. Chicago: The University of Chicago Press, 1996.
- . *American Crucible: Race and Nation in the Twentieth Century*. Princeton, NJ: Princeton University Press, 2001.
- . *Working-Class Americanism: The Politics of Labor in a Textile City, 1914-1960*. Princeton, NJ: Princeton University Press, 2002.
- Goin, Peter, and C. Elizabeth Raymond. *Changing Mines in America*. Santa Fe: The Center for American Places, 2004.
- Goin, Peter, and Elizabeth Raymond. "Recycled Landscapes: Mining's Legacy in the

- Mesabi Iron Range.” In *Technologies of Landscape: From Reaping to Recycling*, edited by David E. Nye, 267-83. Amherst: University of Massachusetts Press, 1999.
- Gordon, Robert B. *American Iron, 1607-1900*. Baltimore: Johns Hopkins University Press, 1996.
- Graham, Otis L., Jr. *Losing Time: The Industrial Policy Debate*. Cambridge, MA: Harvard University Press, 1992.
- . *Toward a Planned Society: From Roosevelt to Nixon*. New York: Oxford University Press, 1976.
- Green, Venus. *Race on the Line: Gender, Labor, and Technology in the Bell System, 1880-1980*. Durham, NC: Duke University Press, 2001.
- Gregory, James N. “Southernizing the American Working Class: Post-War Episodes of Regional and Class Transformation.” *Labor History* 39, no. 2 (1998): 135-54.
- Gutman, Herbert. *Work, Culture, and Society in Industrializing America: Essays in American Working-Class and Social History*. New York: Vintage, 1977.
- Hacking, Ian. *The Social Construction of What?* Cambridge, MA: Harvard University Press, 1999.
- Hamilton, Shane. “The Populist Appeal of Deregulation: Independent Truckers and the Politics of Free Enterprise, 1935-1980.” *Enterprise and Society* 10, no. 1 (2009): 137-77.
- Hart, Joy L., and Tracy E. K’Meyer. “Worker Memory and Narrative: Personal Stories of Deindustrialization in Louisville, Kentucky.” In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 284-304. Ithaca: Cornell University Press, 2003.
- Harvey, David A. *A Brief History of Neoliberalism*. New York: Oxford University Press, 2005.
- Heathcott, Joseph, and Máire Agnes Murphy. “Corridors of Flight, Zones of Renewal: Industry, Planning, and Policy in the Making of Metropolitan St. Louis, 1940-1980.” *Journal of Urban History* 31, no. 2 (2005): 151-89.
- Hickok, Lorena. *One Third of a Nation: Lorena Hickok Reports on the Great Depression*, edited by Richard Lowitt and Maurine H. Beasley. Urbana: University of Illinois Press, 2000.
- High, Steven. *Industrial Sunset: The Making of North America’s Rust Belt, 1969-1984*. Toronto: University of Toronto Press, 2003.
- . “Capital and Community Reconsidered: The Politics and Meaning of Deindustrialization.” *Labour/Le Travail*, no. 55 (2005): 187-96.
- High, Steven C., and David W. Lewis. *Corporate Wasteland: The Landscape and Memory of Deindustrialization*. Ithaca, NY: Cornell University Press, 2007.
- Hirsch, Arnold R. *Making the Second Ghetto: Race and Housing in Chicago, 1940-1960*. 2nd ed. Chicago: The University of Chicago Press, 1998.
- Hochschild, Arlie Russell. *The Managed Heart: Commercialization of Human Feeling*. Berkeley: University of California Press, 2003.

- Hodgson, Godfrey. *America in Our Time*. New York: Vintage Books, 1976.
- Hoerr, John P. *And the Wolf Finally Came: The Decline of the American Steel Industry*. Pittsburgh: University of Pittsburgh Press, 1988.
- Hogan, William T. *The 1970s: Critical Years for Steel*. Lexington, MA: Lexington Books, 1972.
- . *World Steel in the 1980s: A Case of Survival*. Lexington, MA: Lexington Books, 1983.
- . *Steel in the United States: Restructuring to Compete*. Lexington, MA: Lexington Books, 1984.
- . *Minimills and Integrated Mills: A Comparison of Steelmaking in the United States*. Lexington, MA: Lexington Books, 1987.
- Huffman, Thomas R. "Exploring the Legacy of Reserve Mining: What Does the Longest Environmental Trial in History Tell Us About the Meaning of American Environmentalism?" *Journal of Policy History* 12, no. 3 (2000): 339-68.
- Hunter, Nan D. "Sexual Dissent and the Family: The Sharon Kowalski Case." In *Sex Wars: Sexual Dissent and Political Culture*, edited by Lisa Duggan and Nan D. Hunter. New York: Routledge, 1995.
- Jacobs, Meg. *Pocketbook Politics: Economic Citizenship in Twentieth-Century America*. Princeton, NJ: Princeton University Press, 2005.
- Jacobs, Meg, and Julian E. Zelizer, "The Democratic Experiment: New Directions in American Political History." In *The Democratic Experiment: New Directions in American Political History*, edited by Meg Jacobs, William J. Novak, and Julian E. Zelizer, 1-19. Princeton, NJ: Princeton University Press, 2003.
- Jacobs, Meg, William J. Novak, and Julian E. Zelizer, eds. *The Democratic Experiment: New Directions in American Political History*. Princeton, NJ: Princeton University press, 2003.
- Jacobson, Matthew Frye. *Roots Too: White Ethnic Revival in Post-Civil Rights America*. Cambridge, MA: Harvard University Press, 2006.
- . *Whiteness of a Different Color: European Immigrants and the Alchemy of Race*. Cambridge, MA: Harvard University Press, 1998.
- James, Daniel. *Doña Maria's Story: Life History, Memory, and Political Identity*. Durham, NC: Duke University Press, 2000.
- Joseph, Miranda. *Against the Romance of Community*. Minneapolis: University of Minnesota Press, 2002.
- Joyce, Patrick. "The End of Social History?" *Social History* 20, no. 1 (1995): 73-91.
- . "Refabricating Labour History; or, from Labour History to the History of Labour." *Labour History Review* 62, no. 2 (1997): 147-52.
- . *The Rule of Freedom: Liberalism and the Modern City*. London: Verso, 2003.
- Kakela, Peter J., Allen K. Montgomery, and William C. Patric. "Factors Influencing Mine Location: An Iron Ore Example." *Land Economics* 58, no. 4 (1982): 524-36.
- Kessler-Harris, Alice. *In Pursuit of Equity: Women, Men, and the Quest for Economic Citizenship in 20th-Century America*. New York: Oxford University Press, 2001.

- Kirshenblatt-Gimblett, Barbara. *Destination Culture: Tourism, Museums, and Heritage*. Berkeley: University of California Press, 1998.
- Kitch, Caroline. "Mourning 'Men Joined in Peril and Purpose': Working-Class Heroism in News Repair of the Sago Miners' Story." *Critical Studies in Media Communications* 24, no. 2 (2007): 115-31.
- Kruse, Kevin Michael. *White Flight: Atlanta and the Making of Modern Conservatism*. Princeton, NJ: Princeton University Press, 2005.
- Kruse, Kevin M. and Thomas J. Sugrue, eds. *The New Suburban History*. Chicago: University of Chicago Press, 2006.
- Kuzma, Scott. *Republic of Kinney*. Fargo, ND: Forum Communications, 2007.
- Lafer, Gordon. *The Job Training Charade*. Ithaca, NY: Cornell University Press, 2002.
- Lamppa, Marvin G. *Minnesota's Iron Country: Rich Ore, Rich Lives*. Duluth, MN: Lake Superior Port Cities, 2004.
- Landis, Paul H. *Three Iron Mining Towns: A Study in Cultural Change*. Ann Arbor, MI: Edwards Brothers, 1938. Reprint, New York: Arno Press, 1970.
- Lansing, Michael Jay. "The Significance of Nonhumans in U.S. Western History." PhD Dissertation, University of Minnesota, 2003.
- Larson, Agnes M. *History of the White Pine Industry of Minnesota*. Minneapolis: University of Minnesota Press, 1949.
- Lassiter, Matthew D. *The Silent Majority: Suburban Politics in the Sunbelt South*. Princeton, NJ: Princeton University Press, 2006.
- Latour, Bruno. *Aramis, or the Love of Technology*. Translated by Catherine Porter. Cambridge, MA: Harvard University Press, 1996.
- . *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, MA: Harvard University Press, 1999.
- . *Politics of Nature: How to Bring the Sciences into Democracy*. Translated by Catherine Porter. Cambridge, MA: Harvard University Press, 2004.
- . *Reassembling the Social: An Introduction to Actor-Network-Theory*. New York: Oxford University Press, 2005.
- . *We Have Never Been Modern*. Translated by Catherine Porter. Cambridge, MA: Harvard University Press, 1993.
- . "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern." *Critical Inquiry* 30 (2004): 225-48.
- Law, John. "Technology and Heterogeneous Engineering: The Case of Portuguese Expansion." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, edited by Wiebe E. Bijker, Thomas P. Hughes and Trevor J. Pinch, 111-34. Cambridge, MA: MIT Press, 1987.
- . *Organizing Modernity*. Cambridge, MA: Blackwell, 1994.
- . *Aircraft Stories: Decentering the Object in Technoscience*. Durham, NC: Duke University Press, 2002.
- Lehmberg, Stanford, and Ann M. Pflaum. *The University of Minnesota, 1945-2000*. Minneapolis: University of Minnesota Press, 2001.

- Levitan, Sar A. *Federal Aid to Depressed Areas: An Evaluation of the Area Redevelopment Administration*. Baltimore: Johns Hopkins Press, 1964.
- Lichtenstein, Nelson. *Labor's War at Home: The CIO in World War II*. New York: Cambridge University Press, 1982.
- Linkon, Sherry Lee, and John Russo. *Steeltown U.S.A : Work and Memory in Youngstown*. Lawrence: University Press of Kansas, 2002.
- Lipsitz, George. *Time Passages: Collective Memory and American Popular Culture*. Minneapolis: University of Minnesota Press, 1990.
- Lukas, J. Anthony. *Common Ground: A Turbulent Decade in the Lives of Three American Families*. New York: Vintage Books, 1986.
- Macdonald, Cameron Lynne, and Carmen Sirianni. "The Service Society and the Changing Experience of Work." In *Working in the Service Society*, edited by Cameron Lynne Macdonald and Carmen Sirianni, 1-26. Philadelphia: Temple University Press, 1996.
- , eds. *Working in the Service Society*. Philadelphia: Temple University Press, 1996.
- Marling, Karal Ann. "Culture and Leisure: 'The Good Life in Minnesota'." In *Minnesota in a Century of Change: The State and Its People since 1900*, edited by Clifford E. Clark, Jr., 539-71. St. Paul: Minnesota Historical Society Press, 1989.
- Martin, Cathie J. *Shifting the Burden: The Struggle over Growth and Corporate Taxation*. Chicago: University of Chicago Press, 1991.
- Mason, Peter Frank. "Some Changes in Domestic Iron Mining as a Result of Pelletization." *Annals of the Association of American Geographers* 59, no. 3 (1969): 535-51.
- Massey, Doreen. "Places and Their Pasts." *History Workshop Journal* 39 (1995): 182-92.
- May, Elaine Tyler. *Homeward Bound: American Families in the Cold War Era*. New York: Basic Books, 1988.
- May, Lary, ed. *Recasting America: Culture and Politics in the Age of Cold War*. Chicago: University of Chicago Press, 1989.
- . *The Big Tomorrow: Hollywood and the Politics of the American Way*. Chicago: University of Chicago Press, 2000.
- McGirr, Lisa. *Suburban Warriors: The Origins of the New American Right*. Princeton, NJ: Princeton University Press, 2001.
- Metzgar, Jack. *Striking Steel: Solidarity Remembered*. Philadelphia: Temple University Press, 2000.
- Milkman, Ruth. *Farewell to the Factory: Auto Workers in the Late Twentieth Century*. Berkeley: University of California Press, 1997.
- Milkovich, Barbara A. *It's Gone; Did You Notice? A History of the Mesabi Range Village of Franklin, Minnesota*. Huntington Beach, CA: Magarac Books, 2000.
- Miller, Peter, and Nikolas Rose. *Governing the Present: Administering Economic, Social and Economic Life*. Malden, MA: Polity, 2008.

- Misa, Thomas J. *A Nation of Steel: The Making of Modern America, 1865-1925*. Baltimore: Johns Hopkins University Press, 1995.
- Misa, Thomas J., Philip Brey, and Andrew Feenberg, eds. *Modernity and Technology*. Cambridge, MA: MIT Press, 2003.
- Mitchell, Timothy. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press, 2002.
- Moody, Kim. *An Injury to All: The Decline of American Unionism*. London: Verso, 1988.
- Moore, Marat. *Women in the Mines: Stories of Life and Work*. New York: Twayne, 1996.
- Moss, David A. *When All Else Fails: Government as the Ultimate Risk Manager*. Cambridge, MA: Harvard University Press, 2002.
- Murphy, Mary. *Mining Cultures: Men, Women, and Leisure in Butte, 1914-1941*. Urbana: University of Illinois Press, 1997.
- Nash, Linda. *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Berkeley: University of California Press, 2006.
- Nemanic, Mary Lou. *One Day for Democracy: Independence Day and the Americanization of Iron Range Immigrants*. Athens: Ohio University Press, 2007.
- Newman, Katherine S. *Falling from Grace: Downward Mobility in the Age of Affluence*. Berkeley: University of California Press, 1988.
- Nicolaidis, Becky M. *My Blue Heaven: Life and Politics in the Working-Class Suburbs of Los Angeles, 1920-1965*. Chicago: University of Chicago Press, 2002.
- . “How Hell Moved from the City to the Suburbs: Urban Scholars and Changing Perceptions of Authentic Community.” In *The New Suburban History*, edited by Kevin M. Kruse and Thomas J. Sugrue, 80-98. Chicago: University of Chicago Press, 2006.
- Norris, James D. *Frontier Iron: The Maramec Iron Works, 1826-1876*. Madison: State Historical Society of Wisconsin, 1964.
- Nye, David E., ed. *Technologies of Landscape: From Reaping to Recycling*. Amherst: University of Massachusetts Press, 1999.
- Otter, Chris. “Making Liberal Objects: British Techno-Social Relations, 1800-1900.” *Cultural Studies* 21, no. 4-5 (2007): 570-90.
- Perlstein, Rick. *Nixonland: The Rise of a President and the Fracturing of America*. New York: Scribner, 2008.
- Phillips, Sarah T. *This Land, This Nation: Conservation, Rural America, and the New Deal*. New York: Cambridge University Press, 2007.
- Portelli, Alessandro. *The Death of Luigi Trastulli, and Other Stories: Form and Meaning in Oral History*. Albany: State University of New York Press, 1991.
- . *The Battle of Valle Giulia: Oral History and the Art of Dialogue*. Madison: University of Wisconsin Press, 1997.
- Potter, David M. *People of Plenty: Economic Abundance and the American Character*. Chicago: University of Chicago Press, 1954.
- Power, Rosemary. “‘After the Black Gold’: A View of Mining Heritage from Coalfield Areas in Britain.” *Folklore* 119, no. 2 (2008): 160-81.

- Priest, Tyler. "Extraction Not Creation: The History of Offshore Petroleum in the Gulf of Mexico." *Enterprise and Society* 8, no. 2 (2007): 227-67.
- Reid, Donald. *The Miners of Decazeville: A Genealogy of Deindustrialization*. Cambridge, MA: Harvard University Press, 1985.
- Richardson, Heather Cox. *West from Appomattox: The Reconstruction of America after the Civil War*. New Haven, CT: Yale University Press, 2007.
- Richberg, Donald R. "The Industrial Liberalism of Justice Brandeis," *Columbia Law Review* 31, no. 7 (1931): 1094-1103.
- Rieder, Jonathan. "The Rise of the 'Silent Majority'." In *The Rise and Fall of the New Deal Order, 1930-1980*, edited by Steve Fraser and Gary Gerstle, 243-68. Princeton, NJ: Princeton University Press, 1989.
- Risjord, Norman K. *A Popular History of Minnesota*. St. Paul: Minnesota Historical Society Press, 2005.
- Roberts, Warren. *State Taxation of Metallic Deposits*. Cambridge, MA: Harvard University Press, 1944.
- Roediger, David. *The Wages of Whiteness: Race and the Making of the American Working Class*. Revised Edition. London: Verso, 1999.
- Ronning, Gerald. "Jackpine Savages: Discourses of Conquest in the 1916 Mesabi Iron Range Strike." *Labor History* 44, no. 3 (2003): 359-82.
- Rose, Nikolas. *Powers of Freedom: Reframing Political Thought*. New York: Cambridge University Press, 1999.
- Rosen, Christine Meisner, and Christopher C. Sellers. "The Nature of the Firm: Towards an Ecocultural History of Business." *The Business History Review* 73, no. 4 (1999): 577-600.
- Rosenberg, Nathan. *Inside the Black Box: Technology and Economics*. New York: Cambridge University Press, 1982.
- Rosenzweig, Roy. *Eight Hours for What We Will: Workers and Leisure in an Industrial City, 1870-1920*. New York: Cambridge University Press, 1983.
- Rosner, Linda, ed. *The Technological Fix*. New York: Routledge, 2004.
- Ross, James Baker. "Taconite: The Science of Design." PhD Dissertation, University of Minnesota, 1989.
- Rotella, Carlo. *Good with Their Hands: Boxers, Bluesmen, and Other Characters from the Rust Belt*. Berkeley: University of California Press, 2002.
- . *October Cities: The Redevelopment of Urban Literature*. Berkeley: University of California Press, 1998.
- Ryden, Kent C. *Mapping the Invisible Landscape: Folklore, Writing, and the Sense of Place*. Iowa City: University of Iowa Press, 1993.
- Sabin, Paul. *Crude Politics: The California Oil Market, 1900-1940*. Berkeley: University of California Press, 2005.
- Savage, Kirk. "Monuments of a Lost Cause: The Postindustrial Campaign to Commemorate Steel." In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 237-58. Ithaca, NY: Cornell

- University Press, 2003.
- Schivelbusch, Wolfgang. *Three New Deals: Reflections on Roosevelt's America, Mussolini's Italy, and Hitler's Germany, 1933-1939*. Translated by Jefferson Chase. New York: Metropolitan Books, 2006.
- Schulman, Bruce J. *The Seventies: The Great Shift in American Culture, Society, and Politics*. New York: Free Press, 2001.
- Schumpeter, Joseph A. *Capitalism, Socialism, and Democracy*. 5th ed. London: George Allen & Unwin, 1976.
- Self, Robert O. *American Babylon: Race, Power, and the Struggle for the Postwar City in California*. Princeton, NJ: Princeton University Press, 2003.
- Sewell, William H., Jr. "Toward a Post-Materialist Rhetoric for Labor History." In *Rethinking Labor History: Essays on Discourse and Class Analysis*, edited by Lenard R. Berlanstein, 15-38. Urbana: University of Illinois Press, 1993.
- Shapiro, Aaron Alex. "'One Crop Worth Cultivating': Tourism in the Upper Great Lakes, 1910-1965." PhD Dissertation, University of Chicago, 2005.
- Smith, Philip. *Harvest from the Rock: A History of Mining in Ontario*. Toronto: Macmillan of Canada, 1986.
- Song, S. Hoon. "The Great Pigeon Massacre: The Bestiary Biopolitics of Whiteness in a Deindustrializing America." PhD Dissertation, University of Chicago, 2000.
- Stanton, Cathy. *The Lowell Experiment: Public History in a Postindustrial City*. Amherst: University of Massachusetts Press, 2006.
- . "Performing the Postindustrial: The Limits of Radical History in Lowell, Massachusetts." *Radical History Review* 98 (2007): 81-96.
- Starr, Paul. *The Creation of the Media: Political Origins of Modern Communications*. New York: Basic Books, 2004.
- Stein, Herbert. *The Fiscal Revolution in America*. Washington, D.C.: AEI Press, 1990.
- Stein, Judith. *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism*. Chapel Hill: University of North Carolina Press, 1998.
- Sugrue, Thomas J. *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit*. Princeton: Princeton University Press, 1996.
- . "All Politics Is Local: The Persistence of Localism in Twentieth-Century America." In *The Democratic Experiment: New Directions in American Political History*, edited by Meg Jacobs, William J. Novak and Julian E. Zelizer, 301-26. Princeton, NJ: Princeton University Press, 2003.
- . "Affirmative Action from Below: Civil Rights, the Building Trades, and the Politics of Racial Equality in the Urban North, 1945-1969." *Journal of American History* 91, no. 1 (2004): 145-73.
- Tarr, Joel A., ed. *Devastation and Renewal: An Environmental History of Pittsburgh and Its Region*. Pittsburgh: University of Pittsburgh Press, 2005.
- Taylor, Marvin. "A Rock for the State: Edward W. Davis and the Reserve Mining Legacy." MA Thesis, University of Minnesota, 2007.
- Temin, Peter. *Iron and Steel in Nineteenth-Century America: An Economic Inquiry*.

- Cambridge, MA: MIT Press, 1964.
- Tomczik, Adam. "'He-Men Could Talk to He-Men in He-Man Language': Lumberjack Work Culture in Maine and Minnesota, 1840-1940." *The Historian* 70, no. 4 (2008): 697-715.
- Uchitelle, Louis. *The Disposable American: Layoffs and their Consequences*. New York: Alfred A. Knopf, 2006.
- Urry, John. *Mobilities*. Cambridge: Polity, 2007.
- Vinel, Jean-Christian. "The Old Has Been Dying and the New Is Yet to Be Born: A Short Note on the History of the Employee." *Labor History* 48, no. 2 (2007): 195-208.
- Walker, David A. *Iron Frontier: The Discovery and Early Development of Minnesota's Three Ranges*. St. Paul: Minnesota Historical Society Press, 1979.
- Williams, Raymond. *Keywords: A Vocabulary of Culture and Society*. New York: Oxford University Press, 1976.
- Wilson, Betty. *Rudy! The People's Governor: The Life and Times of Rudy Perpich*. Minneapolis: Nodin, 2005.
- Wilson, Gregory S. "Deindustrialization, Poverty, and Federal Area Redevelopment in the United States, 1945-1965." In *Beyond the Ruins: The Meanings of Deindustrialization*, edited by Jefferson Cowie and Joseph Heathcott, 181-98. Cornell: Cornell University Press, 2003.
- Wrone, David R. "The Economic Impact of the 1837 and 1842 Chippewa Treaties." *American Indian Quarterly* 17, no. 3 (1993): 329-40.
- Young, Lewis E. *Mine Taxation in the United States*. Urbana: University of Illinois Studies in the Social Sciences, 1917.
- Zelizer, Julian E. *Taxing America: Wilbur D. Mills, Congress, and the State, 1945-1975*. New York: Cambridge University Press, 1998.
- . "The Uneasy Relationship: Democracy, Taxation, and State Building since the New Deal." In *The Democratic Experiment: New Directions in American Political History*, edited by Meg Jacobs, William J. Novak and Julian E. Zelizer, 276-300. Princeton, NJ: Princeton University Press, 2003.