**Rural Transformation in the 21st Century: Entrepreneurship, Innovation, and High-Tech Economies in Michigan's Keweenaw Peninsula**

by

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**Dedication**

For Mark, Mike, and Kelley.

**Acknowledgements**

The most important people for this dissertation were the people of the Keweenaw: those who welcomed me into their homes as a friend; the people who met me in their offices, coffee shops, and sometimes even their homes to let me ask questions about their work and visions for the region; and the organizations who opened their doors to me so that I could better understand their work. I'd especially like to thank Amy Howard, Stefani Vargas Krause, Monique Bourdage, Patricia Grosse, Angie Carter, Erica Krause, Jon Koskiniemi, and Brian Hirvela, whose friendship was invaluable during my fieldwork. I'd also like to thank Leah Polzien, Patrick Visser, Lynn Makela, Jake Northey, Whitney Warstler, Todd Holmstrom, and Harvey Desnick, who opened me up to the possibilities, and resulting complexities, of economic development, entrepreneurship, and community building work in the Keweenaw. My co-workers at 101 Quincy were supportive and frequent sounding boards for questions, ideas, and recommendations. This work is stronger because of that space.

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I've been very lucky with the academic community at the University of Michigan. I've had many amazing mentors during my time at the university, including Gayle Rubin, Kristin Fontichiaro, Cliff Lampe, Nicole Ellison, David Wallace, and Patricia Garcia. The staff at the School of Information were always incredibly helpful, especially Allison Wachter, Veronica Falandino, and

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My politics, as a working class gay man and a Communist, have been essential to how I see the world and the research that I do. Those politics wouldn't have been possible without the love and guidance of folks like Thomas Walker and Anne Barnett; my union, Graduate Employees Organization Local 3550; and the inspiring work of organizations and tendencies such as Bash Back!, Southerners on New Ground, and the Highlander Center that center the experiences of queer and rural people. I'd also like to acknowledge that much of my research happens on land that was and still is inhabited by the Anishinaabeg, who despite hundreds of years of settler colonialism, continue to work to protect the land, water, and people of the Upper Peninsula.

Once my fieldwork was finished, writing this dissertation was simultaneously a collective effort and a very solitary one. I began writing in earnest in late February of 2020, just as the COVID-19 pandemic hit the Midwestern United States. For me, this meant that the network of in-person support that I once hoped for wound up being limited to my husband, our three dogs, and a herd of goats. Writing retreats with friends and trips downstate were canceled, and Tomek wound up having to endure nearly four months with my weird writing schedule, my many quirks, and those moments where I became so overwhelmed by my thoughts that I just wanted to sit quietly in the kitchen and stare at my phone. Without his support and love, this journey would have been much more difficult.

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**Abstract**

How do rural regions reframe and reinvent themselves through contemporary modes of high-tech innovation and entrepreneurship? How do pushes for rural development prepare the rural to be incorporated into technological futures? How does regional culture get taken up in processes of economic development? How do regional approaches to innovation break down?

It is the promise for economic growth and transformation, driven by high-tech economies, entrepreneurship, and technological innovation, that is the phenomenon at the center of this dissertation. This dissertation examines in ethnographic detail how this promise comes at a time when regional approaches to economic and civic transformation seek to reframe rural places as attractive alternatives to the big city. I focus on the practice of economic development, especially that associated with the contemporary high-tech economy, by economic developers, municipal leaders, and entrepreneurs to create new opportunities and fulfill promises for growth in the Keweenaw Peninsula of Michigan.

I do this by identifying three processes of economization: codifying rural readiness, crafting the rural entrepreneur, and zoning rural exceptionalism. Codifying rural readiness demonstrates how redevelopment initiatives in the State of Michigan work to digitize rural assets. Through this process, initiatives identify the "right" and "wrong" kinds of rural data, reshaping and repackaging rurality and rural communities to attract private investment. Crafting the rural entrepreneur shows how economic development organizations (EDOs) identify and extract cultural assets from rural regions and transform them into a type of rural capital that can be leveraged by anyone, whether they are from the region or not. I demonstrate how these same EDOs market regional culture to attract the "right" kinds of entrepreneurs and innovators to the region. Zoning rural exceptionalism reveals how rural communities are able to leverage economic development policy and the corresponding opportunities to differentiate themselves as rural players in the new economy. Each of these processes serve to identify and enculturate rural

communities into 21st century forms of neoliberal capitalism perpetuated in the high-tech and digital economy.

## Chapter One: Introduction

In May of 2020, as American deaths from COVID-19 surpassed 100,000 and the national economy steeply declined, policy experts, economic developers, and civic leaders were already speculating on whether the global pandemic would provide new opportunities for economic growth. For example, Mark Muro, the Policy Director for the Metropolitan Policy Program at The Brookings Institution, wrote a blog post (2020) asking, "Could Big Tech's move to permanent remote work save the American heartland?" In it, Muro summarized nationwide statistics showing that only a handful of "superstar" metropolitan areas have reaped the spoils of "Big Tech" (i.e., "America's highest-value industries"). With a recent announcement coming from Facebook stating that a large chunk of its employees would be working from home for the foreseeable future, and Twitter announcing that their employees could work from home "forever," Muro argued that a transition to remote work could finally be the trigger for decentralizing high-tech economies away from places like Silicon Valley and Seattle. Specifically, Muro called this out as an opportunity for metropolitan areas and small cities throughout "the Heartland"[1] to repatriate those they've historically lost through "brain drain"[2] and a lack of regional competitiveness.

Similar articles and editorials were published around the same time by national and international outlets (Darbyshire, 2020; Axelrod, 2020), including the United Nations (2020), as well as small-town regional newspapers (Small and Small, 2020; Smith, 2020). They too argued that now may

[1] The concept of "The Heartland" is a discursive and geopolitical tool used to describe "Middle America." *The New York Times* published an excellent article on the history and complexity of "The Heartland" a few years ago (Badger and Quealy, 2017).

[2] "Brain drain" is a term used to describe the out-migration of smart and talented young people from a community, region, or nation. In American rural communities, the term is broadly applied to mean the process of losing young people and the resulting rise of average age, or "aging demographics." Out-migration due to lack of opportunity is broadly seen as one of the major contributors of the decline of American rural communities. For an excellent ethnography of rural brain drain, see *Hollowing Out the Middle: The Rural Brain Drain and What It Means for America* by Patrick J. Carr and Maria J. Kefalas (2009).

finally be the time that rural places and small peripheral cities in America could see the benefits from the high-tech economy that other regions were so accustomed to accumulating. Meanwhile, the unemployment rate in Michigan had skyrocketed, the nation's highest. As of April 2020, 17 of the 25 counties with the highest unemployment rates in the United States were in Michigan, and 15 of those were rural counties in Michigan (Lansing State Journal).[3] Remote work was seen as promising, as it has been promised as a technologically-driven tool for economic growth since the 1970s (Grimes, 2000). But what was that going to do for Cheboygan County (41.2% unemployment) or Mackinac County (38.1% unemployment), the two counties on either side of the Mackinaw Bridge, connecting Michigan's Upper Peninsula (the UP) with its Lower Peninsula?

*It is the promise for economic growth and transformation, driven by high-tech economies, entrepreneurship, and technological innovation, that is the phenomenon at the center of this dissertation.* The promise for economic growth comes at a time when regional approaches to economic and civic transformation seek to reframe rural places as attractive alternatives to the big city. To understand this promise, I spent 18 months following the work of economic developers, entrepreneurs, and municipal leaders in the Keweenaw Peninsula. This work was primarily concerned with economic development, and how entrepreneurship and innovation, associated largely with the contemporary high-tech economy, get taken up to create new opportunities and promises for economic growth and prosperity in communities that often lack both.

Guided by the question, "How do rural regions reframe and reinvent themselves through contemporary modes of high-tech innovation and entrepreneurship?" I spent 16 months conducting ethnographic fieldwork in the Keweenaw Peninsula of Michigan,[4] one of the most remote places in the contiguous United States (Van Dam, 2018). During this time, I followed the work of economic development organizations and municipal planning and development commissions as they sought to attract remote workers and entrepreneurs to the region. I investigated the efforts of the State of Michigan and regional granting agencies as they funded the digitization and

[3] These counties are classified as rural or "micropolitan" in accordance with the Michigan Rural Development Fund Act (as of 2019). This designation makes them eligible for Rural Development Funds from the Michigan Department of Agriculture and Rural Development.
[4] I use "Keweenaw Peninsula" and "the Keweenaw" interchangeably to refer to the Keweenaw Peninsula of Michigan.

centralization of infrastructure data for the purposes of promoting rural redevelopment. I embedded myself in organizations working in some of the most impoverished communities in the region as they sought to expand Internet access and reimagine what community and economic development looked like on shoestring budgets.

Rather than universal success or universal failure of economic development, I found a patchwork of initiatives and organizations that broadly fall into line with recommendations made by scholars of and policy on rural economic development and place-based innovation. The success of these development tactics is largely questionable, as I argue, resulting in the transformation of rural communities for new formations of resource extraction. I document three processes of economization[5]: codifying rural readiness, crafting the rural entrepreneur, and zoning rural exceptionalism. Each of these processes serve to more actively identify and enculturate rural communities into 21st century forms of neoliberal capitalism that are perpetuated in the high-tech and digital economy.

During my fieldwork, I made friends and acquaintances, I volunteered with some of the organizations I was studying, and I collaborated on projects. I became something of a scholar-activist, trumpeting the successes of rural America[6] while simultaneously working to improve governing structures that support rural development in Michigan.[7] This complicated my work, but also gave me deeper insight into people and organizations who made economic development and related policy work happen throughout rural Michigan. What I write about in this dissertation, though, is primarily their work; "their" being the economic development organizations and municipal leaders and organizations that became central to my fieldwork in Houghton and Keweenaw Counties. Before I describe my fieldsite, I'd like to first unpack the contemporary media and policy narratives in the United States that have so publicly and purposefully made rural places as sites ripe for outside intervention.

[5] STS scholars Çaliskan and Callon (2009) describe economization as the process through which things, people, behaviors, organizations, and institutions become part of the economy. I describe economization in more detail in Chapter Two.
[6] For example, see (Hardy, 2018).
[7] In the Summer of 2019, I joined a group of economic developers from throughout the UP and Northern Michigan to advocate at the state level for a new Michigan Department of Rural Affairs and Development. I wrote the policy memo that drove the work of the organization. I explain this in more depth in Chapter Two.

## The Rural Deficit Narrative

Rural communities in the United States routinely face a narrative that I call the "rural deficit narrative." This narrative colors and influences much of what is seen as possible, or probable, with respect to rural development. This narrative says that rural communities in the United States are falling behind with respect to technological advancement and economic development, that rural businesses and industry clusters are unprepared to compete with emerging superstar cities and the growth of technologically advanced manufacturing sectors (among other sectors) in small and medium-sized metropolitan areas throughout the country. These stories, often told by urban-based organizations and people, largely unaware of the realities of rural America, assume that the growth at all costs narrative, sold as the key to American economic success, is also the right one for rural communities. High unemployment, depopulation, and a stagnation of economic growth become key data points that show how rural areas are failing, rather than allowing us to ask, what does success look like in rural places to begin with?

### *"Can rural America be saved?"*

In December of 2018, the *New York Times* (NYT) published an analysis piece titled, "The Hard Truths of Trying to 'Save' the Rural Economy" (Porter, 2018). In it, Eduardo Porter, an economics reporter for NYT opens with the question, "Can rural America be saved?" Throughout, Porter's on-the-ground reporting in downtrodden rural communities throughout the United States is intertwined with key statistics and arguments made by think tanks such as The Brookings Institution and the Economic Innovation Group that all, in one way or another, signal to an increasing decline of rural people and places. In particular, Porter opens the article with three striking data visualizations (see Figure 1.1) that show the decline in median income and population as you move from large metropolitan areas down to remote rural communities, and a reverse decline with respect to median age. This is meant to show that rural communities are poorer and older than urban communities, while also simultaneously losing population.

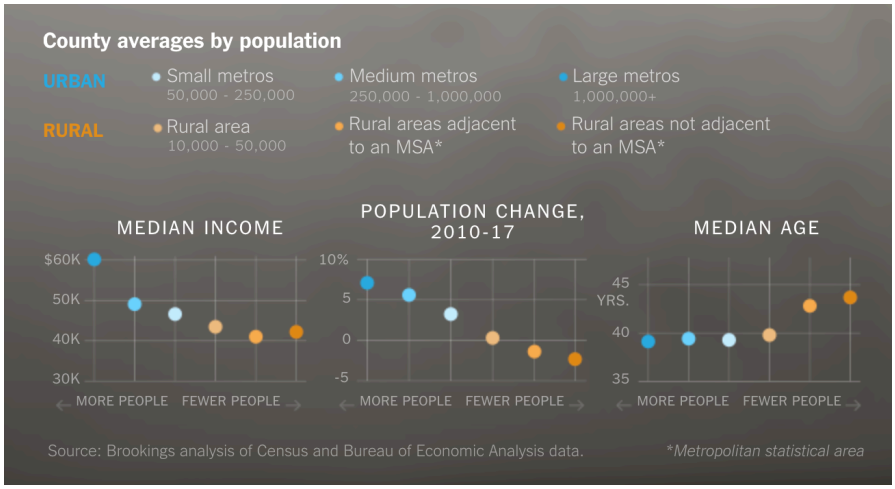


Figure 1.1: Rural disparity visualization from the New York Times.

The statistics from above are deployed alongside the Distressed Communities Index (DCI), created by the free market promoting think tank, the Economic Innovation Group (EIG). The DCI uses data sources on high school diploma achievement, housing vacancy, unemployment, rates of poverty, median income, and fluctuations in numbers of jobs and businesses. Porter uses this measurement of distress to argue that rural areas are becoming what the EIG report calls "increasingly distressed," meaning that while the number of distressed areas in urban and suburban communities are shrinking, the number of distressed areas in rural America is increasing. Porter ties this distress to rural America's reliance on the manufacturing sector as an important source of jobs, second only to the education, health care, and social assistance sector.[8]. While land-based industries are often the face of rural communities, manufacturing employs more people in entirely rural counties than agriculture, forestry, fishing, and mining combined. Porter argues that the continued globalization of manufacturing will see economic distress further concentrate in rural communities.

Like so many others before him, Porter argues that the digital economy is likely going to be the saving grace of rural people's livelihoods. But unlike others, such as New Hampshire's Center on Rural Innovation, who argue that federal and state governments should be doing more to build up infrastructure to support digital economies in rural areas, Porter takes a contrary stance. He argues that place-based responses to rural economic development, which rural development scholars

[8] Education, healthcare, and social assistance were grouped together in the federal measurements being used.

argue are more successful than generic one-size-fits-all models of economic development (Flora et al,. 2018), are being wasted on rural communities that are doomed to fail. Rather, he says: "Instead of so-called place-based policies to revitalize small towns, why not help their residents take advantage of opportunities where the opportunities are?"

And where are these already existing opportunities? So-called "superstar cities" that are popping up across the United States.

*The new superstar cities*

In its current use, the term "superstar city" originates from a National Bureau of Economic Research working paper that documented the growing disparity in income and housing values between superstar cities like San Francisco and non-superstars like Buffalo, NY (Gyourko et al., 2006). Superstar cities were the cities where housing demand exceeded the supply in a low-growth housing market, with the resulting increase in price being further driven by the desire of high-income people to live in that city.

The term was taken up by The Brookings Institution and others (e.g., Florida 2019) to describe those metropolitan areas that have the highest concentration of jobs in "innovation sectors." In particular, a December 2019 report from Brookings found that five metro areas were able to capture 90% of "innovation-sector growth" from 2005 to 2017: San Francisco, San Jose, Seattle, Boston, and San Diego (Atkinson et al., 2019). These places were not only able to grow, but further concentrate economic sectors that are both high-tech and high in research and development. In other words, the top 10% of metropolitan areas concentrated more jobs in innovation sectors, while the bottom 90% lost jobs. The authors argue that this is resulting in intense "territorial polarization" that is having detrimental downstream effects such as continued rising real estate prices in "superstar cities" that drives low-income people out, the concentration of the highly-educated in only certain places, and a talent crisis affecting companies in any cities that aren't among the superstars.

Going beyond simple calls for placemaking to attract companies and workers, the Brookings report actually classifies and promotes federal intervention to create eight to ten new innovation hubs in

the United States, and they have just the measure to determine who should be next.[9] Utilizing data on population, university R&D per capita, patents, higher education achievement, and existing jobs in the innovation sector, the report proposes their Eligibility Index, that shows which metro areas are best positioned to be upgraded to compete with superstar cities in the innovation economy. These heartland "growth centers" include cities such as Madison, Rochester, St. Louis, and Nashville. Ultimately, the report argues, broader national intervention is necessary to curb the disproportionate growth so prevalent in innovation industries which has resulted in a "winner-take-most" dynamic.

Building up opportunities to spread the wealth of the innovation economy to more geographically disparate metropolitan areas is, if we take it at face value, meant to democratize access to the technological innovation seen as the driving force of much of the prosperity of the 21st century. But, does it not just diversify the concentration of wealth in 20 instead of five places? In fact, by relying upon specific metrics of success, metrics that are determined by the already successful, I would argue that we are simply reinforcing a binary between so-called "innovative" regions, and the backwards, non-innovative regions. In other words, the metropolitan areas with R1 universities, the large educated populations, and the existing success stories become the basis for metrics of success, therefore reinforcing their narrative as the narrative of success. This leaves rural areas entirely out of the picture and feeds into economic development narratives that make it nearly impossible for rural communities to create future visions for themselves that aren't dictated by the success of largely urban outsiders.

*Distress and rural extraction*

In contrast to the work of Brookings to identify and grow new centers for the innovation economy, EIG is working to measure the distress of local communities to identify where other interventions might need to take place. This measurement of distress was used by Porter (2018) to justify the idea that many rural areas might not be worth saving. While this is only one measurement of

[9] As of May 2020, the Endless Frontier Act was announced: "an initiative to solidify the United States' leadership in scientific and technological innovation through increased investments in the discovery, creation, and commercialization of technology fields of the future" ("Young, Schumer Unveil Endless Frontier Act to Bolster U.S. Tech Leadership and Combat China"). The Act gives $10 billion to create regional tech hubs, not unlike the "growth centers" proposed by Brookings.

distress, the work of EIG to quantify who is falling behind has incredibly specific and tangible impact in federal government. In particular, EIG is the policy think tank who largely crafted the Opportunity Zone policy, which was included as part of the 2017 Tax Cuts and Jobs Act. Opportunity Zones are a "community investment tool" that "provide a tax incentive to investors to re-invest their unrealized capital gains" into new or growing businesses in certain state-designated geographies (e.g., neighborhoods, cities, counties) ("Opportunity Zones").[10] In other words, while their measurement of distress is just one measurement, it is a measurement that has had a profound impact on the communities being measured.

Stepping back and looking at the multiple approaches summarized above on regional intervention, we see how rural areas are portrayed as a source of labor for urban places (i.e., Porter's perspective), as places that are seen as a space of distress in need of financial investment (i.e., EIG and the Opportunity Zones), and as cheaper alternatives to the big city (i.e., the view of Brookings). Each of these perspectives of rural places maintains a vision of rural communities focused on extraction. In other words, even when rural places are seen as full of opportunity, they are still built up as places in distress and in need of saving.

Critical scholars of development economics have time and again shown how cities, regions, and entire countries are transformed into opportunities for intervention, to better connect them to global flows of capital (Escobar, 1995; Ferguson, 1994; Scott, 1998). As Arturo Escobar (1995) argues in *Encountering Development*, development happens once a place has been discursively realized and appropriately framed by the right actors as being "undeveloped." He shows that the process of development and the field of development economics were largely created after World War II. Newly created development organizations and the countries that supported them used imposed discourses of hunger and malnutrition to justify global interventions in countries they deemed "undeveloped." This was done in an effort to indoctrinate the "Third World" into the modern capitalist present and continued through the 20th century through increased financialization of markets, and later imposed austerity measures placed upon countries who were deemed as falling behind in the ambitions of global development. Similarly, rural regions have a long history in the "First World" of being made for purposes of economic extraction, through land management,

[10] See Chapter Five for a deeper exploration of the Opportunity Zone program.

natural resource exploitation, and development practices that focus on bringing them up to speed with the advances of urban areas, and for the benefit of urban areas and economic growth (Cloke and Godwin, 1992; Harvey, 2005).

The UP was one of these places that once had a successful economic past, but regional leaders now struggled to position the region in a globalizing economy. I spent much of my life hearing about how great the UP used to be. I was born in the UP in 1988 and most of my family has lived there at some point in their lives. Growing up, I spent many summers with my grandparents traveling around the UP, hearing stories from family members, visiting historic sites, and learning about what life used to be like when all of the mines and papermills were still open. Taking the discourses described above to heart, many leaders in the UP see the high-tech economy as being a potential savior for the region. As a scholar of technology and rurality, I came into this project with a lens critical of techno-solutionism and what it offered peripheral regions. But, as someone who also wishes for the survival of the UP, the region where I was born and one that I have been wary of claiming as home until recently, the need for self-determination among rural communities has been something I struggle with in my own research.

While I cannot promise a decisive conclusion to this conundrum, this dissertation is meant to be a peak into what happens when we take economic development as a tactic for regional future-making seriously. What does entrepreneurship and high-tech innovation as economic development offer to rural regions? Who wins and who loses? In other words, part of this project is to understand how economic development indeed spurs opportunities for economic growth, but also take seriously where it does not create those same opportunities. Following, I introduce my fieldsite and its history to situate the interventions I will document throughout the dissertation.

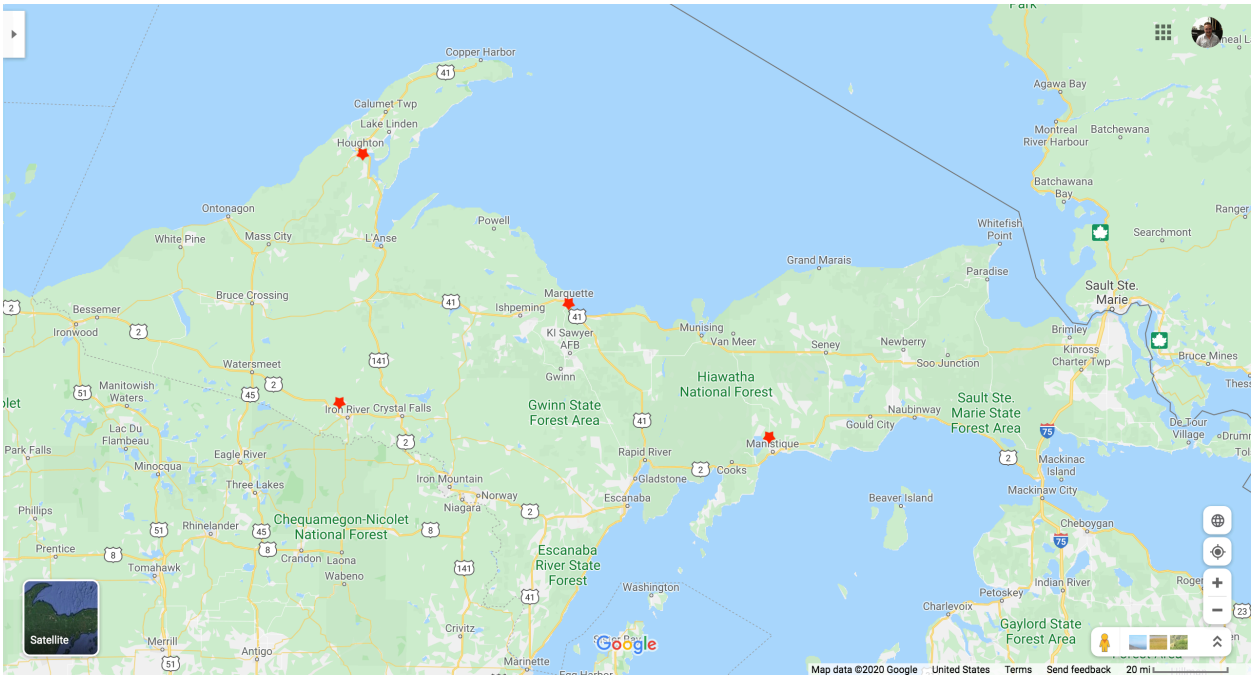



Figure 1.2: A map of the Upper Peninsula. Places where the author has conducted fieldwork during his graduate career are marked with a red star. See Figure 1.3 for a map of the specific region where the fieldwork in this dissertation was conducted.

## The Keweenaw Peninsula[11]

In August of 2018, I spent a week from hell moving all of my belongings across the UP in the back of my Ford pick-up truck. I left a cabin in the woods outside of Manistique, a little town on the northern coast of Lake Michigan (farthest east star in Figure 1.2). I was moving to Hancock, a town in the center of the Keweenaw Peninsula where I would be conducting my dissertation fieldwork (the northernmost star in Figure 1.2). The week I moved was hot and muggy, uncommon for the UP. Through a combined lack of planning on my part and downsizing apartments, I wound up making the trip from Manistique to Hancock (nearly 200 miles each way) on three separate occasions, and two additional trips from Manistique to my boyfriend's house in Peshtigo, Wisconsin (nearly 120 miles each way) to drop off excess belongings. This was not the best way to start my fieldwork.

After spending a few weeks getting settled into my new home, I visited my grandparents on their property outside of Iron River (the southwest star in Figure 1.2) for a day to help my grandmother

[11] I chose not to anonymize my fieldsite, as the specific location and its economic history are incredibly important to understanding the phenomenon at the center of my research.

plant garlic and prep her garden beds for the winter. It was September in the UP, which means the first frost is just a few weeks away. After dinner I climbed into my truck to drive back to my new home. It was a very clear, late-summer night. About 90 minutes north of my grandparents' home in the middle of the Ottawa National Forest, the two-lane highway veered out of the woods and the Keweenaw Bay of Lake Superior came into view. Driving past L'anse up the western shore of the Keweenaw Bay, through the tribal lands of the Keweenaw Bay Indian Community, I saw a bright structure pop up on the northwest horizon of my vision. The 25 miles of road between the reservation and my new home was all hills, curves, and forests. The structure kept disappearing and reappearing, each time getting a little larger as I drove closer and closer. While I tried to discern what it was, my attention was frequently diverted to the road in front of me, as late evenings in the UP are primetime for collisions with deer. After passing through a little town, whose street lamps still had signs up from the strawberry festival two months prior, the highway finally veered and pointed directly at the structure that I had been seeing. At this moment I realized the structure was somewhere near my new home. But what could be so large and lit up like that, in a place this remote, where I could see it from miles away?

I was used to driving around the backwoods of the Upper Peninsula and seeing bright lights illuminating the dark night sky, seemingly from out of nowhere. Just the year before while living in Manistique, I spent a lot of time driving between my cabin and Marquette, a college town a few hours away. I had friends there, a group of younger gay people who I could relate to and who made fieldwork feel a little less lonely. Driving from Marquette back to my cabin, I'd pass the Alger Correctional Facility, a large prison whose lights were visible in the night sky from nearly five miles away. The lit-up structure I saw that late summer night coming back from my grandparents' house wasn't a prison though, it was a mine shaft.

Figure 1.3: The No. 2 Shaft-Rockhouse at the historic Quincy Mine. Picture from City of Hancock website.

The No. 2 Shaft-Rockhouse (see Figure 1.3) sits on top of a large hill overlooking the approximately 12,500 people who call Hancock and Houghton home. It is one of the most prominent manmade objects in the Keweenaw Peninsula and can be seen from miles away. Built in the first decade of the 20th century ("Quincy Unit"), the shaft-rockhouse was the building that sat atop the entrance to the underground mining shaft, which carried copper up to the surface. Once arriving at the surface, the rock was processed in the same building, creating efficiencies that, according to the National Park Service, allowed three men to move approximately 1,000 tons of rock in a 12 hour shift at the mine. The shaft-rockhouse was abandoned after the mine closed in 1946, but is now owned and operated by a non-profit as part of a local National Landmark Historic District.

Copper mining in the Keweenaw Peninsula peaked in 1919. The mining industries slow dissolution until the 1960s resulted in massive depopulation in Houghton and Keweenaw Counties, and a complete stagnation in population growth throughout the UP that has lasted through today. This decline has made it so the UP remains very remote and retains its own distinct culture and dialect from the rest of the Upper Midwestern United States (Remlinger, 2017). While its economic legacy is primarily in mining and logging, the communities in the Keweenaw Peninsula increasingly rely on tourism and healthcare to shore up the economic output of the remaining logging and manufacturing operations in the region. Tourism initiatives, such as the statewide Pure Michigan campaign, and community leaders working towards developing economic opportunity have been

relatively successful in diversifying the economic prospects of the region. Though, a new wave of initiatives, starting in the late 2010s, sought to capitalize on broader shifts of global labor, technology, and wealth to grow the high-tech economy in the Keweenaw Peninsula.

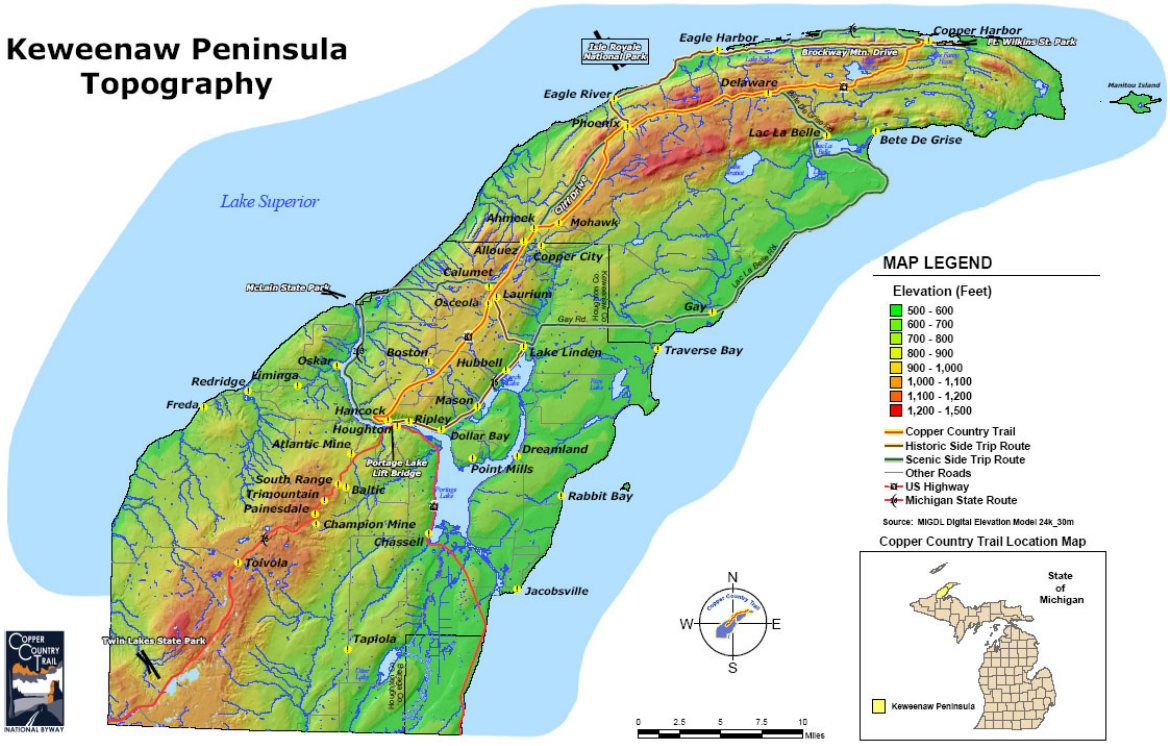



Figure 1.4: A map of the Keweenaw Peninsula. Image from Copper Country Trail website.

*Houghton County*

Houghton County[12] is located in the western part of the UP and has a population of 36,360 people spread across 1500 square miles.[13] The population peaked in 1910 at nearly 90,000 people and the small towns spread across the county reflect that, with many towns dealing with blight and failing infrastructure. Houghton County is home to two universities: Michigan Technological University (referred to as Michigan Tech, or just "Tech"), a public engineering university of ~7000 students, and Finlandia University, a Finnish-Lutheran liberal arts college with ~700 students. It's largest employment sector, education, reflects that. Education is followed by health care and social assistance, accommodation and food services, retail, and manufacturing as the top five industries,

[12] Not all of Houghton County is considered part of the Keweenaw Peninsula. Some of it is located south of the peninsula in the interior of the UP.
[13] Population and economic sector statistics are taken from the 2018 American Community Survey unless otherwise noted.

making up 65% of employment in the county as of 2017. It is overwhelmingly white, with 94.5% of people identifying as white on the 2010 Census.[14]

The largest towns and only municipalities designated as cities,[15] Houghton and Hancock, are the economic and civic center of the county, collectively with approximately one-third of the county's population. While the county's population peaked in 1910, thanks to the influence of Michigan Tech, Houghton is currently at its highest population ever recorded (7,934). Similar to the county, Hancock's population peaked in 1910 and is now half of what it once was (4,577). The cities sit directly opposite of each other on the Keweenaw Waterway, a canal that splits the Keweenaw Peninsula in two.[16] Because of their proximity to each other, it is difficult to divorce their economic and community influence on each other. There are many organizations that support economic development and the high-tech economy located in Hancock and Houghton, though most serve the entire county and sometimes the region. See Table 1.1 for list of economic development organizations in Houghton and Keweenaw Counties.

About 15 miles north are the neighboring villages of Calumet and Laurium. At its peak in 1910, this area had a population of nearly 35,000 people. Now Calumet is home to 748 people and Laurium 2,179. Calumet contains the historical commercial district of the area, with brick roads, storefronts, and massive sandstone cathedrals and theaters, many of which have been abandoned. Meanwhile, Laurium has stayed primarily residential. Through the first 12 months of my fieldwork (August 2018-August 2019), I maintained a residence in Hancock, renting a room from a Finlandia University professor.

[14] The overwhelming whiteness of Houghton and Keweenaw Counties is interesting because just across the southern border in Baraga County is the tribal reservation of the Keweenaw Bay Indian Community. The racial segregation is likely a remnant of centuries of settler colonialism.

[15] Michigan designates their municipalities as cities, villages, or townships, which each come with different abilities to govern and tax. Townships remain unincorporated, whereas villages and cities are. Villages generally have a population of 150 to 2500 and cities generally over 2500. For more information about this, see: https://www.mml.org/pdf/charter_revision/chapter1.pdf

[16] The resulting island that constitutes the north half of the Keweenaw Peninsula is colloquially known as "Copper Island."

| Organization | Location | Service area |
|---|---|---|
| MTEC SmartZone[17] | Cities of Houghton and Hancock | Cities of Houghton and Hancock |
| Keweenaw Economic Development Alliance | City of Houghton | Baraga, Houghton, and Keweenaw Counties |
| Keweenaw Chamber of Commerce | City of Houghton | Houghton and Keweenaw Counties |
| FinnZone | City of Hancock | Houghton and Keweenaw Counties |
| Western UP Planning and Development Region | City of Hancock | Western UP |
| Main Street Calumet | Village of Calumet | Village of Calumet, Calumet Township |
| Keweenaw Convention and Visitor's Bureau | Calumet Township | Houghton and Keweenaw Counties |
| Keweenaw County Economic Development Committee | Unincorporated Eagle River | Keweenaw County |

Table 1.1: A list of the economic development organizations located in Houghton and Keweenaw Counties.

*Keweenaw County*

Keweenaw County is to the north of Houghton County (it's only border that isn't Lake Superior) and has a population of 2,130 people spread across 540 square miles. The population peaked in 1910 at over 7,000 people and, similar to Houghton County, the small towns spread across the county reflect that, with many towns dealing with blight and a major lack of jobs. Keweenaw County has one incorporated village, Ahmeek (pop. 146) and three unincorporated census designated places: Copper Harbor CDP (pop. 71), Eagle Harbor CDP (pop. 100), and Eagle River CDP (pop. 84). The county is 98.5% white.

Keweenaw County is incredibly remote and home to many tourist destinations and recreation activities. This is reflected in the dominance of the service sector in the county economy. Per the American Community Survey estimates of 2017, the sector that employs the most Keweenaw County residents is healthcare and social assistance (16% of working adults). A combination of retail, entertainment/recreation, and retail sectors employ over 30% of the working adults. Though, because nearly 2/3 of working adults commute outside of the county, those numbers are not

[17] MTEC stands for Michigan Tech Enterprise Corporation, but is not funded by or a part of the university. For the duration of the dissertation, I refer to it as the MTEC SmartZone, or just "The SmartZone," because that is how it is referred to in my fieldsite and in their documentation and websites.

representative of the types of jobs that actually exist in the county.[18] In fact, healthcare and social assistance sectors employ fewer than 20 people working in the county itself. Retail, accommodation, and food services are the largest employing sectors, with a combination of 138 employees working in the county.[19]

There is only one organization located in Keweenaw County that does economic development work, the Keweenaw County Economic Development Committee, but there are a handful of organizations in Houghton County that do ED work in Keweenaw county (see Table 1.1). While my primary fieldwork residence was in Hancock, I routinely went to Keweenaw County for interviews and meetings with local organizations.

**Conducting Fieldwork in the Keweenaw**

I joined "101 Quincy," a coworking space in Downtown Hancock, in late September of 2018. It was something of a home-base for the duration of my fieldwork and was typically where I went every morning to "kick off" my workday (see Figure 1.5). While I would leave the space in the middle of the day for meetings and events, I frequently returned after to type of my fieldnotes, reflect on the day, and keep my eye on local news and events. Over the course of my fieldwork, my "coworkers," who were largely local entrepreneurs and remote workers, also gave me a space to learn more about the region, talk about current events, and at times even bounce around ideas that were emerging from my data collection. My membership at 101 Quincy also gave me clout as someone interested in the growing high-tech scene in the region. I often told new people I met or those I was interviewing that I was a member of the space as a way to demonstrate that I was indeed connected to the area and could be taken seriously as an insider.

101 Quincy opened up in Summer 2018, just a few months before I moved there, and quickly became one of the central places for start-ups and entrepreneurs in the area, hosting monthly happy

[18] As of 2017, of the 837 estimated working adults in the county, 34.4% worked in the county and 65% worked outside the county.
[19] It's hard to estimate true employment numbers in these small communities because the US Economic Census, the body that tracks employment via sector doesn't list numbers of employees in sectors that have very few employers. For example, there is only one employer in Keweenaw county that work in healthcare and social assistance. Because of this, the number of employees provided by the census is only a range (1-19 employees).

hours and kick-off events for its members new businesses. Founded by two local entrepreneurs, including one whose father owned the building it called home, the space soon filled up its small office spaces with a handful of local tech businesses and its open work spaces with local remote workers who had until that point mostly been working out of coffee shops and home offices.


Figure 1.5: 101 Quincy workspace.

During my fieldwork I conducted 30 formal semi-structured interviews, 28 of which were recorded, and hundreds of other informal conversations that became essential to understanding the region. My interviews were conducted primarily with municipal leaders, staff of economic development organizations (EDOs), local entrepreneurs, and remote workers. I conducted ethnographic observations at local events hosted by municipalities and EDOs, the official meetings of local organizations (e.g., city planning commissions), and in small, opportunistic meetings with individuals associated with EDOs. While in some ways much of what I was doing could be considered "studying up" (Nader, 1972), the people I spoke with were not hidden behind bureaucratic structures like they might be in urban communities and were quick to say yes to my requests for interviews. I contribute this accessibility in part due to my institutional affiliation at a well-respected university, as well as my perceived expertise on the topic as someone from said institution. In fact, a few months into my fieldwork I published a widely circulated editorial article related to rural economic development in *CityLab,* which was brought up on multiple occasions

by people who were a part of my study (Hardy 2018). I also believe that my race and gender, as a white man, aided in access to many parts of my fieldsite, especially since I was born in the Upper Peninsula and could use my familiarity with the region to my advantage during recruitment. While I did not ask about the identities of my participants, I believe that the vast majority were white. During my fieldwork, I intentionally sought out and successfully interviewed most of the women involved in the EDOs of Houghton and Keweenaw Counties. Yet, women still only made up about a third of my interviews, and only about half of those were actually staff or board members of EDOs. This reality, in part, exposes the very racialized and gendered nature of economic development, entrepreneurship, and municipal government in the Keweenaw.

While interviewing people I often kept an interview outline open on my laptop which is also where I took notes. For observations, I carried small notebooks with me and wrote jottings (Emerson et al., 2011) throughout events and if any ideas popped up in my head during the day. At the end of a workday, I usually typed up my jottings and reflections. Starting in late 2017, nearly a year before I started my fieldwork, I collected policy documents associated with rural community and economic development in the State of Michigan. These included various gray literature produced by non-profits (e.g., reports on regional economies), municipal documents for planning (e.g., 5-year plans for local cities and villages), and documentation and websites associated with regional and statewide initiatives (e.g., the Innovate Shore campaign). My work was also continually informed by reading and collecting local and regional press on businesses, municipal activity, development initiatives, technology, and other relevant topics.

As will become clear in the chapters ahead, much of my time was spent following the organizations who did economic development work in the Keweenaw. This included all of the organizations listed in Table 1.1 (except for the Keweenaw Convention and Visitor's Bureau), as well as city and county planning commissions in Houghton County. The work of economic development that I witnessed ranged from seemingly complex tasks such as running business incubators (i.e., the MTEC SmartZone) and coordinating delegations of Finnish high-tech companies visiting the region (i.e., the FinnZone), to the more mundane work of assisting municipalities develop planning documentation (i.e., the Western UP Planning and Development Region) and conducting site visits for local employers (i.e., the Keweenaw Economic Development Association).

I began my fieldwork explicitly interested in the work of economic development and the high-tech economy at a *regional* level. I was inspired by the work of Annalee Saxenian (1996) and others in critical computing (e.g., Chan, 2013; Irani, 2019; Lindtner, 2020) who showed me how some places (e.g., Silicon Valley) became known as bastions of computing, and how other, often peripheral places, had once been ignored but were now being celebrated as new spaces for technological innovation. I chose the Keweenaw as my fieldsite after a year of living in Manistique working on a different, though related, project. During that time, I paid close attention to news from across the UP about new businesses, economic development projects, and efforts to promote more high-tech start-ups. This is how I learned about a whole host of organizations and initiatives that sought to promote regional innovation through high-tech entrepreneurship in the Keweenaw. This included: the MTEC SmartZone, a high-tech business incubator based in Houghton-Hancock; the Innovation Shore initiative, a group of EDOs working with Michigan Technological University in Houghton to promote the region as a uniquely innovative rural place; and the FinnZone, a group of EDOs and local universities working to attract Finnish[20] high-tech companies to the region.[21] What I witnessed, at first from afar, was a rapidly growing ecosystem of business incubators, tech start-ups, and EDOs in the Keweenaw Peninsula that sought to remake the region for purposes of high-tech entrepreneurship and innovation.

Within four months of arriving in the Keweenaw, it became clear that the organizations doing economic development work in Houghton and Hancock embodied the normative approaches that I had read about in policy documents from places like the Aspen Institute and in scholarly literature on rural development. This research and policy advocated for tactics such as clustering approaches to firm development (Porter, 2000) and the promotion of unique rural assets for talent attraction (Mathie and Cunningham, 2003; Flora et al., 2018). While these kind of tactics seemed to be working successfully in Houghton and Hancock, I didn't see many "success stories" in other parts of the region. Much of the recent scholarly literature in rural development, at the time, was beginning to advocate for regional approaches to promoting rural innovation (Dabson, 2011; Eder, 2019; Munnich and Schrock, 2016; Naldi et al., 2015). So, after the holiday season, I partially

[20] The Keweenaw Peninsula has the highest concentration of Finnish Americans in the country.
[21] Chapter Four has more detail and describes the work of these organizations and initiatives.

shifted my focus to center organizations who were doing work in the more peripheral areas of the region, those that I hadn't seen many success stories coming out of.

I chose two of these organizations to embed myself in: Main Street Calumet (MSC), based in the Village of Calumet in Houghton County; and the Keweenaw County Economic Development Committee (the EDC), based in the unincorporated community of Eagle River, but whose members lived throughout the County. I attended their meetings, I interviewed board members and staff (in the case of Main Street Calumet), and volunteered my labor when asked. Given my background researching and working for social media companies, I became involved in the strategic communication work of both organizations. In MSC, I worked with their Communications Committee to brainstorm and create a branding guide for their organization as they sought to increase their online presence to attract remote workers and families to their area. At the EDC, I led a workshop with some of their board members to revamp their website copy and strategize about what their communication needs were. In both cases, this allowed me added insight into the organizations, their goals, and their plans for achieving said goals.

I think of my ethnographic practice as being a mix of approaches from multi-sited ethnography (Marcus, 1995) and the anthropology of policy (Shore and Wright, 1997). As Marcus explains in his now widely adopted approach (1995), "following" the phenomenon at the center of your ethnography is key to understanding its context in the world. While I remained somewhat bounded to the region at the center of my dissertation, I followed economic developers and other leaders through many meetings, organizations, and policy documents. Whenever possible, I followed their ideas and their policies to the state level and beyond. This allowed me to better understand the relationships between organizations, their ideas, and their day-to-day work. I also adopted an approach of "studying through," explained by Shore and Wright in the introduction to their edited volume, *Anthropology of Policy*: "tracing ways in which power creates webs and relations between actors, institutions and discourses across time and space" (1997, p. 14). Rather than conceiving of myself purely as "studying up" due to my focus largely on community leaders, I chose to think of my project as one that sought to understand who had what power, and in what situations that power (or lack thereof) allowed individuals and organizations to shape economic development and policy-building practices.

In this dissertation, I focus on where my phenomenon took me as an ethnographer, but it's also helpful to note where it *did not* take me. In particular, the Keweenaw Bay Indian Community (KBIC), a nearby tribal reservation and government belonging to the Lake Superior Band of Chippewa Indians[22], was absent from the majority of economic development activities in the Keweenaw Peninsula. Their absence was notable, particularly because of the tribe's importance in fighting for sustainable energy solutions and watershed protection from pollution throughout the region, topics that were important to many economic developers due to the recent flooding and skyrocketing electrical utility prices. Though, their absence was not surprising due to the legacy of settler colonialism in the United States, and in Michigan in particular. While Michigan has many tribal reservations spread throughout the state, during my research, I never saw any collaboration between the state and tribal governments on topics related to economic development. In fact, the legacy of economic development in Michigan, especially in its logging and mining era, is deeply embedded in the theft of land from the Anishinaabeg. As Theodore Karamanski writes in "Settler Colonial Strategies and Indigenous Resistance on the Great Lakes Lumber Frontier" (2016):

> "The pine logging frontier was a white-capped wave that washed over the northern Great Lakes region in little more than a generation. When it had crested, European American settlement to some extent receded, leaving ghost towns and shrunken, economically challenged communities in its wake. The Anishinaabeg remained" (p. 46).

In other words, the waves of settler colonialism that created the conditions for depopulation that led to the widespread demands of economic development today, continue to perpetuate the exclusion of Indigenous communities in determining what economic futures for the region could look like.

As an ethnographer, participant observation and my role as the interpreter of my fieldsite was the primary way through which I made sense of economic development at a regional scale. To reflect on my own interpretations, and bring them together over time, I frequently turned to in-process memoing to guide my data collection. I think of memoing as an explicitly analytical process. As Emerson et al. (2011) describe: "while writing detailed, descriptive fieldnotes, ethnographers simultaneously begin to pen brief, analytically focused writings to—asides and commentaries—to

[22] The Lake Superior Band of Chippewa Indians are a part of the Ojibwe (or Anishinaabe). The L'anse Reservation, home to KBIC, is the oldest reservation in the State of Michigan.

identify and explore initial theoretical directions and possibilities" (p. 123). These memos allowed me to step away from my fieldwork for a short while, usually for a few hours, to generate some initial analytical insights. I used the resulting memos to feed back into my interviews and observations in order to focus and guide continued data collection (Emerson et al., 2011).

Towards the end of data collection, and especially once I had left my fieldsite, I utilized concept mapping and qualitative coding to guide my continued analysis and writing. Concept maps are a key aspect of situational analysis in grounded theory (Clarke and Friese, 2017). These included: 1) situational maps, "which lay out the major human, nonhuman, discursive, and other elements in the research situation of concern and provoke analyses of relations among them;" 2) social worlds maps, "which lay out the collective actors, key nonhuman elements, and the arenas of commitment within which they are engaged in ongoing negotiations;" and 3) positional maps, "which lay out the major positions taken and not taken...around issues found in the situation of inquiry" (Clark and Friese, 2017, p. 366). These concept maps (see Figure 1.6 for an example) helped me make sense of the various key actors and their positions in my fieldwork. With the themes that emerged from my memos and concept maps, I performed first-cycle open coding (Saldaña, 2009) using both a deductive and inductive approach. I was both searching for quotes from my interviews that could speak to the themes that were emerging from my data, and unearth new themes that hadn't come forth in my memoing or mapping processes.

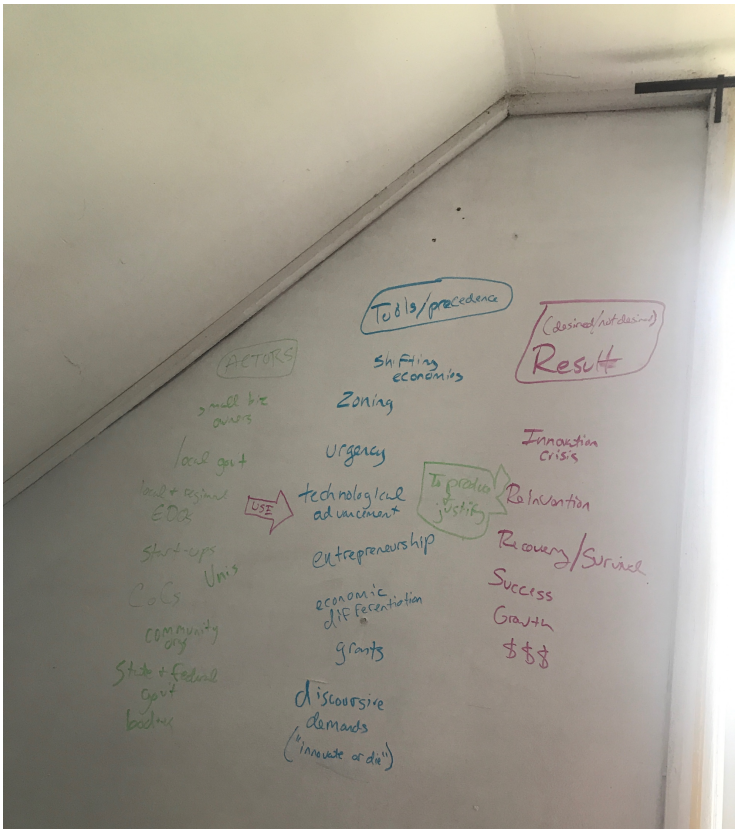



Figure 1.6: An example of a concept map. In September 2019, I painted one wall of my office with white board paint to better facilitate large concept mapping sessions. Photo by author.

Before, during, and after my dissertation fieldwork, I frequently struggled with my insider/outsider status. In fact, this struggle has been happening since I began my graduate research in 2014. I was born in the UP, my family is from the UP, and I grew up spending a lot of time in the UP, but I did not actually live there full-time until 2017. My background gave me something of an insider status, which I took advantage of in my fieldwork as I operated under the assumption that people would be more candid with me if they knew that I was familiar with the region, rather than just an outsider from Ann Arbor. I further unpack how this entered into my own research practice in Chapter Four during my discussion of Yoopers.[23]

I frequently learned about other people's connections to the UP as well. If it didn't emerge naturally in my interviews, which it did a majority of the time, I often asked where people grew up and why they decided to live in the Keweenaw. In what follows, I share an interview with

[23] Yooper is the demonym of people who live in the Upper Peninsula.

someone whose ties to the region had similarly fluctuated, had returned recently, and had brought with them a very unique outlook on what regional transformation looked like in the Keweenaw.

**Social Contracts and the Promises of Development**

By December of 2018, I was in my fifth month of fieldwork and beginning to feel data saturation approaching rapidly. I had already interviewed most of the staff from the EDOs in Houghton and Hancock and been working at the coworking space for three months. My interviews and observations were leading me into an already well-tread direction of research that looked at successful adoption of normative approaches to innovation in rural communities (Dabson, 2011; Eder, 2019; Munnich and Schrock, 2016; Naldi et al., 2015). But where were those organizations and communities that struggled with adopting these approaches?

A couple of people recommended that I reach out to Tim, a recently retired United States diplomat, who had moved back to his childhood home in Keweenaw County the previous year.[24] Tim had been working with some local business owners and regional EDOs to get Keweenaw County's Economic Development Committee (EDC) going again. The EDC was put on hold a few year's prior when the County went non-performing[25] on federal loans they had gotten to update the Keweenaw Mountain Lodge, a historic county-owned lodge that was built as a public works project during the New Deal. While under non-performing status, the necessary matching funds to secure grants and loans for economic development purposes would be impossible to get, so the EDC had disbanded. Then in July 2018, the Lodge went up for auction and was purchased by a private developer from Texas. This purchase allowed for the county to pay off their loans and their non-performing status was waived. Shortly after the auction, the EDC started up again.

I emailed Tim for an interview and he obliged, meeting me on a December weekday afternoon in the conference room of 101 Quincy. Within the first few minutes of the interview, he began talking about how his experience as a diplomat facilitating economic development relationships with other countries around the world influenced the way he viewed the Keweenaw. He framed his work as

[24] All individual's names used are pseudonyms.
[25] To go non-performing means that the County defaulted, or was unable to pay their loan back.

a diplomat within the context of the Washington Consensus, a neoliberal response to developing countries whose economies were in crisis that was adopted by the United States and other international actors (e.g., the International Monetary Fund). Tim believed that through the Washington Consensus, the United States had spent so much time worrying about developing the rest of the world so that America could gain market dominance, yet the gains and benefits that were realized from this process were not seen by most rural communities in America. As Tim put it, "This area was left progressively further behind as the world goes into this age of globalization and large parts of America are prospering." In the Keweenaw, he saw the declining quality of education, rising electricity costs, a dysfunctional airport ("worse than Mogadishu"), and growing effects of climate change all pointing to a society and federal government that had effectively abandoned any chance of progress in rural regions like his.

One major change that had a cascading effect throughout the region, Tim argued, was the decreased access to private land in the county.

> "[The EDC] is going to challenge [rural areas being left behind] and we're going to work on those issues and see if we can make impact on. An example of one that's specific to my County is that it has almost more land that's privately owned than any other County in the state. If you take Isle Royale out of the equation, then you know, nobody comes close to us. And Isle Royale really isn't, you know what I mean? It's a national park, it's not really the County. But the residents who live in, occupy the County, you know, everything's private. Now that worked when the, when the C&H Mining Company was there, you know, Calumet and Hecla Mining Company, because there was a social contract that wasn't written, but you know, everybody bought into.
>
> "C&H would give you a good job for those who want a job. You could rate a good job in the sense that you could raise your family on what you were paid. Your children would have a chance for a better life than you, you know. My grandfather worked 30 years in the mines. He was able to, you know, raise his family, get all of his kids through college and you know, pay off his home and have a, have a long retirement, you know, a 20 plus year retirement. That was a very satisfying end of his life when he got to connect to all of his family and you know, they would also allow people open access to the land. Anyone who

wanted to go out and have a camp could have one. At Lac La Belle, my family got one when C&H opened up for leases and it was $50 for a year for a 50 year lease.

"You know, you couldn't beat that. And where are you going to get prime, you know, waterfront land like that? So, you know, it worked, but C&H has gone. And now you have a hedge fund that owns the land that's in Boston that cares nothing about the community, knows nothing about the community, doesn't want to know anything about the community, doesn't want the community to know anything about it. You try and Google it and look it up, there's nothing out there! There's no website that says, 'This is our corporate ethos, we're corporate citizens.' There's none of that. You know, there's somebody who is answering to a bunch of institutional investors who are looking at bottom lines and that's what they care about. They're taking all the value of the land, and they're, you know, not worried about access to the land."[26]

For Tim, and for many others in rural communities, access to wild, remote, or undeveloped land is one of the most important things about living in a rural place. In the case of Keweenaw County, the ability to access to private land underwent drastic transformations in Tim's lifetime. The ability to recreate, in particular, was key to living the good life that was so important to the lifestyles that made the region an attractive place, and attracted outdoor-oriented professionals. While public land, particularly public parks and government-owned forest land, are likely on the forefronts of most people's minds when they think about natural recreation in rural places, private land played this role in the Keweenaw. Because of the early privatization of land by large mining and timber operations in the late 19th century, most private land to this day was held solely by one proprietor. Tim told me about the social contracts that were built up between the early mining companies and their employees and neighbors. Access to land for hunting, fishing, and recreating has always been important in that region. Because of this, and to ensure the happiness of their employees, companies allowed for those types of activities on their lands, and even leased their land to employees so they could build cottages, like Tim's grandfather.

[26] Quotes from interviews and observations are edited for clarity (e.g., removal of "um," stutters). I'll call attention to the excessive use of "you know" throughout many quotes. For more information about UP dialect and English/es, see Kathryn Remlinger's *Yooper Talk* (2017). For a humorous account of Upper Midwestern English, see the YouTube video, "Midwest Voice Translator" by comedian Charlie Berens.

This way of life, Tim argued, was threatened with the collapse of mining in Keweenaw County and the dissolution and purchase of C&H assets by Universal Oil Company (now Honeywell) in the late 1960s. The Calumet & Hecla Mining Company had amassed landholdings all over the Keweenaw Peninsula in the early 20th century, mostly through buying out smaller mining companies. Universal Oil ran up against militant labor unions in the mines they had purchased and ultimately closed the mines shortly after buying C&H.[27] Since then, the land associated with the mines has transferred hands from one far-away corporate entity to the next. Now, massive swaths of private land in Keweenaw County are held, and logged, by The Rohatyn Group (TRG), a multinational private equity firm. Even though TRG contracts the management and timber operations on the land with local companies, Tim and others didn't see a true connection to the community and the land like that which had existed with C&H. There were no longer social contracts between a local company and its employees and neighbors. Instead, there were anonymous global investors making money off of the land, facilitated by "a hedge fund...that cares nothing about the community."

The transformation of public-private relationships that facilitated land access was just one issue of many for Tim related to his home region. As described above, he felt like the Keweenaw had been left behind by the federal government. This was compounded by the municipal budget crisis that I heard about many times during my fieldwork. The State of Michigan had drastically cut its revenue sharing with municipalities during the 2000s (Michigan Municipal League). Revenue sharing was the primary way that taxes were funneled back to communities by the state to pay for core government services. This placed a disproportionate demand on local municipal budgets, already strained due to depopulation, and municipal leaders, who were largely volunteers, to make up the difference. Without the right kind of funding and right kind of leadership, Tim and his fellow EDC members faced an uphill battle to bring about the regional transformation that seemed necessary to save the region.

**Regional Transformation**

[27] This historical information was gleamed largely from the online finding aid of the "Calumet and Hecla Mining Companies Collection" at the Michigan Tech Archives. The finding aid alone is 480 pages.

The efforts to transform a region, to bring it "up to date," to create economic opportunity, are at the center of this dissertation. This is not a new phenomenon. Others have studied it in rural communities from many different perspectives. For example, sociologist Anthony Winson and anthropologist Belinda Leach documented the impact of globalization on rural Canadian communities and small cities in the 1990s (2002). Rural sociologists John Allen and Don Dillman wrote about the impact (or lack thereof) of the "Information Age" on a rural town in Washington State in the 1980s (1994). Others have looked at rural transformation from the perspective of environmental shifts (Ashwood, 2018; Sherman, 2009) and technology introduction (Kline, 2000) as well. But it is processes of regional transformation that are at the intersection of rural geography, culture, and place-based innovation in the 21st century that are my focus.

I situate my understanding of my phenomenon and fieldwork within the continued economic changes occurring as a result of neoliberalization and the information economy (Harvey, 2005). The decline of manufacturing in Midwestern American cities in the latter half of the 20th century signaled a transition from Fordism and the "mass society" to neoliberalism and the "information society" (Neumann, 2016). This also signaled an overall shift more broadly in what are called "productivist" sectors, those economic sectors that largely focus on the production of physical goods (e.g., manufacturing, agriculture). Waves of deregulation, privatization of public goods, and the decline of Keynesian welfare policies lead to increased forms of financial speculation, shifts in supply chains away from the local, and increasing globalization of market capitalism (Harvey, 2005).

These same economic changes also affected rural communities in the United States and Western European countries, as the supply chain of natural resources and agricultural goods globalized (Cloke and Godwin, 1992; Lowe et al., 1993). With these changes came a sorts of identity crisis for rural sociologists and development scholars, who had until the 1980s largely relied on the primacy of agriculture, natural resource extraction, and manufacturing as the economic indicators of rural communities (Cloke and Godwin, 1992; Halfacree, 1993). At the same time, economists

and development scholars were beginning to advocate for place-based innovation[28] strategies that focused on regional development and the promotion of clusters around specialized industries (Porter, 2000; Munnich and Schrock, 2016).

In rural regions of developed countries, many communities turned to amenity-based tourism and other industries that relied on nature and local culture to respond to their new economic realities. The adoption of amenity-based regional economies has since been widely advocated for as a tool to promote population growth and rural resiliency (Ulrich-Schad and Duncan, 2018). Rural development scholars and professionals saw these changes and a wave of theorization about the role of local amenities and unique regional assets began to emerge in the mid-1990s (Flora et al., 2018; Jóhannesson et al., 2003; Slee, 2005). In other words, new rural economies based on unique rural assets emerged at the same time that theories of place-based innovation emerged, largely as a result of the upending of global markets and financialization of global capitalism that happened in processes of neoliberalization (Harvey, 2005).

This brings us to where we are today, when the creation of regional high-tech economies as a new source for successful development are being promoted for regions all over the world, including rural America and the Upper Peninsula of Michigan. The newest wave of scholarship and policy that advocates for rural transformation focuses on the opportunities in the high-tech economy and the unique perspectives that rural places can bring to the table (e.g., Aspen Institute, 2019; Gallardo, 2018; Muro, 2020). It is this regional transformation that seeks to upend the rural deficit that I began this chapter with, to remake rural regions so that they can more readily serve the needs of capitalism and economic growth through resource extraction.

**Dissertation Outline**

In the chapters that follow, I document the many ways that organizations, municipalities, and individuals sought to transform the Keweenaw Peninsula, to modernize its economic opportunities.

[28] Place-based innovation strategies (e.g., policies promoting high-tech clustering) emerged in America out of place-based economic theories of the 1990s, such as the work of Michael Porter on regional competitiveness (Johnson, 2007).

Chapter Two: Rural Transformation, Development, and Innovation is my literature review chapter. The chapter serves the primary purpose of situating the phenomenon at the center of my ethnographic fieldwork. In the chapter, I look to scholarly literature from the fields of rural studies and geography to understand how the rural is represented through social and economic means, and how scholars' understanding of rurality was transformed through the economic shifts of neoliberal capitalism and globalization that accelerated at various points in the second half of the 20th century. I bring this into conversation with literature from economic development on place-based economic development theories that were advanced in rural communities starting in the 1990s. I frame this using literature from science and technology studies on economization and financialization, situating neoliberal processes that seek to transform people and land to better serve capitalism. Lastly, I bring together literature from critical computing, regional studies, geography, and sociology to understand how innovation and entrepreneurship have become so central to economic development practices in and out of rural communities.

Chapter Three: Codifying Rural Readiness is my first of three data chapters. I look to new economic development tactics being adopted by EDOs in my fieldsite, and throughout the State of Michigan, to make rural communities more accessible to outside investment. In particular, I describe programs that seek to digitize rural assets through mapping initiatives and widely accessible data dashboards. I argue that this process works to identify the "right" and "wrong" kinds of rural places, in the process reshaping and repackaging rurality and rural communities through the "right" kind of rural data to attract outside investment. I call this process *codifying rural readiness*, and I show how new technological tools that are supposed to democratize access to development opportunities are actively part of the process to reshape rural communities so that they can better serve processes of economization and financialization.

Chapter Four: Crafting the Rural Entrepreneur tackles the role of regional rural culture in talent attraction. I follow the work of three EDOs working in the Keweenaw to promote and expand high-tech entrepreneurship and innovation throughout the region. I show how these organizations go through the process of identifying and extracting unique cultural forms from the region as cultural assets, transforming them into a type of rural capital that can be leveraged by anyone, whether they are from the region or not. This rural capital is marketed to find and attract the "right"

kinds of entrepreneurs and innovators to the region who can provide the "right" kind of interventions so that the region can ensure economic growth in high-tech economic sectors. I call this process *crafting the rural entrepreneur*, and through this chapter I show how it has become a key tactic for growing entrepreneurship in the Keweenaw.

Chapter Five: Zoning Rural Exceptionalism explores how uneven development happens within a region despite the adoption of policies and practices that are supposed to help entire rural regions. I unpack examples from my fieldwork to demonstrate how technological opportunity remains concentrated in the same communities that are reaping benefits for development. Drawing on the work of Aihwa Ong and other scholars of globalization and neoliberalism, I call this *zoning rural exceptionalism*, wherein rural communities are able to leverage economic development policy and the corresponding opportunities to differentiate themselves as a rural player in the new innovation economy.

Chapter Six: Economization and a "Turn to Assets" in Rural Economic Development serves as both the "Discussion" and "Conclusion" of this dissertation. I use it as an opportunity to reflect on how regional rural transformation happens and how we can use the framework of economization to better understand how this happens in my fieldsite. I unpack a historical moment that I call "the turn to assets" in rural development and how this turn has led from the commodification of culture and nature through amenity-based tourism to the demands that rural communities focus on new intangible assets in the form of innovation and entrepreneurship. I question what "innovation" even means when it is demanded of everyone, everywhere, and reflect on what it means for me to simultaneously critique and intervene in regional approaches to rural economic development.

## Chapter Two: Rural Transformation, Development, and Innovation

*"We know there's a lot of power in the UP, how do we harness it?"*

On a cold Wednesday morning in April of 2019, I attended the monthly breakfast of a Houghton-based economic development organization, held in the Finnish American Heritage Center in downtown Hancock. Entering the building, I hung up my winter jacket in the entryway, walked through a student art exhibit for the local liberal arts university, and into the Community Hall just as breakfast was being served. Grabbing a breakfast pasty,[1] I said good morning to a handful of familiar faces before sitting at a table towards the edge of the room. The featured speaker for the meeting was the Executive Director of a new UP-wide "private sector-led" economic development organization. The Director had until recently been the chief of staff for a State Senator from the UP and opened his presentation with a description of his typical commute when he worked in Lansing, the state capital: slow traffic, expensive parking, and panhandlers asking him for money every morning. He immediately pivoted into a series of slides with statistics on the UP, including its declining and graying population, stuff everyone in the room (i.e., local business and civic leaders) already knew. This was his way of painting the picture of the big, systemic problems that the UP faced as a whole. He argued that not only were we, meaning everyone in the room, in a position to fix this, but that we were also uniquely situated to provide something that other regions cannot: "We know there's a lot of power in the UP, how do we harness it?"

[1] A pasty is baked hand pie that is a well-known regional food of the UP, though it originates from Cornwall, England. Popular legend tells they were first introduced to the UP from Cornish miners who came over to work in the iron and copper mines of the UP.

His solution? The unique "relational and geographical assets" of the region. In describing "relational assets," he said that we as Yoopers[2] had unique relationships with each other and that there were region-wide organizational connections that everyone in the room brought to the table. He said, "A lot of times we think of our geography as a deficit, but in this case, it's an asset." He went on to describe how the remoteness of the UP was an asset with respect to cybersecurity and other technological capabilities. After speaking for a while, highlighting the work of different companies and organizations across the UP that embodied these assets, he closed by returning to his commute into the event that morning. He said he didn't have to battle traffic, pay for parking, or deal with panhandlers; in other words, the UP didn't have the same inconveniences and problems as urban areas. He argued that we needed to use that contrast to our advantage to transform the region by leveraging our unique assets.

This vignette reflects multiple topics that form the foci of this literature review chapter: (1) an effort to delineate and make sense of differences between the urban and rural; (2) a shift in economic development policy and practice since the 1990s that has pushed rural communities' to think about their assets rather than their deficits; and (3) a regional approach to economic and civic transformation that seeks to reframe rural places as attractive alternatives to the big city.

It is this transformation that lies at the center of this dissertation. *I am concerned with rural economic development, and how entrepreneurship and innovation, associated largely with the contemporary high-tech economy, get taken up to create new opportunities and promises for economic growth and prosperity in communities that often lack both*.

This chapter situates the phenomenon at the center of my ethnographic fieldwork. In this literature review, I call upon academic and policy literature to shape my analytical framework, to offer up language and concepts that aid in my analysis and help me give context to the words of my interlocutors and the content of my fieldnotes. I first turn to literature from the fields of rural studies and geography to demonstrate how the rural is represented through social and economic means, and how scholars' understanding of rurality was transformed through the economic and cultural

[2] Yooper is the demonym of those who are from and/or live in the Upper Peninsula of Michigan. See Chapter Four for a more thorough examination of the Yooper.

shifts inherent in the expansion of neoliberal capitalism and globalization in the second half of the 20th century. I then review literature on the place-based economic development theories that were advanced as a panacea for rural communities starting in the 1990s; these emerged in response to the impact of the aforementioned socio-economic transformations on rural parts of Western countries. I then use literature from science and technology studies on economization and financialization to situate these responses in the neoliberal processes that seek to transform people and land to better serve global capital accumulation. Lastly, I bring together literature from critical computing, regional studies, geography, and sociology to trace how innovation and entrepreneurship have become central to economic development practices both inside and outside of rural communities.

**Social and Economic Representations of the Rural and Rural Change**

> *There is something desperately thin about basing an academic endeavor on low population density.*
> Michael Bell, "The two-ness of rural life and the ends of rural scholarship."

One goal of this dissertation is to illuminate how representations of the rural, and rurality itself, get taken up in processes of economic development, high-tech innovation, and marketing regions for purposes of economic growth. The word "rural" is simultaneously a geographic and cultural marker that is imbued with social, economic, and political meaning. As a marker, it is applied to both very specific places and vast geographies, depending on the viewpoint adopted in a given context. It contains meaning for both the people who live in places deemed rural, and for those who imagine what rural places are from other places. This results in an ambiguity of meaning that must be both wrangled and embraced to make sense, later on, of my own interpretations of my fieldwork data. To address this ambiguity, I first turn to the work of rural sociologist Michael Bell and his concept of the "rural plural" to outline what is possible when the boundaries of rurality are dismantled to give us a sense of the many different ways it exists. Following this, I hone in on economic understandings of rurality. In particular, I show here how massive global economic shifts of the late 20th century transformed how scholars conceptualized rurality.

It is absolutely necessary to have a cognizant and operationalized view of rurality because of the how "rural" itself is often framed, with intent or not. In literature and popular culture, the rural is constructed through discourses of deficits and opportunities, interventions and extraction. I choose "plural" and explicitly economic understandings of the rural to aid my analysis in this dissertation.

*The "rural plural"*

In the summer of 2019, I joined a group of economic developers to imagine what state support for rural Michigan could look like in the future.[3] In the eyes of these developers, the existing Michigan Department of Agriculture and Rural Development (MDARD) was merely paying lip service to the "Rural Development" part of its name. The group came together around the idea of lobbying for a new state department and position in the Governor's cabinet. We[4] believed that this department could unite rural communities across the state and aid in the sharing of resources. We thought this unity would also make rural Michigan collectively more visible to urban and suburban officials in Lansing, Detroit, and Grand Rapids as valuable contributors to Michigan's overall success.[5] I wrote the policy memo that served as the guiding document for this new initiative. This memo highlighted the various challenges facing rural Michigan (e.g., population loss, declining municipal funding from the state, crumbling transportation infrastructure) and proposed a new Michigan Department of Rural Affairs and Development, and a variety of new "opportunities" that this theoretical department could undertake as its work. For the sake of continuity, we chose to continue using the county-level classification that was created by MDARD as part of the Michigan Rural Development Fund Act, which allocated development support to 59 counties in Michigan

[3] This group was formed because of a conversation that I had with the economic developer from the vignette that opened this chapter. I approached him after his presentation and introduced myself, asking to meet with him. He called me a few days later and we had a lengthy conversation about rural economic development opportunities. During our conversation, I mentioned new government entities being formed in Indiana and Kansas to promote rural development. Inspired by our conversation and the idea of doing this in the State of Michigan, he brought together this group. It initially included the two of us, an economic developer from Marquette who represented the interests of that area, and an economic developer from Traverse City who represented the interests of counties in Northern Michigan.

[4] I intentionally use "we" here because I was largely responsible for crafting the narrative of the group.

[5] By framing rural communities through their "value" to the broader economic success of Michigan, we played into capitalist notions that places and people must have "value" in order to be considered worth of state intervention and resources. My collaborators were largely economic developers on board with this ideology and discourse. Throughout my work, I have had to grapple with my own entanglements that perpetuate narratives of value and economic success, often at-odds with my own intellectual project.

that were deemed rural. These 59 counties would then become the places served by this new department.

Shortly after the initiative was announced at an economic development conference in the UP later that summer, members of our group were approached by municipal leaders who wanted to be included in the group's efforts. They were from counties that were classified as urban by the state, yet whose municipalities were largely agricultural in nature and mostly on the periphery of small cities (e.g., Saginaw, Flint), and that had experienced industrial collapse in the latter half of the 20th century. These local officials saw their communities as rural and facing many of the challenges that we outlined in our document. But, by using the state's existing framework,[6] we had excluded them from our efforts to propose a state organization that could potentially benefit communities like theirs. When my colleagues told me about the concerns of these municipal leaders, I realized that we had fallen into the same trap that Michael Bell critiques in the quote that opens this section. We had adopted a state-sanctioned definition of rurality that relied upon population density, and in doing so had excluded communities that saw themselves as rural, but that the state did not recognize as such.

The quote from Michael Bell comes out of his own work theorizing the different ways that scholars have defined rurality. He posits a distinction between "first" and "second" rural to make sense of the many definitions and the work they do. The first rural is that which is measurable, mappable, has boundaries, and is always held in contrast with the urban. The second rural is boundless and discursive, inhabiting places of consumption and experience not necessarily always associated with a specific rural place. In his words:

> "By first rural, I mean the rural everyone knows as rural, and that we typically regard as prior: the epistemology of rural as space, as lower population density, as (at times) primary production, as nature, as the non-urban which is so plain to see—the material moment of the rural. By second rural, then, I mean the rural we often have trouble knowing, and that we typically regard as a secondness, even when we do know it: the epistemology of rural

[6] MDARD restricted rural development funds to either counties with populations lower than 60,000 or micropolitan statistical areas. MDARD is not transparent in their documentation with respect to why these specific numbers are chosen.

> as place, as unconfined to lower population density space, as (at times) consumption, as socionature, as meanings which we may never unambiguously see—the ideal moment (in the philosophical, not the evaluative, sense) of the rural" (Bell, 2007, p. 408).

It is this material or first interpretation of the rural, or what Bell later calls the "mater-real," that has substantive consequences. The first rural makes its appearance in the MDARD categorization, upon which our group sought to build. In our case, there was an in-group and an out-group based on this categorization. Governance, and the funding that governance provided, required a boundary. It is the inability or unwillingness to transcend boundaries that separates the first from the second rural. Though Bell argues that a focus entirely on the second rural results in a complete abstraction of rurality, "politics with no polity, no category to advance or defend" (p. 411).

What Bell arrives at as an analytical middle ground that allows for both perspectives to take hold is what he calls the *rural plural*, "a conception of rural that equally embraces the epistemology and ontology of both first and second rural, and as well sees them both as moments in a plural dialog, spinning out in time into other rurals—rurals without number or priority—ad infinitum" (p. 413). The concept of the rural plural is an arrival at the recognition that both first and second definitions of rural are necessary in order for scholars to understand all of the powers and possibilities of rurality, within and outside the boundaries that we would normally draw as rural. By both acknowledging and breaking down boundaries, following rural and its many relationships with power, we can see, like we have done with concepts such as class, gender, and race, that the rural is everywhere. I adopt Bell's approach in my own understanding of rurality. I find that this analytic is a good middle place between the social construction of rurality and the material consequences of rurality. I believe that we need both to understand the complex production of rurality that happens in economic development policy and practice.

*Economy and rurality*

There has been much written about the place of rural economies in representations of the rural. As Bell argues, economic representations of the rural are a first rural understanding of rurality and have broadly relied on the rural's relationship to agriculture and natural resource extraction as a primary means of definition. I now turn to economic understandings of rurality primarily because my work engages directly with economic development, but also because rural studies has largely

sought to conceptualize rurality within relationships to land, labor, economies, and communities. In particular, I show here how massive global economic shifts of the late 20th century transformed how scholars conceptualized what it means to be rural. These perspectives are important for me to be able to, later on in the dissertation, speculate on what rural means *now*, in the shadow of the high-tech economy.

The decline of manufacturing in American cities in the latter half of the 20th century signaled a transition from Fordism and the "mass society" to neoliberalism and the "information society." Fordism took the form of mass production tied to mass consumption, wherein goods were produced in high regularity and quantity. This was tied to higher wages in productivist sectors such as manufacturing, such that the typical family could afford what they produced (Harvey, 2005). Waves of deregulation, privatization, and the decline of Keynesian welfare policies led to increased financial speculation, new forms of speculative investment, shifts in supply chains, and increasing globalization of market capitalism (Harvey, 2005).

Significant economic changes also occurred at the same time in rural communities (Cloke and Godwin, 1992). Until the 1980s, scholars in rural and community sociology in the United States and United Kingdom, from which the majority of rural scholarship has emerged, largely saw rural areas as being defined and embodied by their agricultural capacity (Cloke and Godwin, 1992). Rural areas were seen through a productivist lens, in that they, as a category, were a product of their own products. They were defined by what they provided economically: food and other natural resources (Lowe et al., 1993). The economic upheavals of the 1970s and 1980s brought classifications of rurality into question for many in rural studies, whose view of the primacy of agriculture in defining rural society was challenged (Cloke and Godwin, 1992).

Alongside this questioning of the primacy of agriculture was a questioning of rurality as being solely defined as its locality (Halfacree, 1993). Rural sociologist Keith Halfacree's influential article on shifting definitions of rurality argued that prior to the post-modern turn in the social sciences, scholars largely defined rural using descriptive (e.g., population density, agricultural) and sociocultural (e.g., values, behavior) characteristics that, they argued, separated the urban from the rural. In other words, the rural was different because it categorically had fewer people, different

occupations, and different belief systems compared to the urban. Citing others who critiqued this distinct separation as not being wholly true in all "rural" places (e.g., Newby, 1986), and those who argued for a type of urban-rural continuum that more readily reflected the changes happening in rural communities in mass society (e.g., Pahl, 1966), Halfacree argued that there was a different way to think of conceptualizing rurality: through social representation. The inability to reach a conclusion on a totalizing definition of rural was "neither desirable nor feasible," and in turning to understanding the rural as it represents space, we can then understand how the "space becomes imbued with the characteristics of these representations, not only at an imaginative level but also physically, through the use of these representations in action" (Halfacree, 1993 p. 34). In other words, by turning to how people represent rural in their own language and discourse, scholars can understand the solidification of the concept of the rural through social representation. Then, researchers can take those representations and reapply them onto physical space to understand how it embodies the rural.

This approach to understanding rurality was the precursor to the interpretations of Michael Bell, summarized above. Bringing together these shifting definitions with the shift in the economic and productivist framing of rural places, how do we conceptualize the economic changes that inspired these conversations to begin with? And how do those economic changes continue today, as is evident in the implementation of new forms of innovation and entrepreneurship as part of a growing high-tech economy?

Rural studies scholars Cloke and Godwin (1992) argue that because rural studies scholars found that rurality is contingent on locality and localness, it has become necessary to bring the theorization of economic shifts closer to the communities in question. Their work cautioned against the adoption of emerging concepts related to post-Fordism that were, at the time, largely being theorized at a nation-state level and in doing so attempting to make broad sweeping claims about the economic transformations happening. Cloke and Godwin noted that these claims did not respect the locality and different types of societal regulation that emerged at different scales of rural economies. Drawing from economic geographer David Harvey's worked on structured coherence, they argue that through examining social relations, the process of their formation, and their "spatial form," we can see how they come together through "differing modes of regulation

and societalization strategies that are pursued by the various historic and hegemonic blocs dominant within any particular area" (p. 326). They go on to argue that "the ensemble of institutional norms, relations and practices that form any particular mode of regulation are actually playing a role in constructing and maintaining a localized coherence suitable for the production of surplus value" (p. 326). In other words, by looking to different modes of regulation and social relations, and to economic processes that facilitate them in specific localities, we can see how economic shifts take place in such specific geographies while still maintaining an analytical link to broader economic changes.

Cloke and Godwin theorize rural change "as a whole series of movements between the differing practices and procedures of various strategies of regulation operating at overlapping scales" (p. 327). In sum, they argue that we need to understand how local norms of capitalist production and economic growth, and the kinds of behaviors and attitudes that support those norms, are shifting in the present moment. In so doing, it allows us to understand how rural places are changing within a "wider set of changing relations," instead of trying to unite them under one neat timeline of economic transition from mass society to information society, as was typical in the uneven development literature of the time.

This is particularly important to note when we think about what it means to be post-productivist. The entire conversation I have summarized above among rural scholars was started because there were large-scale and visible shifts in the role of agriculture as a defining economic sector of rural places in the United States and United Kingdom. Yet, many rural places were already becoming post-productivist long before the 1970s. In fact, much of the Upper Midwest region of the United States, in which my fieldwork took place, had already expanded to tourism and other forms of the service economy after logging peaked in the late 19$^{th}$ century and mining peaked in the early 20$^{th}$ century (Shapiro, 2013). This is not to discount the size and scale of the economic transitions that rural sociologists and geographers such as Cloke, Godwin, and Harvey wrote about. It is rather to note that an increase in service economies are largely seen as evidence of these economic shifts in rural places, yet service economies were already prominent in some rural economies before service sectors increasingly took hold in widespread ways as part of the "information economy."

Based on what is presented here, I ask: How are understandings of rurality changing in current economic landscapes? I intend to return to this question further in Chapter Six.

What I have sought to do here is summarize two different approaches to understanding representations of the rural and rural change. Through the work of Michael Bell and Keith Halfacree, I show how rurality comes to be understood through both material means and discursive or representational means. I introduced Bell's concept of *rural plural*, which will be a valuable tool for understanding the role of rurality in deciphering who and what is rural in the economic development initiatives that I document in this dissertation. Following this, I unpack the post-productivist shift away from agriculture as the dominant visible economic sector of rural communities in the United States and United Kingdom. Using Cloke and Godwin's work with Harvey's concept of "structured coherence," I show how it is possible to more readily view the realities of rural shifts happening at local levels in the age of neoliberalism. Both of these approaches will become important as I seek to understand how rural economic development practices become intertwined with entrepreneurship and innovation in the Upper Peninsula of Michigan.

**The Rural Responds**

In a 2018 article in *The Journal of Peasant* Studies, rural sociologists Jessica Ulrich-Schad and Cynthia Duncan proposed that rural America is home to three types of rural places: amenity rich, transitioning, and chronically poor. Based on a nationwide representative survey of over 15,000 people and 179 interviews, the authors document the "economic conditions, demographic trends and civic culture" of these three types of rural places (p. 61). The amenity-rich areas represent those places that have been able to use their outdoor amenities to make them "attractive to retirees, recreationists and 'laptop professionals,'" largely due to their perceived quality of life differences (p. 61). Amenity-rich areas have growing populations and economies, unlike transitioning areas (i.e., areas that often rely on natural resource extraction and manufacturing) and chronically poor areas. While their method and delineation of ideal types are not representative of all rural places, the success of amenity-rich rural areas are indicative of the success in community and economic development practice and literature to promote asset-based approaches to rural development.

The literature in rural development the past two decades has taken up the call of asset-based approaches to economic and community development.[7] In this approach, rural communities are encouraged to leverage the unique assets of their areas and regions to bolster and expand economic growth opportunities for their region. This can take many forms, including natural resource amenities (e.g., lakes, mountains) and unique economic opportunities (e.g., special industrial capabilities). In this section, I first briefly explain what I mean by rural economic and community development. Next, I turn to rural development literature that focuses on the transformation of unique rural assets and rural capital for the purposes of rural development and economic growth. Finally, I look at examples from the rural development literature to demonstrate how rural culture and natural amenities are exploited in practice, closing with a discussion of how all of these are indicative of processes of economization and financialization.

*Rural community and economic development*

Community development and economic development activities are wide-ranging, from distributing resources for low-income residents of a particular community to providing small business incubation services. Traditionally in urban areas, there is separation between a community development organization and an economic development organization, with community development focusing on building up community assets and institutions to serve all citizens of a specific community, and economic development focusing primarily on building economic opportunity and promoting economic growth and resilience in a particular place (University of Wisconsin Extension). To complicate this distinction, there is also "community economic development," which argues for a community-driven approach to economic development activity. But in many rural communities, and from my experience in my fieldsite, community development and economic development are pursued hand-in-hand, and are often driven by the same organization. In addition, some of these same organizations also engage in planning activities, such as zoning, land use decisions, and land development. And when each of these processes (i.e., community development, economic development, planning) are performed

[7] I historicize this uptake of asset-based approaches and put it in conversation with other literature in Chapter Six when I discuss what I call the "turn to assets."

in a rural community, they fall under the umbrella category of rural development.[8] Throughout this dissertation, I will frequently use the terms economic development and rural development interchangeably to describe all of these activities together.

As an example of a rural development organization that would normatively be solely a community development organization in an urban area, but in my fieldsite is all of the above, I will briefly describe the work of Main Street Calumet. Main Street Calumet (MSC) is a non-profit organization that was formed as part of the national Main Street America program. Main Street America started in the 1970s as a way to encourage community revitalization in historic downtowns throughout the United States. In the case of MSC, this involves things normally seen as community development, such as organizing the local farmer's market, creating and promoting events for Village citizens, and general upkeep of the downtown corridor, including connecting business owners to opportunities for façade improvement grants and lobbying for the creation of pocket parks where there were once abandoned buildings. But, in addition to this normative community development work, the Director of MSC also works closely with the Village Council to enforce and alter zoning and planning practices, partners with regional economic development organizations to encourage the purchase and revitalization (or removal) of run-down historic buildings, implements marketing campaigns to attract new businesses, and many other tasks that are typically associated with economic development.

I say all of this because academic literature in community development, economic development, and rural development often speaks similar languages and of similar development activities, while simultaneously citing and espousing different underlying literature. While my own work pulls predominantly from the fields of rural sociology and rural geography as noted above, here I am going to turn to a handful of approaches to rural development and community change that are central to place-based theories of economic development to show how contemporary

[8] Rural development has historically focused on the elimination of poverty in rural areas, with rural areas being wholly characterized as being resource banks for urban areas that need to be developed and maintained to preserve flows of labor and agricultural products. Yet, recent shifts in global economies, travel, and communication have pushed researchers and professionals in rural development to rethink how they conceptualize different ruralities and the kinds of development activities that are promoted in the name of rural development (Ward and Brown, 2009).

recommendations for rural development professionals espouse an asset-based approach to development activities.

*Asset-based approaches to rural development*

In their influential article describing the origins of asset-based community development, planning and development scholars Alison Mathie and Gord Cunningham (2003) argue that an asset-based approach to community economic development emerged to resist a largely negative existing approach to urban development activities:

> "In the needs-based approach, well-intentioned efforts of universities, donor agencies, and governments have generated needs surveys, analysed problems, and identified solutions to meet those needs. In the process, however, they have inadvertently presented a one-sided negative view, which has often compromised, rather than contributed to, community capacity building" (p. 475).

In other words, a development approach wholly based in a community's needs largely relies on community organizations framing those needs as deficits that need to be solved for the sake of the community's health and prosperity. Organizations are incentivized by the granting structure that funds community development by focusing exclusively on the biggest deficits of their communities. This, as Mathie and Cunningham argue, results in these communities being seen perpetually in a negative light, as full of problems and despair, rather than as full of unique opportunities and, as they encourage in their framing, assets.[9]

Asset-based community development argues that community members are the ones who are best positioned to determine what development processes should look like through "identifying and mobilizing existing (but often unrecognized) assets" (Mathie and Cunningham, 2003, p. 474). It differs from then-normative forms of development in that it focuses more on the social assets that result from unique formations of social capital in communities. While not explicitly focused on the rural context, asset-based community development has become a popular tactic in rural communities, including those in my fieldsite.[10] As is seen in the vignette that opens this chapter,

[9] Scholars in postcolonial studies (e.g., Escobar, 1995) have similarly argued that peripheral communities in the Global South were portrayed as undeveloped in order to justify outside intervention.

[10] While it is named asset based community development (ABCD), the approach advocated by scholars of ABCD is a community economic development approach rather than solely a community development approach.

the language of this approach (i.e., assets over deficits) has been adopted because it helps, at least in the case of my fieldsite, economic developers market rurality as being different from, and superior to, urban communities.

Another approach to rural community prosperity and change that focuses on the unique assets of a community is the "Community Capitals Framework," popularized by the *Rural Communities: Legacy and Change* book. Originally written to accompany a PBS television series, it is now in its fifth edition and is assigned widely in professional programs training people who go on to work in a variety of rural development positions (Flora et al., 2018). The book, and associated publications (e.g., Emery and Flora, 2006) argue that rural development professionals need to consider seven different community capitals: natural capital, cultural capital, human capital, social capital, political capital, financial capital, and built capital. For a visual representation of this, see Figure 2.1 below, taken from Flora et al. 2018 (p. 17).

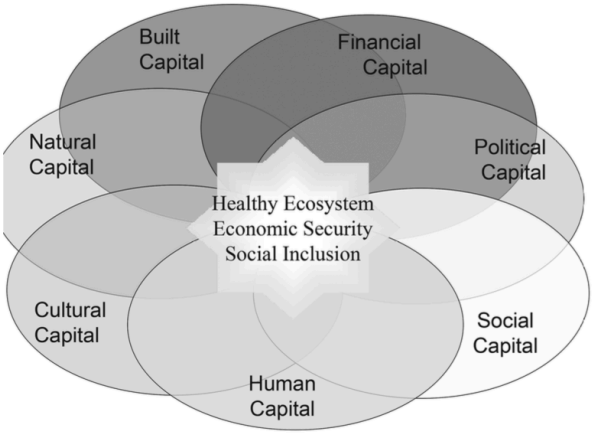



Figure 2.1: Flora et al.'s Community Capitals Framework. Taken from their text.

Flora, Flora, and their associated co-authors across two decades of publications argue for this holistic approach to understanding rural development resources in order to encourage sustainable communities. Similar to asset-based community development, the Community Capitals Framework argues that in order to do rural development right, and in a sustainable way that reflects the diversity of rural communities, rural development professionals need to consider the multiple intersecting, and often intangible, assets of rural places.

A third approach that counters the rural as deficit narrative is the rural capitals framework, proposed by rural development scholars Gary Bosworth and Roger Turner. In their words:

> "By challenging the hegemony of a 'rural penalty,' and seeking aspects of comparative advantage that lie within the suite of rural capitals available to businesses, we can think about rural businesses as creators of value more broadly, including their contribution to community development. Such an approach should help rural business policy to become less 'relational' in its nature and shift from compensating for 'not being urban,' and instead becoming more tailored to promoting the opportunities that pervade within rural contexts" (2018, p. 9).

The rural capitals framework is theorized directly in relationship to the role that businesses play in the development of rural communities as job providers and sources of economic growth. In this framework, rural capital joins the other forms of capital outlined by Flora, Flora, and others, but is also framed as a sum of all of those capitals. In their analytical framework, Bosworth and Turner (2018) refer to rural capital as a "symbolic capital" in that it is a kind of "rural identity that can be conferred to the business" (p. 3). They argue that the most beneficial rural businesses, that contribute to community development by actively opposing the "rural penalty" (i.e. rural deficit) are those that create products and services which "[draw] value from rural capital" (p. 6).

To bring these three different approaches together analytically, it is useful to think about them as being "in response to" the economic shifts that I drew out in the first section of this chapter. Natural resource based economic sectors which were largely rural in the United States were devalued through globalization and neoliberalism. These economic changes were associated with offshoring to cheaper countries around the world that favored increasing profit margins, the increased financialization of the American economy in promoting the FIRE sector (finance, insurance, and real estate). I will go into this further in the section on economization and financialization. But what this resulted in is rural communities being required to come up with new "assets" that would prove their worth in economic regimes that require all regions, all communities, and all people to prove their worth and how they contribute to economic growth. I will return to this idea of the "turn to assets" in Chapter Six, but for now I'd like to quickly summarize how both culture and nature were taken up in rural economic development activities as being the "right" kinds of rural assets.

*Cultural and nature-based experiences as the new rural asset*

In a 2015 article, Korsgaard and colleagues make the distinction between what they call "rural entrepreneurship" and "entrepreneurship in the rural." "Entrepreneurship in the rural" is entrepreneurial activities conducted in rural communities for the sake of profit that do not contribute to the "overall well-being and development of the rural area...[having] only limited engagement with the locality as a meaningful location" (p. 11). "Rural entrepreneurship," on the other hand, "engages with its location not primarily as a space for profit but with 'place' as a location of meaningfulness and social life" (p. 13). In other words, "entrepreneurship in the rural" does not need the rural and does not give back to the rural in the same way that "rural entrepreneurship" does. I introduce this section with this summary because it is a helpful way to frame how cultural and natural experiences have become key to rural development tactics since the 1990s.

R.W. Slee's 2005 article, "From countrysides of production to countrysides of consumption?" does an excellent job of documenting the shift from productivist to consumption-based economies in the rural United Kingdom. In particular, Slee argues that the shift away from productivism (e.g., manufacturing, agriculture) has resulted in a push towards consumption-driven economic sectors such as tourism, second-home ownership, and the active shaping of rural amenities so that they can be marketed and sold to outsiders. Similarly, Jóhannesson et al. (2003) argue that a similar cultural turn in rural development has occurred in Iceland, and the country has responded to declines in its fishery-based economy by embracing culture-based ecotourism.

Other scholars in economic development, regional studies, and rural studies have advocated for or explained the importance of these consumption-based sectors in developed economies in many places, including: the revival of cultural heritage through tourism in Sweden (Ekman, 1999), identifying and cultivating Welsh products that can be marketed as unique agricultural products of a region (Kneafsey et al., 2001), natural heritage tourism in Scotland (Courtney et al., 2006), the promotion of arts-based economies in the rural Midwestern United States (Winkler et al., 2016), and the broad success of cultural approaches to entrepreneurship in Norway (Cruickshank, 2018).

Returning to the distinction of "rural entrepreneurship" versus "entrepreneurship in the rural" (Korsgaard et al., 2015), we can think critically about consumption-oriented forms of entrepreneurship and the economic development policies and practices that promote it. In growing consumption-based sectors, such as tourism, this turn to cultural and nature-based experiences in rural places does a kind of rural entrepreneurship, in that it is frequently in response to broader economic shifts that have resulted in some sort of decline in prior rural economic sectors (e.g., agriculture, fisheries). In doing so, the attempt is to alter the economic future for the region in which it is performed, essentially to save it from the fate that many other rural regions in decline have experienced. In other words, there must be a *constant creation of new rural assets* in different regions, so that they may *differentiate themselves and offer unique consumptive experiences that ensure their survival*.

*Economization and financialization*

This transformation of rural culture, rural land, and other types of rural assets into something new to be exploited for purposes of economic growth can be better understood through the frames of economization and financialization, two concepts which have been heavily theorized in scholarship in science and technology studies (STS), anthropology, and related disciplines the past 20 years. The purpose of this section is to introduce these ideas so that I may take them up in more depth throughout the dissertation when I seek to show how processes of economization function in my fieldsite.

STS scholars Çaliskan and Callon (2009) describe economization as the process through which things, people, behaviors, organizations, and institutions become part of the economy. For example, STS scholar Michelle Murphy explores the economization of life, or the ability for individuals to produce wealth for a national economy (2017). Murphy says that the economization of life is in part, "nam[ing] the practices that differentially value and govern life in terms of their ability to foster the macroeconomy of the nation state" (p. 6). One example she explores is the creation of GDP. She argues that it was created to track the economy of a nation using measurements of population and economic output, among other things, allowing economists to construct a world wherein population growth was antithetical to good life and economic growth. Using contemporary campaigns that promote behavioral and economic interventions in the life of

a girl, she also shows how these campaigns' goal is to optimize productivity across the lifespan using big data, making the girl a more productive member of her nation state.

Critical computing and STS scholar Silvia Lindtner (2020) frames economization within the demands of neoliberal technocapitalism that is shifting requirements for development and progress to the individual, or "the demand placed on individuals to self-actualize as economic agents made responsible for their own survival" (p. 3). One way that she shows this is through investigating incubation and accelerator programs that seek to take entrepreneurs and give them access to an entrepreneurial toolkit that allows them to "render oneself attractive to logics of investment" (p. 133). In the tech world, this looks like hardware prototyping, post-it-note walls, wireframing, and the sorts of "recipes and techniques...summarized in downloadable PDFs" that are put together and made available online to others who want to recreate the open source, technological lifestyle that permeated in tech circles in the early 2010s (p. 133). She argues that these tools and the broad promises of innovation were crucial in translating the economization of life (Murphy, 2017) into what Lindtner calls "entrepreneurial life." In this way, economization is how people and their ideas get subsumed into discourses of technological progress, often in the name of democracy, justice, and access to opportunities for self-improvement. It is a process through which people are urged to reshape themselves as entrepreneurial so that they are both more in line with dominant narratives of technological innovation *and* more readily accessible to investment capital.

The ability to ready oneself for capital investment can also be thought of through the lens of financialization. In this way, financialization is an aspect of economization. Financialization represents the transformation of people and assets into goods that can be optimized for investment. As economic geographer David Harvey (2005) shows, financialization was directly tied to the refashioning of global economies in the 1970s and 80s towards post-productivism and the globalization of markets. In combination with decreased regulatory constraints governing financial markets, Harvey argued, "financial activity could flourish as never before, eventually everywhere" (p. 33). This also birthed new "entrepreneurial opportunities" in markets that emerged to solidify and accelerate neoliberalism (e.g., information technology, biotechnology). These new markets quickly spawned power players (e.g., Bill Gates) and there was a general diversification of business practices, "extending backwards into resource extraction and production and forwards

from a trading base into financial services, real-estate development, and retailing" (Harvey, 2005, p. 34).

Financialization had far-reaching effects, both on people and other commodities, such as land. In his book *Rated Agency*, cultural theorist Michel Feher documents shifts toward financialization that went beyond merely encouraging entrepreneurialism. In fact, he argues that "progressive" Western governments of the 1990s (e.g., the Clinton administration in America) took a "third way" that was different than purely neoliberal or Keynesian approaches, instead encouraging their citizens to frame themselves as individual opportunities for investment:

> "Rather than breed self-reliant entrepreneurs constantly calculating the costs and benefits of their decisions, they encouraged their fellow citizens to embrace the condition of investees—that is, of men and women capable of earning and maintaining the trust of temporary employers, lenders, or venture capitalists" (p. 161).

Making oneself attractive for investment was key, he argues, to citizens contributing to the broader economic success of regions.

In rural communities, timberland and farmland also became increasingly financialized. A relaxation of tax codes and an increased demand for stable investment opportunities that would result in steady returns resulted in nationwide grabs for rural land (Gunnoe, 2014). This was especially true for timberland and farmland, as Gunnoe (2014) documents, "Together these two sectors have seen over fifty million acres of land change ownership type in recent decades" (p. 480). This resulted in a series of investment firms buying up vast swaths of rural land, extracting as much value as possible in a relatively short period of time, and then selling it off to another firm that would do the same. This has detrimental impacts "on rural communities that rely on land for their economic livelihood" (p. 480).[11]

[11] This process of timberland land grabs occurred in the UP following the collapse of mining. In Chapter One I mentioned this as it relates to the Calumet and Hecla Mining Company, which was sold to Universal Oil (now Honeywell) in the late 1960s. It's land, which amounts to thousands of acres, has since passed through the hands of multiple private equity firms.

STS scholar Alexander Dobeson argues that, like financialization, economization transforms rural communities to better fit the demands of neoliberal capitalism. In his research with Icelandic fisheries, he reveals:

> "the economisation of the small-boat fishers has furthered the economisation of the rural as such, with the rise of a new culture of liberal rural capitalism in which private ownership structures, individual entrepreneurship and market performance decide who stays afloat, rather than collective belonging, community-based forms of solidarity and redistribution" (p. 17).

In this case, Icelandic fisheries were restructured into a new national lottery structure. The resulting processes made it so fishers were freed from their rural locales and no longer had to pool together their catch with the other fishers in their communities. Dobeson refers to this process as economization, in that it has both "reconfigured not only the ways in which markets change practices of harvesting and production, but also the cultural meaning of small boats as former paragons of rural independence that traditionally have spread ownership and risk across communities" (p. 18).

What I show here is that the transformation of rural assets can be viewed through the lenses of the concepts of economization and financialization. In what I described above, culture and nature become assets, demanded by asset-based community development and other place-based economic development theories, that can ensure the continued economic growth of rural communities under neoliberal capitalism. Rather than waste away now that the old ways of exploiting the forests, mines, and animals are no longer able to capitalized upon, there are new ways to do so. By turning to the unique assets of a community, rural places can find themselves enthralled in processes of economization too.

Using the concepts of economization and financialization, I ask how does regional culture get taken up in processes of economic development? I specifically turn to this research question in Chapter Four where I explore how specific cultural traits become exploited for the purpose of attracting entrepreneurial outsiders.

**Regional Transformation for the 21st Century**

The Merriam-Webster dictionary defines innovation as the introduction of something new. This definition, of course, misses much that has come to be bound up in that word. One way that economists of the 20th century made sense of innovation was through what Joseph Schumpeter (1943/2003) called "creative destruction": "The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation...that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (83). While entrepreneurship and innovation have often gone hand in hand, there is an increasing recognition that they both do not always apply to the business of the invention. In particular, there are increasing calls placed upon *people* and *places* to make themselves innovative and entrepreneurial, even outside the context of business. Discourses of innovation and entrepreneurship demand a specific lifestyle and mode of development.

As critical computing scholars Lindtner (2020) and Irani (2019) have argued, innovation and entrepreneurship have been transformed and proposed as tactics that individuals can use to intervene in broader economic systems. This is in line with the economization of everyday life (Murphy, 2017), which demands that people modify and streamline their lives to successfully integrate themselves into markets.

Given the topic of my fieldwork, the goal of this section of my literature review is to discuss how the rural is being made accessible to the high-tech innovation economy. To contextualize the expanse of high-tech innovation and entrepreneurship outside of those places normatively and historically associated with high-tech innovation (e.g., Silicon Valley, Boston), I first turn to the work of critical computing and STS scholars documenting this expansion. In particular, I bring together the literature on regional advantage and entrepreneurial citizenship to characterize the geographic and social elements that influence the expansion of the innovation economy. Following this, I look to the literature that advocates for specific tactics promoting place-based innovation to reveal how scholars in business and economic development claim that rural communities are supposed to use their geography to their advantage for the purposes of growing high-tech and

innovative companies. Lastly, I turn to the literature on zoning to unpack how geographies are transformed through policy and other "zoning technologies" to better serve global flows of capital.

*Where is contemporary innovation?*

The widespread growth and dominance of the high-tech industry in media portrayals has made it the bastion of what it means to be an innovative economic sector in the 21st century. The high-tech industry has gone from the world of software and hardware to including the now-ubiquitous "Uber of X" model of business innovation, which frequently takes a particular business model and digitizes certain aspects in particular ways to "disrupt" markets and "innovate" on existing models. The results of this and the dominance of the high-tech sector are nowhere more visible than recent legal rulings in California that sought to regulate employment under companies like Uber, which responded to the legal proceedings essentially saying that they are not a service provider, but a high-tech platform that facilitates connections (McKay, 2019).

Uber, and other companies seen as being at the forefront of the most recent platform tech boom (e.g., Facebook), benefit from a legacy of technological innovation clustered in specific geographies. As technology and planning scholar Annalee Saxenian argues in *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, these regional centers of innovation and entrepreneurship, embodied by the success of Silicon Valley companies from the 1970s to the 1990s, exist because of "dense social networks and open labor markets." The networks and markets enable people working in the same or adjacent industries to "[learn] from one another about changing markets and technologies through informal communication and collaborative practices" (1996, p. 2-3). Saxenian contrasts it to the technological innovation that occurred in Boston's Route 128 corridor after World War Two, but wasn't able to compete with the new and innovative business structures and economic relationships emerging in Silicon Valley at the same time.

However, it would be erroneous to believe that Silicon Valley is the only place from which contemporary high-tech innovation emerges. Recent scholarship in computing has shown the how entrepreneurs who live in so-called "developing" or "peripheral" places are fueling new and different types of technological advancement. Moreover, they often do so with a reflexivity that

engages with the center-periphery model that dominates the technology sphere (Avle and Lindtner, 2016; Chan, 2013; Freeman et al., 2018; Irani, 2019). As STS scholar Anita Say Chan notes in the Preface to her book, *Networking Peripheries*, "Such diverse threads unsettle the unspoken presumption that a single, universal narrative could adequately represent the distinct digital futures and imaginaries emerging from local sites today" (2013, p. *xi*). The globalization of innovation discourse posits the high-tech sector as a savior for the downtrodden; this means that those tech centers on the periphery, such as Avle and Lindtner (2016) write about with Accra and Shenzhen, are "simultaneously feeding into but also resisting western understandings of what counts as technological innovation and design" (p. 2241).

The rapid and increasing demands from governments and corporations to accelerate technological innovation, and the resulting institutions that support it (e.g., start-ups, incubators), are creating what I am calling an "innovation crisis."[12] This innovation crisis demands an "innovate or die" attitude of many places and people throughout the world as the tech sector is seen as a last ditch effort to turn around economic prospects in a world that is increasingly designed only for the wealthy. This crisis has in part been fueled by the rise of the creative economy in the 1990s and 2000s. As scholars have noted, the tech start-up and creative Internet boom of the 1990s led to the massive casualization of professional labor and normalized risk as an inherent and necessary part of being an employee within innovative tech and creative industries (McRobbie, 2016; Neff, 2012). In a related movement, urban planners and academics advocated deliberate cultivation of a "creative class" (Florida, 2002). In turn, governments worldwide adopted this approach as part of public policy (e.g., Michigan's "Cool Cities" initiative started in 2003). Adoption of this approach has contributed to and likely accelerated the massive wave of gentrification that accompanied the growing knowledge economy that seemed to come to a peak in the past two decades. Even Florida himself has come to recognize his role in this current urban crisis: "It became increasingly clear to me that the same clustering of talent and economic assets generates a lopsided, unequal urbanism in which a relative handful of superstar cities, and a few elite neighborhoods within them, benefit while many other places stagnate or fall behind" (2017). The casualization of labor and incorporation of risk taking that became an inherent part of the creative and new tech industries

[12] I am influenced by Janet Roitman's framing of crisis as a "historical and experiential condition" (p. 2). I explore this in more detail in Chapter Six.

(McRobbie, 2016; Neff, 2012) worked hand-in-hand with the economic policies to help incentivize real estate speculation and the movement of large corporations into downtrodden urban areas. This became an extension and accelerant of existing gentrification in urban areas (Neumann, 2016). I return to the idea of the "innovation crisis" in Chapter Six of this dissertation.

*From technological innovation to the innovation of the everyday*

As is evident here, there are increasing calls upon businesses to take up the banner of innovation in a globalizing marketplace, and to set one's region apart from others. The ubiquity of innovation (and its partner entrepreneurship) have seeped their way into the discourse of everyday life, the demands of self-improvement, and what Lindtner (2020) calls "self-upgrade." This is especially clear in contemporary shifts to incorporate innovation into the processes of development and governance.

Through her research in the design industry in India and America, critical computing scholar Lilly Irani proposes the concept of "entrepreneurial citizenship" to make sense of how those working in tech and design get caught up in contemporary innovation to monetize their beliefs into labor:

> "The entrepreneur, no longer just a manager, has become an 'agent of change,' an ideal worker, an instrument of development, and an optimistic and speculative citizen. This citizen cultivates and draws what resources they can...into the pursuit of entrepreneurial experiments in development understood as economic growth and uplift of the poor...Entrepreneurial citizenship promises that citizens can construct markets, produce value, and do nation building all at the same time" (2019, p. 1-2).

What Irani shows through her fieldwork is that contemporary demands for innovation take designers, working for development NGOs and others, and divert their desire to change the world through development into a need to add value to monetizable design projects. India was a particularly interesting case in which to identify this because the country has increasingly shifted its efforts from a model of centralized planning for development to adopting private and NGO-based development (Irani, 2019, p. 9-10).

These high-tech futures, Lindtner and Avle (2017) argue, are being presented as unique and global opportunities for empowerment and economic self-sufficiency. Innovation and entrepreneurship

engender what they call "tinkering with governance": "a variety of actors, including government officials, policy makers, technologists, designers, and investors, are experimenting with who is included and excluded from political processes based on people's ability to self-fashion as both technological and economic actors" (2017, p. 2). In particular, they look to new policies and modes of governance in Ghana, the United States, and China that mix up the technological and political and make it so that they serve each other, but especially so the increasingly technological "serves political interests at various regional, national, and transnational scales" (2017, p. 12). For example, in 2015, China's Prime Minister adopted the approach of "mass entrepreneurship" after visiting a grassroots hackerspace and seeing the work of high-tech entrepreneurs there (Lindtner and Avle, 2017). Here we begin to see how mandates of innovation through entrepreneurship begin to seep out of firms and markets and into the everyday lives of people in and outside the tech industry, as well as into policy documents and classrooms (Sims, 2017).

Silvia Lindtner argues in her book, *Prototype Nation*, that the rise of "making" (as in the makerspace movement) was in and of itself a result of neoliberal capitalism, shifting the labor of economic transformation and possibility onto the individual in the form of "self-upgrade." As she writes:

> "The historical condition that gave rise to making was marked by a coming to terms with how technology had enabled the entrenchment of what is commonly thought of as key characteristics of neoliberal capitalism: the economization of the environment, of natural resources, and of life itself in the name of progress and development; *the demand placed on individuals to self-actualize as economic agents made responsible for their own survival*; the displacement of people and animals in the name of national sovereignty, global competitiveness, and security" (p. 3, emphasis added).

What we see here is how innovation itself became tied to certain types of entrepreneurship that were deemed as the appropriate tools for economic intervention. Further, the labor of making these interventions was placed upon individuals through policy and governance that included and excluded based on the ability to transform oneself for the demands of technological innovation (Avle and Lindtner, 2017) and the ability to yourself intervene individually in social problems (Irani, 2019).

*Clustering innovation for rural regions*

What I've tried to demonstrate thus far is that regions do not just happen to become known for their entrepreneurship and innovation, and people do not just happen to become entrepreneurs and innovators, *they are made*. Rural regions have a long history in the United States of being made for purposes of economic extraction, through land management, and natural resource exploitation. This is largely done to bring them up to speed with the advances of urban areas, and for the benefit of urban areas and economic growth. In particular, I'm interested here in what is called "place-based economic policy" (Johnson, 2007). In his article, "Place-Based Economic Policy: Innovation or Fad," agricultural economist Thomas Johnson situates a current wave of place-based economic policy that has focused on regional clustering:

> "Beginning in the late 1990s, place-based economic policies gained favor with practitioners. Cluster development, entrepreneurial programs, incubators, and local quality of life strategies rose to prominence. Social scientists responded with the development of new theories of cluster development, knowledge spillovers, and amenity-based development. They developed cluster analysis tools, entrepreneurial training and stimulation programs, and economic impact analyses" (2007, p.2).

Johnson says that many different things could have influenced this wave of new place-based economic policies that have dominated rural economic development the past 20 years. Though, we are seeing a clear trend here in: the decline of productivist economies; the increasing demand for regions to reinvent themselves through the knowledge, information, and digital economies; and the intense marketing that is required of rural places in amenity-based economies that have come to replace productivist economies at a wide scale. I speak about place-based economic policies here, rather than in prior sections in which I talk about theories of place-based economic development (e.g., asset based community development). But the connections between the two are clear, and they work in tandem to guide the work of economic developers and others who are actually doing the rural transformation on the ground. Specifically, what I look to in this section is the concept of "clustering" for the purposes of promoting innovation at a regional level.[13]

[13] There are many critiques of how peripheral innovation is evaluated around clustering (Eder 2019). For example, Rosenfeld (2009) critiques existing cluster literature in that it largely focuses on quantitative measurements of clustering, which are harder to parse in rural areas where the effects of clustering might be seen on a much smaller scale (i.e., a few companies clustered rather than tens or hundreds). Further, Eder's literature review (2019) of peripheral innovation questions why peripheral communities should be innovative. Eder finds that this literature largely focuses on the notable examples, which usually aren't even that peripheral in that most have close ties to

Discussion among economists and others of industry clusters and region-based agglomeration of certain industries (e.g., the auto industry in Detroit) is longstanding (Munnich Jr. and Schrock, 2016). But, economist Michael Porter's 1990 book, *The Competitive Advantage of Nations*, is often cited as the text that is responsible for the wide-ranging academic literature and planning policy in America and the European Union on clustering. Porter's theory of industry clustering went beyond normative views of clusters at the time in that it incorporated understandings of social capital, as well as entrepreneurship and creative destruction, in order to show how successful industry clusters can be explained and made (Munnich Jr. and Schrock, 2016).[14]

Clustering dominates the rural economic development literature and a recent push for rural innovation (Dobson, 2011). But industry clustering is inappropriate for rural communities (Munnich Jr. and Schrock, 2016). It can easily replicate the "company town" phenomenon, wherein a region might have a host of communities, all dependent on one specific business in their town that are all in the same industry (e.g., mining towns). Economic development scholars Munnich Jr. and Schrock (2016) argue that focusing on the knowledge produced and needed by clusters is more informative than focusing on specific industries. They contend that rural knowledge clusters "[derive] competitive advantages primarily through accumulated, embedded, and imported knowledge among local actors," (p. 166) and that this is aided by local institutions such as universities and the success of clustering is embedded in an understanding of local history. They use the example of a cluster of outdoor recreational vehicle manufacturers in Northwestern Minnesota as a prime example of a knowledge cluster. The companies there are not too concentrated, share knowledge and workers, leverage local colleges and universities to their advantage, as well as benefit from being embedded in the local history as it relates to outdoor sports. As they see it, rural-specific knowledge could be used in order to create new clusters of

nearby urban areas. Also, the vast majority of existing literature on peripheral innovation focuses primarily on manufacturing (Eder 2019). This does not reflect contemporary discourses of innovation in popular media that focus overwhelmingly on high-tech economic sectors that are likely not going to be considered under the auspices of manufacturing in quantitative measurements.

[14] Annalee Saxenian's work in *Regional Advantage* makes a similar move, though her concept of regional advantage that explains the success of Silicon Valley shows that it had "a social and institutional setting that shapes, and is shaped by, their strategies and structure" (1996, p. 7). In other words, the success was mutually constituted.

innovative business that leverage the unique nature of rurality in order to participate in shifting global economies that are seen as leaving rural America behind.

Yet, there is an increasing awareness that rural regions largely do not cluster naturally, and that "the market" will likely not push contemporary innovative economic sectors to most rural regions without some sort of intervention. A recent report from the Aspen Institute (2019) argues rural regions require what they call "Rural Development Hubs" in order to appropriately promote innovative development. The report, titled "Rural Development Hubs: Strengthening America's Rural Innovation Infrastructure," argues that "innovation is not confined to urban America" (p. 3). Rural Development Hubs are "place-rooted organization[s] working hand-in-glove with people and organizations within and across a region to build inclusive wealth, increase local capacity and create opportunities for better livelihoods, health and well-being" (p. 16). Rural Development Hubs, then, act as intermediaries that promote regional innovation and clustering, taking a birds-eye-view approach to promoting more equitable rural development opportunities in rural regions.

There are two research questions that come out of this literature on contemporary innovation and clustering. First, how does the rural region at the center of my fieldwork seek to reframe itself through contemporary modes of innovation and entrepreneurship? Second, how do regional approaches to innovation break down? I return to these questions in Chapter Five of this dissertation. Given that the high-tech and digital economies are largely lacking from studies of regional innovation in rural places, I briefly move onto some of the literature on the role of information and communication technology in economic development as a place-based innovation tactic.

*ICTs and place-based innovation*

Contemporary discourse around innovation is centered upon the growth of the high-tech industry. Yet, most studies of rural innovation focus on manufacturing (Eder, 2019). Here, I briefly turn to literature on the relationship between economic growth, contemporary ICTs, and Internet adoption and connectivity.

In rural regions, ICTs were built up as something that could revolutionize business. Early research and policy work touted the benefits of technology for rural areas, stating that teleworking, eCommerce, and the outsourcing of call centers to rural areas would revive and strengthen rural communities (Slyke et al., 2001; Tsiligirides, 1993). Others have cautioned against this optimism (Grimes, 2000, 2003), and shown that these benefits depend on industry and business relationships (Smallbone et al. 1999). Yet, ICTs and the Internet have been trumpeted as silver bullets for rural economic decline in the much-lauded "Report to the President of the United States from the Task Force on Agriculture and Rural Prosperity" (Perdue, 2017):

> "Reliable and affordable high-speed internet connectivity will transform rural America as a key catalyst for prosperity" (p.2).

While some scholars in rural development have shown that the broadband adoption likely has a causal relationship in rural areas to increases in income growth and decline in unemployment (Whitacre et al., 2014a, 2014b), the scholarship is contradictory. For example, a recent systematic literature review on the role of Internet adoption and availability (Salemink et al., 2017) found that "there is a growing consensus that poor rural telecommunication infrastructure hinders rural development," yet policies that promote Internet connection haven't been successful (p. 367). Further, Erdiaw-Kwasie and Alam (2016) found that the rural digital divide prevented successful private-public partnerships in rural development.

Despite these barriers and the "rural penalty" in digital development (Malecki, 2003), there continue to be pushes for increasing technological innovation in rural regions. With that in mind, I ask the following research question: how do contemporary pushes for rural development propose the rural to be incorporated into technological futures? I turn to this question in the next chapter. Given the importance of policy for place-based economic development and innovation, following I turn to the literature on zoning to explain how economic policies and practices shape regions.

*Zones and Zoning*

Places, such as cities or islands, that have economic policies and practices that are more relaxed or "free" than the norm are nothing new. As architect and urbanist Keller Easterling (2012) documents, free ports have existed for over 2000 years. Their economic lineage can be traced all the way to the present-day in the establishment of the Special Economic Zones (SEZs) in the

1970s. Despite being created to enable the demands of capitalism, SEZs have come to be seen as exemplary of what it means to do free market capitalism, and a model that has been borrowed by even the most capitalist countries. In this section, I turn to zones and the process of zoning so that I may understand how and why particular kinds of exploitable neoliberal geographies are created.

Zoning technologies in China and India

Zones are a "dynamic crossroads of trade, finance, management and communication" (Easterling, 2012), but are diverse in their formation and ultimate functions. As anthropologist Aihwa Ong (2004) describes them in the context of China, zoning technology (e.g., Special Economic Zones) are used by the Chinese state to create what she calls a "variegated sovereignty." Variegated sovereignty is a name for the multiple systems of power and authority that vary between China's zones and the rest of the country so that certain political entities (e.g., Hong Kong, Macao) can be incorporated into a Chinese "axis of trade, industrialization, and gradual political integration" (p. 70). This system of zoning technologies also enables China to more readily participate in global markets and take advantage of foreign investment and trade. Many different types of zones at different levels of administration and geography have proliferated in China since the 1970s (Ngo et al., 2017). No longer are zones relegated to Chinese border cities, but also include office parks and neighborhoods of interior cities.

Following the perceived success of SEZs in China, India created policies to establish its own SEZs starting in 2000. Rather than being a space for increased sovereignty, anthropologist Jamie Cross (2010) argues that these SEZs rely upon and perpetuate the "informality and precariousness under which most economic activity already takes place in South Asia" (p. 358). In contrast to Ong's top-down narrative, a view from the bottom sees private entities in India partnering with large landholders in rural and peri-urban area to perform large land grabs that displace farmers and further disenfranchise the Indian countryside (Cross, 2010; Anwar and Carmody, 2016). This is similar to what Ngo and colleagues (2017) describe as happening at the municipal level of zoning technologies in China, that the processes are used for a concentration of power and resources in the hands of the few through land grabs and sideways business deals. As Cross (2010, 2014) shows in his work, the onus of zoning is placed upon private parties in India. In other words, it matters at

what level of governance the zone is created and administered. It also matters how those zones are developed and populated with respect to business.

The zone moves west

The successful adoption of export processing zones (EPZs) in Hong Kong, Taiwan, and Singapore, the same success that lead to the establishment of Chinese SEZs in the late 1970s, served as an inspiration for visiting British economists of the time. Economists, Peter Hall in the UK (1981) and later Stuart Butler in the US, would argue for the creation of what they call Enterprise Zones (EZs). Per Hall (1981), these EZs were envisioned as areas of cities that would be "free of United Kingdom taxation, social services, industrial and other regulations. Bureaucracy would be kept to an absolute minimum; so would personal and corporate taxation...Wages would find their own level" (6). This language of a "free market playground" complete with lax taxation and regulation would be brought by Butler to the Heritage Foundation in the United States.

Neither in the UK nor the USA were EZs wholly taken up as originally intended. In their creation in the UK, they had a remission of property taxes, reduced capital gains taxes, removal of corporate income tax for certain buildings, and relaxed zoning and planning regulations (Hall, 1981). Hall argued that without other measures, such as the creation of an actual free port through the complete removal of taxes and the elimination of environmental and safety regulations, the new EZs would merely attract already existing businesses rather than encourage the creation of new ones. It took until 1993 for the USA to adopt federal legislation even remotely resembling the EZs as originally proposed. But by the time federal adoption was achieved in the USA, 38 states and the District of Columbia had already created their own version of EZs (Gunn, 1993).

While the EZs envisioned and enacted in the UK targeted industrial areas, the EZs in the United States largely targeted inner city neighborhoods, and frequently had minimum population requirements to assure that they were applied where people were living and working. As political scientist Timothy Weaver (2016) documents in his book, *Blazing the Neoliberal Trail*, the USA systematically withdrew its federal support for economic and community development and urban revitalization through the 1970s and into the 1980s. The EZs were seen as a way to leverage business and other private interests to develop downtrodden urban neighborhoods while

simultaneously increasing newly embraced free market ideas by relaxing regulations and taxes on corporations who do that work. The zones were so popular among certain states that by 1988, 510 had been created (Gunn, 1993).

Government reports and academic literature throughout the late 1980s and 1990s were split about the effectiveness of the state-created EZs. Those on the pro-EZ side argued that they were mostly effective at job creation, but were held back by poor regulation and implementation (Reeder, 1993; Watson, 1995). Sceptics argued that EZs were essentially all rhetoric (Wilder and Rubin, 1996), with an unplanned mix of tax incentives that were at times geographically targeted to at risk communities (Peters and Fisher, 2002). In reality, state-created EZs mostly failed to deliver those promises to at-risk communities, but instead become vehicles for delivering basic state and local economic development policies and practices. As Turner and Cassell (2007) note:

> "while enterprise zones began as a spatially targeted program designed to address geographically concentrated pockets of poverty, they gradually expanded into a set of state programs that are currently the largest component of state economic development budgets" (p. 100).

And while the creation of federal EZs in 1993, renamed "Empowerment Zones" to signal an explicit goal of empowering the urban poor, did open up additional lines of funding that were essential in the creation of economic development infrastructure in inner city neighborhoods, they were not effective either. Research accounts showed that on the ground, the new policies did not result in programs that actually helped poor people and majority people of color neighborhoods that they were designed to aid (Ninivaggi, 2011; Gotham, 2013). For example, in Ninivaggi's research in Philadelphia's Kensington neighborhood (2011), one of the oldest EZs in the country, she found that contrary to the rhetoric put forth by the zone, it "tends to exclude minority business owners and residents and that political antagonisms and ethnic and class divisions between different groups in the community are exacerbated by the structure of the zone program" (p. 281). Others similarly argue that the zones weren't put into place to help poor people and spur small business, but to give large corporations respite from corporate taxes and concentrate new business growth in places that were already growing (Gotham 2013; Weaver 2016).

The discourse of urban revitalization and empowerment is important to highlight, because I revisit it throughout this dissertation. This discourse was key to the success of the creation of federal Empowerment Zones that only increased the power of corporations in these geographies. Both Gunn (1993) and Weaver (2016) argue that the federal creation of EZs went from being a broadly conservative fiscal policy in the early 1980s to being an incredibly successful bipartisan measure following the Rodney King riots in 1992. In particular, Weaver argues that, "support for the policy broadened and deepened over the course of the 1980s and early 1990s despite a burgeoning body of empirical evidence that cast doubt on its effectiveness and...business—the ostensible beneficiaries of enterprise zones—did not initially promote them" (p. 26). He argues that EZs became a set of ideas that were initially pushed by right wing think tanks and intellectuals, but through a framing and attachment to ideologies of urban renewal and empowerment, slowly enrolled Democrats into the mass creation of neoliberal development policy that has entirely changed how the USA's economic and community development processes function.

What does zoning do?

I have demonstrated that in the USA, zoning became a process through which the urban and rural poor could be increasingly enrolled in global demands for free market policies. The same free market policies were the forbearers of the continued urban "revitalization" that lead to the mass gentrification of predominantly people of color and working class neighborhoods throughout the USA in the 2000s and 2010s. As Weaver says, "The ideological claim that lies at the heart of the enterprise zone idea is that high business costs, largely arising from taxation, bear significant responsibility for high levels of urban poverty, unemployment, and dereliction and that the solution to these ills can be found in lowering these costs" (p. 39). So what zoning shows us in the United States, is that through the classification of certain geographies in the name of development and empowerment, we can build economic systems that increase the power and capital of large corporations.

Returning to what scholars have shown in China and India, we see a different approach to zoning that goes beyond merely explaining the neoliberalization of economic processes. Instead, in Ong (2004) and others (Cross, 2014; Ngo et al., 2017), we come to understand how governance itself changes through the process of economic liberalization. Ong argues that zoning technologies allow

China to engage in multiple forms of governance, depending on geographic arrangement, which suit their changing economic needs in a globalizing market. These differences result in variegated sovereignty which "has created conditions of possibility for circumventing politically inconvenient obstacles and for bridging politically divided entities" (Ong 2004, p. 92). But, this increased sovereignty has also empowered different levels of government to exploit zoning technologies for their own agendas (Ngo et al., 2017) and enabled land grabbing and exploitation through new forms of citizenship (Cross, 2010).

In bringing these two sets of literature together, we begin to see why zoning matters for both governance and for the broader economic shifts of the late 20th century that support globalization and the spread of free market ideology. New zoning technologies in the form of Opportunity Zones are dominating the attention of economic developers throughout the USA as I write. The Opportunity Zones provide a familiar story, similar to the one I narrated about EZs here: they benefit the rich in the name of revitalization and economic regeneration. This dissertation seeks not only to understand how zoning technologies like the Opportunity Zones come to operate in rural America, but also where they come from and how other types of zones specific to Michigan (e.g., SmartZones) do the zoning they intend or are designed to do.

This section of the literature review chapter, "Regional Transformation for the 21st Century," has sought to contextualize the expansion of high-tech innovation and entrepreneurship outside of those places normatively and historically associated with high-tech innovation and the adoption of these tactics in rural policy and practice. I began with the work of scholars in critical computing and STS who investigate the expansive adoption of entrepreneurship and innovation as new region-making practices. Following, I turned to the literature that advocates for specific tactics promoting place-based innovation to understand how rural communities are supposed to, according to scholars in business and economic development, use their geography to their advantage for the purposes of growing high-tech and innovative companies. Lastly, I turned to the literature on zoning to unpack how geographies are transformed through policy and other "zoning technologies" to better serve global flows of capital. What I sought to do here was to demonstrate how the transformation of rural regions to fit into discourses of innovation and entrepreneurship

is important to contextualize within broader shifts, beyond just independent narratives of rurality and economic development.

## Conclusion

This chapter served the primary purpose of situating the phenomenon at the center of my ethnographic fieldwork. I first turned to literature from the fields of rural studies and geography to understand how the rural is represented through social and economic means, and how scholars' understanding of rurality was transformed through the economic shifts of neoliberal capitalism and globalization that accelerated at various points in the second half of the 20th century. I then looked at literature from economic development on place-based economic development theories that were advanced in rural communities starting in the 1990s in response to said economic transformations in rural parts of Western countries. I used literature from science and technology studies on economization and financialization to situate these responses in the neoliberal processes that seek to transform humans and land to better serve capitalism. Lastly, I brought together literature from critical computing, regional studies, geography, and sociology to understand how innovation and entrepreneurship have become so central to economic development practices in and out of rural communities.

Throughout this chapter, I have come to arrive at the research questions that I will explore in the chapters ahead. I reiterate my research questions here. In Chapter Three, I ask how do contemporary pushes for rural development prepare the rural to be incorporated into technological futures? In Chapter Four, I ask how does regional culture get taken up in processes of economic development? In Chapter Five, I bring together my findings from the previous chapters to answer the question, how does this rural region seek to reframe and reinvent itself through contemporary modes of entrepreneurship and innovation? Following that, Chapter Five also asks then, how do regional approaches to innovation break down? Lastly, in the discussion, I return to the understanding of rurality through economic representations and ask, how are understandings of rurality being exploited and/or changing in our current economic landscape?

Figure 3.1: St. Paul the Apostle Church in Calumet, Michigan. Built using local sandstone, the church is representative of the early wealth and prosperity of the region in the early 20th century. Photo by author.

## Chapter Three: Codifying Rural Readiness

The Keweenaw Peninsula is unique in the Upper Peninsula (and the rest of the United States) in the amount of snow that it receives. Jutting into Lake Superior and surrounded on all sides but one by its cold waters, the Keweenaw sits at the perfect spot in the Great Lakes to be severely affected by lake effect snow year after year. In fact, by March 2019, the county airport had already seen

170 inches, or over 14 feet, of snow. One snowy afternoon in March, after spending my morning working at the coworking space, I drove the 12 miles north to Calumet to meet with Lilith, the Director of Main Street Calumet, a local economic development and community preservation organization. I had been working with the organization for the past five months, assisting intermittently with some strategic communications and social media. My background in studying online communities was helpful for the organization, who had just received a small grant to expand their marketing efforts to attract remote workers and former residents to the Calumet area. For this grant, they needed a Communication and Branding Guide to guide the group's social media and website moving forward. They couldn't afford to pay anyone, and Lilith was already refusing paychecks from the cash-strapped organization. Given my interest in the organization's work, I offered my skills to help them pull the guide together from existing materials they already had. The goal of this March meeting was to go through the guide together, but that task was immediately sidelined.

I arrived at Keweenaw Coffee Works, a welcoming industrial café that occupied a renovated storefront in downtown Calumet, and set up a working station for myself at a big wooden table. This wasn't my first meeting with Lilith at the coffee shop, and as per usual she was late. Arriving flustered, she threw her gloves down on the table, "Sorry I'm late, everything's a clusterfuck out there right now." When I had parked my truck in front of the café I had seen that the street was closed a block down but hadn't thought anything of it. There had been a big snowstorm the night before, and I assumed the plow trucks hadn't gotten to it, so they had closed it down. The village was struggling to pay for many of its municipal services, including trash and snow removal.

"What's going on down there?" I asked, assuming she was talking about the closed road downtown. "The Family Dollar roof collapsed last night and I've been on the phone trying to deal with it all day," she said, peeling off her winter coat. Sitting down across from me at the table, we discussed what had transpired

The old Family Dollar Store building located in the downtown corridor was built in 1948 and was once home to a Woolworth's department store. At some point it had been purchased and transformed into a Family Dollar, which after outgrowing it, had opted to build a new building

down the road instead of renovating its historic building. By this point in 2019, the Family Dollar Corporation still owned the now-abandoned building. Village officials, including Lilith who was also the Chair of the Downtown Development Authority, had been reaching out to the corporation for months. Family Dollar not only had unpaid tax bills due to the village, but was also ignoring phone calls requesting that it remove the snow from its roof and sidewalk. The snowstorm the night before had been the last straw and the roof had collapsed. The owner of the neighboring flower shop and apartment building had evacuated her tenants, concerned that the collapse would affect the physical integrity of her building as well. The Village of Calumet was already so overwhelmed when it came to dealing with blight, redevelopment opportunities, and slowing the curve of depopulation. Lilith and other municipal officials did not have time to deal with another building collapse like this.

In the year that I got to know Lilith and her work in Calumet, it always seemed like there were new fires to be put out: building roof collapses, never-ending budget cuts, new village council members who wanted to dissolve the village altogether, and the everyday commotion of a rural village of 748 people governed mostly by an entirely volunteer village council.[1] Alongside these events were hopeful interventions being conducted by the likes of Lilith and collaborators at Michigan Technological University and regional development organizations. Their hope was to highlight Calumet's historic downtown, its beautiful architecture, and its affordable real estate. In doing so, attracting remote workers, former residents who were looking to return to the Keweenaw, and Michigan Tech employees who were being pushed out of Houghton and Hancock due to increased competition for limited housing. As Lilith often said in meetings and conversations about the economic development and growth goals of Calumet, "We're not looking for 100,000 people to move here – we just want 100 families."

In fact, the State of Michigan had a whole host of programs offered through the Michigan Economic Development Corporation and other statewide offices that sought to prepare

[1] Calumet has a Village Administrator rather than a Village Manager. The Village Administrator position is responsible for the day to day paperwork and business of the Village of Calumet, but does not have the decision making power of a Village Manager. Instead, the bulk of municipal decision making lies solely in the hands of the Village Council. For a variety of reasons, the Village Council in Calumet has difficulties reaching consensus, which means that decisions get made very slowly if at all. There is a high turnover on the Council because of this.

communities like Calumet, Houghton, and Hancock to compete for and attract redevelopment opportunities. While many communities throughout the Keweenaw Peninsula tried to participate in the state programs, they were often taken up piecemeal or abandoned by participating communities who saw the programs as too difficult and costly to engage in, with little benefit for remote rural communities. In this chapter, I turn to two of these programs created by the state: the Redevelopment Ready Communities initiative facilitated by the Michigan Economic Development Corporation and the statewide Integrated Asset Management framework promoted by the Michigan Infrastructure Council. I ask, *how do contemporary pushes for rural redevelopment prepare the rural to be incorporated into technological futures?*

Using development tactics promoted by these two programs, I show how they advocate for the digitization of rural assets through mapping initiatives and data dashboards. I argue that this process works to identify the "right" and "wrong" kinds of rural places, in the process reshaping and repackaging rurality and rural communities through the "right" kind of rural data to attract outside investment. I call this process *codifying rural readiness*, and I show how new technological tools that are supposed to democratize access to development opportunities are actively part of the process to reshape rural communities so that they can better serve processes of economization and financialization.

As I described in Chapter Two, in the face of the decline of productivist economic sectors in the second half of the 20th century, contemporary tactics for rural economic and community development have shifted. There was a turn to natural and cultural assets as sources of entrepreneurship, and, as I note above with Calumet, an increasing push for rural communities to figure out how to harness some of the spillover benefits of the high-tech sector by attracting remote workers and supporting small tech companies. These changes in regional economics, and the movement towards attracting outside real estate investment I document in this chapter, are inherently part of contemporary economic shifts that are part of processes of economization and financialization. Silvia Lindtner (2020) refers to this as "self-economization," or, "the neoliberal demand that one convert the self into human capital, investing in various aspects of one's own life in order to make the self attractive to the machineries of finance speculation and investment" (p. 13). What I document here and the rest of this dissertation is how this is done at a regional level to

make a region more attractive to outside capital, to remote workers, and to future-building practices that dictate rural regions must transform their use so that they can maintain their usefulness for others' enjoyment.

This chapter presents two different approaches to municipal revitalization and maintenance: redevelopment and asset management. I argue that both of these approaches work to codify rural opportunities for development in specific ways that often fail due to the resource constraints inherent of post-industrial rural communities. Building up this landscape of land interventions, I will later use it to show how the codification of rural land for the purposes of economic growth give us insight into what rural has come to mean in the shadow of the high-tech economy.

**Becoming "Redevelopment Ready"**

The work of community and economic development in rural areas is often framed as a process of "rural development," but the language of development implies that it is starting from a place of being "undeveloped." Framing the post-industrial rural landscape of the United States as being "undeveloped" is incorrect. As Arturo Escobar argues in *Encountering Development* (1995), development happens once a place has been discursively realized and appropriately framed by the right actors as being "undeveloped." He shows that the process of development and the field of development economics was largely created after World War II. Newly created development organizations and the countries that supported them used imposed discourses of hunger and malnutrition to justify global interventions in countries they deemed "undeveloped." This was done in an effort to indoctrinate the "Third World" into the modern capitalist present and continued through the 20th century through increased financialization of markets, and later imposed austerity measures placed upon countries who were deemed as falling behind in the ambitions of global development.

The communities that I present in this dissertation were already once considered bastions of the industrial economy in the early 20th century. Calumet, for example, was home to thousands of people and was the center of copper mining in the Upper Peninsula for decades. Locals in the Keweenaw say that Calumet was such a beautiful and prestigious town that it was considered as

an alternative state capitol. Rather, the processes of upgrade and evolution that I discuss in this chapter are more appropriately framed as "redevelopment." A framing of redevelopment allows us to understand how post-industrial communities are transformed to serve the new visions of the future.

Figure 3.2: The remnants of the Champion Copper Mill in Freda, Michigan. Abandoned mining infrastructure is widespread through the Keweenaw Peninsula. Photo by author.

Tracy Neumann writes about the transformation of large post-industrial cities in the latter part of the 20th century in her book, *Remaking the Rust Belt*. In her investigation, she says that, "Contemporary narratives of the inexorable decline of basic industry in North America and Western Europe make the postindustrial transformation of national economies and old manufacturing centers seem like a historical inevitability, the product of natural business cycles and neutral market forces" (2016, p.3). Rather, she argues that the creation of postindustrial places is actually an active process that was architected by "political and business elites" (p. 3). The process of redevelopment that Neumann traces in places like Pittsburgh brought with it waves of public-private partnerships that have worked over the past decades to revitalized inner urban corridors and craft economic transitions to service industries, finance, and now the tech industry. Redevelopment, then, is not linear with a single or finite end goal. Rather, it is an ongoing process,

whose goal posts are moved depending on the most promising industries determined by economists, the most up to date municipal planning strategies advocated by urban planners, and the clearest path forward as argued by corporate-backed think tanks.

The Keweenaw saw a slower industrial collapse than that which had started much earlier in American industrial history in places like Pittsburgh. Copper mining, which peaked in the Keweenaw around World War I, was responsible for much of the wealth that created the industrial landscape of the region and the villages and cities that were built up around natural resource extraction. The slow collapse of the mining industry from the 1910s to when the last copper mine closed in the Keweenaw in 1968 resulted in the same kind of issues that other post-industrial places faced: massive depopulation and large swaths of abandoned industrial real estate, largely left to decay for the following decades when it couldn't be salvaged or supported by the declining population. Yet the past three decades have seen an increase in the adoption by municipal leaders and their communities of a whole host of urban planning tactics and associated programs to deal with issues related to brownfield sites, downtown revitalization, blight, and abandoned buildings.

Very little redevelopment, as Neumann argues, is done solely by the state (e.g., local municipalities, state and federal governments alone). Rather, it is done in partnership with non-profit development corporations, real estate developers, private equity, banks, and a whole host of other partners. To streamline these partnerships and encourage redevelopment, local and state governments have concocted a variety of programs that seek to demonstrate to outsiders that communities are "open for business" and ready for revitalization.

It is one of these initiatives, Michigan Redevelopment Ready Communities (RRC), that I turn to here. I describe the RRC process, which largely pushes rural communities to transform so that they can more easily market themselves to outside investors that might otherwise see them as sources of unexploited capital, becoming revitalized in the process. While the RRC process is largely rejected by low-resourced communities in the Keweenaw as too difficult to achieve, I show how these same communities remain enrolled in similar development tactics by regional development organizations.

*Michigan Redevelopment Ready Communities*

The tactics that ready a community for redevelopment come in many forms, including: five-year municipal plans that outline development plans for the future, zoning ordinances that make construction restrictions more flexible, and local enforcement tactics that legislate and punish those whose property falls outside of the bounds of what is seen as desirable to real estate developers. The most recent initiative in the State of Michigan that has sought to promote these tactics is the RRC, a program administered by the Michigan Economic Development Corporation (MEDC). The MEDC is the statewide entity which facilitates economic development grants and opportunities for Michigan communities. While it is officially a private non-profit entity, it was created by the State for this purpose, its work is almost exclusively funded by appropriations from the State, and its largest community development grant is funded by the federal government and facilitated by MEDC.

The RRC initiative was started in 2013 and is a certification process that municipalities go through to demonstrate that they are "ready for development." In June 2019, I attended a webinar hosted by MEDC in partnership with Crain's, a business media outlet based in Michigan. Over the course of the hour-long webinar, participants heard from MEDC staff who facilitate the certification process to become Redevelopment Ready, a public official from a small city in lower Michigan who guided their city through the certification process, and a real estate developer whose firm uses the initiative to target their investments. At the beginning of the webinar, one MEDC staff person described the six key things that municipalities needed to do as part of the certification process:

- Community plans and public outreach: Communities need to develop master plans, if they don't have them already, and they need to be updated every five years. The public must be involved in this process to demonstrate buy-in.
- Zoning regulations: Communities need to have zoning regulations that are in line with the goals laid out in their master plans. The staff made a point to highly recommend a simplified set of regulations, as that would lower one barrier to entry for developers.
- Development review process: Communities must have a process established for reviewing development proposals and this must be easily accessible to potential developers on the municipal websites.

- Recruitment and education: Communities should be actively recruiting and educating members on municipal planning and zoning committees so they stay informed of the "best practices" for municipal development and planning.
- Community prosperity: Communities must have a mindset of economic development and growth for the future.
- Redevelopment ready sites: Communities must identify and propose one to three redevelopment "sites" (i.e., real estate investment opportunities) that will be marketed by MEDC as part of the RRC process.

The complete process to get RRC certification takes 12-18 months, according to MEDC, and involves the municipality working closely with staff and consultants from MEDC to ensure that each of the six key pieces are being addressed.

This webinar, and the program writ large, was largely geared towards municipal leaders and residents of Michigan's smaller cities and villages. The vast majority of large cities in Michigan, by 2013 when the program was established, already had five-year plans, streamlined zoning ordinances, and plenty of ties to real estate developers. A public official from Allegan, a small city in Lower Michigan, was part of the webinar to pitch the pay-off for participating in RRC as a smaller community:

> "All communities throughout the State of Michigan are competing for funding and attention of quality developers. When you have large cities like Detroit and Grand Rapids, it's hard for a city of our size, 5000 people, to stand out. So, the RRC program really allows us to stand out, seek the attention of funding sources and developers that know how to create projects that will change the landscape of our city. One way it allows us to stand out is that it shows we have plans and processes in place so that the state knows when they go to provide funding, that the funding will be used to better the community. It also proves to developers that might not know that Allegan exists, that city council, staff, and the community at large are open to investment and development. There are a lot of communities out there that are frankly scared of change and development, as a developer they're not too excited about investing in a town that doesn't have community buy-in."

While the RRC program is framed as an opportunity for rural communities to "change the landscape of [its] city," it does this largely through streamlining and simplifying their internal

processes so that they can demonstrate that they aren't "scared of change and development." Simultaneously, RRC certification is a tool of visibility that calls out to real estate developers, "Hey, look at us!" Rather than give rural communities funding to do redevelopment and revitalization themselves, the RRC process prepares a rural community to shape itself in favor of private real estate development. This reliance on private, rather than public, intervention is key to the neoliberalization of redevelopment.

As an example of one of the communities that went through the RRC process, I'll briefly turn to Allegan, which featured prominently in the webinar. After attending the webinar, I made sure to keep track of the various development news about the small town. Even though it wasn't in my fieldsite, Allegan seemed to be something of a statewide poster-child for rural communities put forth by the MEDC. As part of its enrollment in RRC, it had put out a request for projects in 2019 for a piece of city-owned property on the Kalamazoo River in its downtown. The real estate developer selected for this property happened to be the same one that participated in the webinar, and it proposed putting in a boutique hotel on the property. Due to local regulations in Allegan, any sale of city property had to be voted on by city residents in the following election. The sale of two pieces of city property were on the March 2020 ballot; the potential hotel location failed to pass the vote, while the other succeeded. The controversial sale of public park land for private real estate investment was not something that city residents endorsed.

One of the things that struck me in the webinar was the way participants spoke about who the certification process was for. At one point, the MEDC representative said, "The goal is to provide a transparent, efficient, and predictable development experience." *An experience for whom?* It became clear to me by the end of the webinar that the purpose of RRC was to streamline the development process so that private developers had fewer barriers to starting a project and fewer hoops to jump through once the project was started. By going through certification municipalities were supposed to make many consequential changes: minimize zoning regulations, streamline the review process that private development projects go through, actively construct local buy-in that

supports private development, and educate council members on the "best practices" for redevelopment.[2]

In other words, the redevelopment process advocated for by the state was for developers, it wasn't for the communities that needed the help. The whole certification process was creating more work for already overburdened municipal employees, while clearing as many barriers as possible for the better-resourced real estate developers. It then comes as no surprise that none of the cities and villages in my field site (and very few across Michigan) had been certified by the time of this webinar in 2019. But, this did not mean that the cities and villages in my field site weren't being encouraged to engage in similar discourses and practices around redevelopment. In fact, many were still very much invested in the project of building up their communities as being "ready" for redevelopment. I briefly return to Calumet, whose blight problem had become something of a pet project for a handful of people involved in regional economic development, and show how the grooming of poor communities for capital extraction also happens outside state-sanctioned channels such as the RRC.

*Battling blight in Calumet*

In November 2018, a half-year before the Family Dollar roof collapsed, I attended an event at Keweenaw Coffee Works, the launch of a new kiosk that was installed in the coffee shop's lobby. The kiosk (pictured on the following page) would allow local residents to submit their ideas for inventions or businesses to Invent@NMU, the innovation and entrepreneurship office of Northern Michigan University, located a few hours away in Marquette. Once submitted, the staff of Invent@NMU would evaluate the idea for its market potential and provide the aspiring entrepreneur who submitted it with resources on transforming the idea into a business.

Sitting down at the table in the center of their lobby, I met an employee of a local bank who also happened to be on the board of Main Street Calumet, the new Executive Director of the local non-profit theatre, and chatted with a handful of familiar people from regional economic development

[2] The Redevelopment Ready Communities program does not provide tax breaks for developers, but other complementary programs in the State of Michigan do (e.g., Renaissance Zones). I will discuss some programs that provide tax breaks for specific geographies in Chapter Five.

organizations who had traveled up from Houghton and Hancock for the launch. I had never seen the coffee shop so packed. It was clear that this was an occasion to be celebrated and that the Calumet residents present were excited to see the Village being more incorporated into broader regional conversations about innovation and entrepreneurship. The CEO of the MTEC SmartZone located in Houghton and Hancock opened up the festivities. Lauding the work of local artists and entrepreneurs, she exclaimed:

> "Make all the blocks in Calumet look like the first one!"


Figure 3.3: The Invent@NMU kiosk in Keweenaw Coffee Works. Photo by author.

The Village of Calumet was the historic downtown of the surrounding area, including Calumet Township and the Villages of Calumet and Laurium. The area, which had lost over 80% of its population since the mining boom in the early 20th century (Winkler et al., 2016), had large amounts of abandoned property, both residential and commercial. Municipal leaders and economic developers in the region saw blight as a major barrier to achieving the goals of economic growth they had for the Keweenaw. Blight, and the accompanying local attitudes that local leaders viewed as allowing it to permeate, was a liability to potential opportunities for redevelopment for the towns in my fieldsite. As one city official I spoke to told me, "It's been a kind of 'have your cake and eat

it too' thing with people, because we want all these cool people moving here, but we don't want too many of them because we still want to be able to throw trash in our front yard." What the city official was describing here was the general desire for a growth in the unique amenities in the region among the local population, which in his eyes necessitated the attraction of hip, young entrepreneurial outsiders. Yet, due to local attitudes towards property maintenance, he viewed cultures of blight tolerance as being at odds with the kinds of economic growth and amenity creation he believed Keweenaw communities needed.

This was especially relevant in Calumet, whose decades of continued population loss led to large swaths of abandoned property. Blight remediation had been an ongoing concern for years, and was still a topic in Calumet at the time of my fieldwork. For example, research in the early 2010s by Richelle Winkler and others (2016) in the Calumet arts scene documented the work of artists who created art to put in the front windows of abandoned storefronts in the Village as an attempt to beautify a largely abandoned downtown corridor. In 2016, a local economic developer started a taskforce to tackle blight and housing in Calumet, calling it the Bring Back Calumet Taskforce. The group sought a combination of public funding from the Michigan State Housing and Development Authority (MSHDA) and local counties, along with private funding from local banks. Using this funding, they proposed to rehabilitate city-owned blighted properties that were deemed as historic and recoverable. In practice, the taskforce was able to rehabilitate the roof and foundation of one building in an effort to make it attractive to developers who could redevelop it fully once it was purchased. Similar to the tactics proposed by MEDC through their RRC program, this property is now advertised alongside two other historic properties on the Village website as being ready for redevelopment. It remains empty four years later.

The Village of Calumet was unable to participate in the formal RRC process due to municipal constraints including limited staffing and funds. But, it has deployed, via the Taskforce and other initiatives, the same tactics that are advocated for by MEDC for redevelopment and revitalization. While there were key barriers to participating in these state programs, the intended message was clear, and places like Calumet still sought to attract outside developers by using public money to rehabilitate buildings to be privatized. To further aid in this process and streamline the Village's ability to combat the at times overwhelming volume of blight, a new blight enforcement measure

was passed during my fieldwork. Aided by the Michigan Municipal League, a private non-profit that provides municipal education and guidance for normative growth and development purposes, Lilith and other Village leaders were able to pass a measure at the Village Council that made blight a civil infraction, meaning that the Village could punish property owners if they didn't comply. Further, the same empowered the Village to "stabilize a building and rectify problems" when it was deemed as "endangered" (Jaehnig, 2018).

What I aim to show in this chapter is how state entities and local municipalities codify redevelopment into their day-to-day economic development work in an effort to transform their communities and make them more accessible to external developers.

When cities and villages see the Redevelopment Ready Communities certification process as out of their reach, too expensive, and too arduous, I demonstrate how Calumet works to adopt the same tactics advocated, but piecemeal. This was happening in many of the towns in my fieldsite, but I chose to describe Calumet here because of the severity of their blight problem. As the official from Allegan hinted to in the webinar, this process, whether RRC certified or not, is about making sure that rural towns are able to "compete" with the larger cities in the State for redevelopment opportunities. But, this begs the question, why must these municipalities compete to begin with when so many continue to face various impacts of deindustrialization and economic collapse? Shouldn't state and local governments be promoting equitable access to development opportunities for all communities, rather than pitting them against each other for the attention of real estate developers?

In the next section, I turn to a second state initiative that sought to codify and digitize infrastructural assets in low-resourced communities throughout the state as a way to give communities access to equitable development opportunities. Yet, as I show, this process has also fallen short of its mission and I will demonstrate how it has also been appropriated to serve the needs of wealthy outsiders in the name of equitable development.

**Infrastructure Data and Small-Town Reality**

Extensive committee work, documentation, and other knowledge require expertise and time that can challenge small governments.

> "A lot of communities want zoning for obvious reasons, but nowadays if you want to have legally defensible zoning, you also have to have a master plan. There were new planning and zoning enabling acts passed [that made it required], so a lot of communities only have a master plan because they need it for zoning. A community is not required to have planning or zoning, and a lot of communities around here don't, but if they have zoning they have to have planning. Even if they don't have zoning, if they had formed a planning commission, the planning commission is required to develop a master plan. So, there are different intersecting mandates, but a master plan, if a community ends up developing one, has to have a capital improvements plan associated with it. And a capital improvements plan, in order to really make sense, needs to be based on asset data."

This quote, from an interview I conducted early in my fieldwork with the director of the Western UP Planning and Development Region (WUPPDR), is demonstrative of the complexity of municipal planning and development, and the demand for infrastructural data that drives zoning and current pushes for the digitization of infrastructural data that I explore in this section.

In order to promote economic development, a community needs to be appropriately zoned, meaning that land needs to be designated as being for specific uses (e.g., residential, commercial, industrial). But to be able to enforce zoning regulations in the State of Michigan, a municipality is required to have a master plan, which acts as a sort of guide for a community moving forward in its land use and growth. Master plans are likely to include ideas for community growth and stability like routine infrastructure maintenance of municipal owned utilities, plans for road expansion, park/green space expansion, and those types of things that a municipality would do to support the day-to-day functioning and health of its community. As the director noted above, these require a capital improvements plan which outlines the associated expenses and how the municipality is planning on paying for each of them. Based on best practices, these expenditures need to be based on asset data.

The creation of this asset data is central to the remainder of this chapter and is what I explain here. Two things happened in the five years leading up to my fieldwork that would allow me to think more critically about the role of infrastructural data in the redevelopment of my rural fieldsite. The first was the state-supported expansion of asset management programs for sewer and wastewater infrastructure starting in 2013 and ending in 2017. The second was the expanded support for asset management through regionally integrated asset management systems that started in 2018 and continue through the time of writing by the Michigan Infrastructure Council.

In this section, I describe how the need for asset management became central to efforts to digitize rural infrastructure assets in the Keweenaw Peninsula. I show that while asset management is supposed to level the playing field for low-resourced municipalities so that they too may have access to digitized infrastructure data, this access is not fully realized in the small municipalities of my fieldsite. Despite the lack of usefulness, I discovered its use is still being expanded throughout the State and my fieldsite.

*What is asset management in Michigan?*

Asset management here deals explicitly with the management of infrastructural assets, such as roads, sewers, and power lines, that are public forms of infrastructure in which a governmental body has made a long-term investment. As Cagle (2003) states, "asset management is embodied in knowing the following about the infrastructure: What you have; What condition it is in; What the financial burden will be to maintain it at a targeted condition" (p.1-2). Infrastructure is evaluated on those types of measures and that data is collected, mapped, preserved, and maintained on geographic information systems (GIS). It is often done in a way that standardizes the data and allows for interoperability among regional, state, and federal bodies (Baird, 2011). The State of Michigan thus far has focused on asset management for road infrastructure and sewer and wastewater infrastructure. I focus on the process through which the state supported the exploration of asset management for sewer and wastewater (SAW) and its implications for rural redevelopment.

In 2013, Michigan implemented state funding for SAW asset management through Enrolled House Bill 5673. The bill defined asset management as "the program that identifies the desired level of

service at the lowest life cycle cost for rehabilitating, repairing, or replacing the assets associated with a municipality's wastewater or storm water system" and established grant and loan programs for local implementation of SAW programs (Enrolled House Bill 5673, 2012). $450 million was allocated, and cities, counties, townships, and/or publicly owned utility companies throughout the state were encouraged to apply for distribution of funds on a first-come, first-serve basis. The state distributed five rounds of support through 2017, and most of the entities in my fieldsite that were eligible, applied and received funding.

The overall goal of the SAW grants was to modernize the maintenance of public infrastructure through the creation and central interoperable storage of digital data about sewer and wastewater infrastructure. In one ideal case from the blog of ESRI (Mann, 2018), the corporation who owns the GIS products that are used to visualize the data (i.e., ArcGIS), a township was able to use its SAW grant money to digitize its wastewater network so that it could streamline maintenance and help it respond to potential emergencies. ESRI's blog post says that "the new asset management system moved [town name] from outdated manual processes to modern automated workflows." The post continued by extolling that township staff now have a mobile app that the team uses to more closely monitor its water system and provide contextual data when things do go wrong. An important detail about Michigan's SAW grant program was that funds were only allowed to be used to build an asset management system. Recipients of these state grants could hire contractors to build out GIS systems, televise water lines to help them evaluate existing infrastructure and identify problems, and create the data necessary to populate systems. But they could not be used for construction or improvement. In other words, if municipalities found a problem, it was up to them to fix it.

*"It gives more data, but it doesn't necessarily make things quicker"*

By the time I spoke to city leaders in Hancock and Houghton in early 2019, both cities had completed their grants and submitted their final reports to the State. The City of Houghton used the SAW grant to compile an inventory of all sewer system assets, develop its Asset Management Plan, and develop GIS for tracking the data. The City's plan included, 20-year capital improvements and expenses associated with creating and maintaining the associated database for the data. Through this process, the City was able to televise all municipal pipes and determined

that 53% was in "good" condition, 15% in "fair," and 32% in "poor" condition. In their report, the City documents how it intends to "address deficiencies" at a projected cost of $8 million, which they currently do not have, by moving forward securing funds from the United States Department of Agriculture's Rural Development loan and grant funding, and through proposed projects by the Michigan Department of Transportation.

The City of Hancock conducted a similar process and found that 46% of its main sewer lines were in poor condition, and 85% of the pipes surveyed that connect the main sewer to homes and businesses were in poor condition. The City estimated that the total costs to address the findings would be nearly $10 million, which would be secured using some existing City funds (~$1.5 million) and borrowing the remainder through municipal bonds. In other words, both cities found significant issues with their sewer and wastewater systems, and both would need to borrow heavily to resolve the issues.

When I spoke to city leaders in Houghton and Hancock, both told a different story than the optimistic one ESRI's blog described, in which integration of new mapping technologies into day-to-day work was relatively simple. Both city leaders told me that the adoption of GIS was driven more by the needs of the engineering firms they contracted than it was by the actual needs of their Department of Public Works (DPW) employees. As one of them said, "The value of GIS is oftentimes more for the engineers and not for the municipal DPW crew. Because my DPW crew are one main water person and one main sewer person and they know the system. They don't need to look [it] up." In other words, the GIS was a way of codifying tacit knowledge for contracted engineers that already existed in the DPW employees. In the case of these neighboring small rural cities (a combined population of only ~12,000), the infrastructure that existed was small enough and their employees familiar enough with it, that it was the engineering firms that were the ones who largely advocated that the cities request the SAW grants to begin with. Neither city had engineers on staff, so it was local engineering firms who were contracted to do any sort of engineering work that would be necessary for sewer and wastewater maintenance and construction.

A city leader from Hancock explained to me how he perceived the potential of asset management technology and GIS, "would solve, be the cure-all, for efficiency and quick access to hydrants and

valves." He said that in the way it was portrayed by the state, that "if you have a water leak, you could immediately get the guys called out and he could, based on his laptop...go right to the water break and shut it off." However, he continued, "it's not as practical as operationalized." Rather, he explained a complex process and said that it might be possible to identify the locations of the breaks quicker, but that the work of the DPW employees would not actually get completed any quicker. Rather, the familiarity the employees already had with their small sewer and wastewater system most of the time already gave them the tacit knowledge they needed to quickly identify where the issues would occur. In his words: "It gives more data, but it doesn't necessarily make things quicker."

Another city leader, this one from Houghton who went to college to be an engineer, told me that his background allowed him to see the benefits in these types of systems. He saw the promises that new digital tools could provide small cities like his. But as he noted, it would be impossible for a city of its size to hire a staff person that could dedicate their time to facilitating the use of these systems, including asset management systems:

> "I look at my budget and that's $170,000 between the equipment, payroll, benefits, and everything else. Where do I get another 8% of my general fund? Where do you want me to cut it? Should we not mow the grass in the park in the summer? That's really what it comes down to. Right now, I'm trying to figure out how to get another police officer. It's like, what don't you want to do? Well I guess we're not buying Christmas decorations this year!"

Here we see how it's not only the usefulness of the system that matters to its potential implementation, but its associated expense. In a city with such a small budget, investing the amount of money it would take to actually operationalize asset management systems is essentially unattainable.

While Houghton and Hancock are the most well-resourced municipalities in my fieldsite with respect to budgets and tax-base, they were ultimately only able to build out their asset management systems because of SAW grants and guidance from their contracted engineering firms. Despite the potential for transforming how municipalities are able to maintain and track infrastructure, the systems would not actually be used as they were intended to. Instead, the SAW data sat on laptops that had been purchased as part of their grants, only to be used and updated by the engineering

firms who used it in their contract work. One major goal of the state's SAW program, was to use asset management to democratize access to digital infrastructure data. What we see here is that it largely doesn't matter if communities have access to the data if they don't have the funds or needs to utilize it. But instead of focusing on funding cities so they could utilize the existing asset management systems, economic development organizations, spurred by expanded programs from the State of Michigan, saw other promising futures for the infrastructural data that went beyond the intended goal of infrastructure maintenance.

*Expanding asset management in the Keweenaw Peninsula*

Despite shortcomings in places like Houghton and Hancock, asset management was seen as such a positive, data-driven model for infrastructure maintenance and development that the State sought to expand its usefulness beyond its existing function for roads and sewer and wastewater. A statewide 21st Century Infrastructure Commission was created in 2016 that sought to better understand how asset management could be used for all types of infrastructure. Alongside that, new asset management funds were made available as part of the state's Regional Prosperity Initiative (RPI). As part of then Governor Rick Snyder's push to promote economic development and growth as much as possible during his tenure, his administration had created the RPI, which granted relatively small chunks of money through regional grant clearinghouses, like WUPPDR, whose director was introduced at the beginning of this section. While the funding priorities of RPI were relatively consistent, promoting economic growth in Michigan, the program encouraged certain focus areas each year that were incentivized with extra funding mechanisms. Starting in the 2018 fiscal year, and continuing until the RPI was dismantled in 2020, the initiative made funding available for what they called "integrated asset management."

Over the course of my fieldwork, I spent a lot of time familiarizing myself with the work of WUPPDR's project manager, Brent, who oversaw the expansion of asset management work throughout their six county service region. Brent's work to get integrated asset management off the ground was incredibly demanding and complex. The goal of the integrated asset management program was to compile regionwide data about as many public assets as possible. As Brent told me in our first interview, "the demand for a product like an asset management system is driven by someone [because] it's more useful to make economic decisions when you have access to data

rather than not." Beyond water infrastructure and road infrastructure, this project was intended to get data about sidewalks, land parcel data including zoning, electrical infrastructure, hospitals, and schools. While this might seem like relatively standard work in the world of large city urban planning, this undertaking in the Keweenaw, which was still in its very early stages in 2018-2019, was massive. Some of this work, beyond water and road infrastructure, had already started. But as I demonstrated with Houghton and Hancock, the actual process of creating asset management data was expensive and much of the data creation would be very difficult to bring to fruition.

In Calumet, for example, a Michigan Tech professor had secured grant funding to do a public GIS program in which his lab hired local high school students and trained them in infrastructure data capture and mapping. As Brent described it, "You can send anyone out with the GPS unit or a smart phone and as long as you have a pre-established rubric for grading these things out, it's pretty straightforward." The purpose here was both to map a community's assets so they could be accessed digitally and therefore be interoperable with other asset management systems in ArcGIS. By taking a public GIS route, the project hoped to democratize the ability to make data-informed decisions on infrastructure planning while training local students in useful digital skills in the process. Yet, this piecemeal process of creating bits of asset management data here and there in different communities was not going to meet the expectations of a broader integrated asset management program, much less improvements in the physical condition of the assets themselves.

One of the major problems that Brent and others ran into while doing this work was the lack of digital documentation of infrastructural assets. Either the data was incompatible because it was too old, or didn't exist to begin with. "Some of our communities in Ontonagon County for example, they're all still using old paper-based maps. They don't have their parcels digitized at all," he said. Another township, where he lived in Houghton County, only had light poles and roads to worry about. The roads were digitized as part of the state's earlier push to create asset management systems for all federally funded roads, but the light pole data didn't exist: "We have a really good relationship with the township supervisor there...theoretically someone could go out and map that and it would probably be a really quick and simple project. But they don't have it because they've never had the in-house expertise or resources to do it." The top goal for Brent with region-wide integrated asset management was the ability to establish "an even playing field" for communities

all over the region, even if they didn't have the resources. Yet, the problem remained as it did in Houghton and Hancock: how do municipalities pay for the issues they discover in these infrastructure mapping processes? Integrated asset management is essentially about mapping infrastructure, not funding it. And the State of Michigan, and the federal government at large, have been promising infrastructure funding for years, with limited systematic results.

What I have shown here is the growing importance of asset management among municipalities across the State of Michigan, and how the State has built up grant programs to facilitate that growth. The need for these kind of programs became acutely important after the Flint water crisis started in 2014. But as I've shown here, asset management data in the Keweenaw benefits the local engineering firms that municipalities hire, rather than the day-to-day use by city employees who actually maintain the water infrastructure. The SAW grants were seen as a capacity building tool, one which would allow lower-resourced municipalities to start to develop a fluency with new digital tools that would put them on an "even playing field" with other communities that had these tools at their disposal. But, in reality these tools did not deliver the promises that were initially offered. Despite this, asset management programs are currently being expanded across the region, to all types of infrastructure. But, as I demonstrate in the next section, asset management data has become another tool to attract outside real estate investment.

**From Infrastructure Maintenance to Investment Firms**

Developing an "even playing field" of digital infrastructure data was key because of the diverse ways that integrated asset management systems could be used, according to Brent. In particular, one of their goals was for it to be used for streamlining access to development opportunities, similar to the Redevelopment Ready Communities initiative.

> "We're seeing from our end oftentimes when it comes to the development opportunities, at least this is what we're hearing from other economic development officers in the state, that individuals that wanted to come in and do development projects and specific communities are searching, they're using tools online. Usually they're not looking at a specific geography, [but are] looking nationally if you will. So, there they have a limited amount of site characteristics that would make for a good development project for them. And when

> you're looking at potentially thousands of different sites, you know, if you do can't check off all the boxes, you know, that meets their criteria, then they're just gonna move on to the next community... so having something in a GIS database, we could use that as a promotional tool if you will, for development opportunities for individuals looking for those development."

While the data was supposed to identify problems and priorities for infrastructure maintenance, it was actually in practice becoming very expensive public relations material. As part of their push for an integrated asset management system in the Keweenaw, Brent and the staff at WUPPDR were pushing local cities, counties, villages, and townships to adopt open data policies. The open data policies, paired with a push for the expansion of digital infrastructure data, meant that WUPPDR would be able in the future to create regional GIS systems that include diverse data, including parcel data with zoning, infrastructure that runs to property, and other data that might influence a development opportunity (e.g., roads with necessary weight allowances for shipping, nearby schools, access to rail).

Here I turn to this transformation of purpose for asset management systems, from something that was originally presented as granting equitable access to infrastructure data to help municipalities of all sizes make data-informed decisions, to something that could build on opportunities to attract outside development firms who are searching nationwide for investment properties. I exemplify and unpack this through a conflict in Keweenaw County between WUPPDR, the county government, and the county's economic development committee, in order to open up parcel data. I show how outside investment is framed as both a necessity for improving the future of a region and something that should be avoided at the same time. Following, I turn to nationwide rural data dashboards created by the Center on Rural Innovation to show how this push for open municipal data in rural regions is directly tied to investment potential.

*Open data in open country*

The Keweenaw County Economic Development Committee (EDC) reformed in 2018 after a two-year hiatus. In one of its earliest meetings it identified five priority areas to frame and guide their new work moving forward. These were: 1) broadband development and communications; 2) establish a small business revolving loan fund; 3) 100 good paying jobs; 4) land use issues; 5)

workforce development. As part of their work on land use issues, the idea of a centralized and publicly available GIS database was floated in one of their early meetings as something that would be helpful for their work, but they ran into issues with existing data that stymied this effort. There was confusion among county officials related to zoning, land easements, and what buildings and land were actually available. While the board focused on working with the county and community members to fix these data issues, the committee's focus on GIS waned. In March 2019, after an inquiry from Brent, the committee picked back up its interest in GIS and invited WUPPDR to present on the topic the following month.

Before the following month's EDC meeting, committee members brought the issue to the County Commission, a board of elected officials who are responsible for county governance and oversee the county's small staff. At the March 20 County Commission meeting, the EDC members were the last item on the agenda. The EDC members asked if it was possible to share the GIS data openly. A county staff person in charge of the data said that the county makes enough money selling it to maintain it, and a little extra that on top of that. She thought that opening up the data would be a bad idea because it would mean a loss in revenue. The county, she mentioned, gets $1/parcel when realtors and others ask for it, and $1250 for the entire set. Further, there was a side conversation at the meeting about potential privacy concerns sharing people's names associated with parcel data. While that information was already available if someone paid the county, they were concerned about making all of that available to anyone out on the Internet. The board declined and the matter seemed settled before Brent and the folks at WUPPDR were able to make their case.

The next EDC meeting was a few weeks later in April. Brent and the Director from WUPPDR gave an extensive presentation on GIS and data sharing. They referred to the county's existing model as the "pay to play option," and told the EDC that it was "not in the county's best interest." They believed there were new economic development benefits that could be realized with what they called "open access," which outweighs the potential risks, such as the loss of revenue, privacy concerns, and the potential for wrong information to be shared publicly and become a liability. The suggestion was that Keweenaw County was behind the times because the expectation was that parcel data would be openly available anywhere that was wanting to attract economic development. By the following month's EDC meeting, there had not been any movement from the

County, but EDC members reiterated in their conversation that the "lack of data sharing could be costing the county" and that it could be affecting the county's ability to expand broadband, improve healthcare access, and provide educational opportunities for its citizens.

While I was not privy to the conversations that happened privately between county commissioners, EDC members, and WUPPDR employees, Brent had earlier revealed to me that these kinds of situations are generally resolved with individual commissioners outside the meetings, so that WUPPDR could build a consensus before making it official with the county. They had essentially gone about it the wrong way this time and the EDC was too quick to jump the gun before getting buy-in from commissioners. Fortunately for WUPPDR and the EDC, these later conversations worked, and in the June County Commission meeting, a county staff person announced that Keweenaw County would be making the requested parcel data available, but without any owner data. This would support the economic development goals of the county, while preserving the privacy of its citizens.

What we see here is how economic developers are able to appeal to the needs of rural and remote civic leaders. The County was generally suspicious of too much growth. Keweenaw County as a governmental entity was worried about its ability to balance economic growth with the "wilderness characteristics" it had. Take for example, this quote from the County's "Blueprint for the Future":

> "Growth is important for Keweenaw County, but if it is not balanced and sensible; the County will pay a high price and ultimately lose the intrinsic value that makes it unique. It is important to remember that Keweenaw County is a rural county with unmatched wilderness characteristics, and maintaining this character is a vital component of this plan. It is also important to consider that all the lands of the County contribute to the economic prosperity of the area, although contributions toward quality of life, heritage, wildlife habitat, water quality and open space protection may be difficult to quantify."

In this case, WUPPDR was able to address some of the growing concerns of county officials, specifically access to broadband, healthcare, and the education of its citizens. This led to a contradiction of sorts, between what redevelopment and economic growth are supposed to look like (e.g., outside investment) and how the county in reality wants to avoid much of that in favor of recognizing the intrinsic value that its "wilderness characteristics" provide.

This is just one example of attempts by WUPPDR and other organizations to build up the data available for their integrated asset management plan. At the time of my fieldwork, Brent and colleagues were very early in the process, mostly just trying to get access to data if it existed, and identifying where they might need to support the creation of new data. In other words, this is only the beginning stages of the work to create a centralized data repository for targeted economic development. However, other organizations have already been working to collate nationwide data on rural communities to streamline real estate investment opportunities and make rural data more accessible. Next, I briefly turn to one of these organizations and their maps that hope to funnel investors to rural communities, particularly ones located in Opportunity Zones.

*Rural data dashboards*

The Center on Rural Innovation (CORI) is a self-proclaimed "action tank" started in 2017 in rural Vermont. It works to promote innovation hub strategies in rural communities throughout the United States in order to encourage participation in the digital economy. Its most recent initiative is called The Rural Opportunity Map.[3] The Map, which is actually a portal with multiple different maps, collates and filters a variety of national level data and allows users to filter this data in different ways. According to the initiative, the Map "was born out of the need for a new framework to understand opportunities in small town America in the 21st century" ("The Rural Opportunity Map"). The initiative is sponsored by the Mastercard Center for Inclusive Growth, Walmart, and Reid Hoffman (former COO of PayPal, and co-founder and former CEO of LinkedIn), among others. The Map is portrayed as a tool that empowers rural communities that wouldn't normally have the expertise to present these data in a usable fashion to connect to outside investment opportunity. In particular, this initiative situates itself in response to the recent federal Opportunity Zone program. Opportunity Zones, many of which are in rural areas, are geographic areas in which investors can take the gains they've realized on a past investment and reinvest them into a new or growing business. If they keep their money invested in the company for long enough, they no longer have to pay taxes on the gains that they invested.[4] Here I unpack CORI's Rural Startup

[3] https://ruralopportunitymap.us/

[4] I return to Opportunity Zones and their role in attracting investment to rural communities in Chapter Five.

Scout Map, the very first map they made available, to better understand what are seen as desirable metrics to attract outside investment in a data-driven decision making process.

> "There are tech startups across rural America prime for Opportunity Fund investments. Use this map to discover rural Opportunity Zones with robust or emerging tech sectors" ("The Rural Opportunity Map").

This is the language that encourages users to try out the Rural Startup Scout map, one of the multiple maps that are on the map portal. Navigating to the map, users are asked to pick states or regions (e.g., the Midwest) to explore. Once you have selected a geography, the map is generated with yellow and purple areas highlighted (see Image 3.2). Digging deeper, you learn that the yellow areas are Opportunity Zones and the purple areas are areas in which fiber broadband exists. The dashboard provides many filters, which I will go into some detail here. At the very top of the dashboard is the ability to filter based upon definitions of rural used by a variety of federal agencies, including the United States Department of Agriculture and the Census. When users select a community on the map, a "Community Summary" pops up with a link to the Wikipedia page about the community and a "Federal Grants" button, which takes the user to a list of federal grants that the community in which the Opportunity Zone sites has received since 2017.

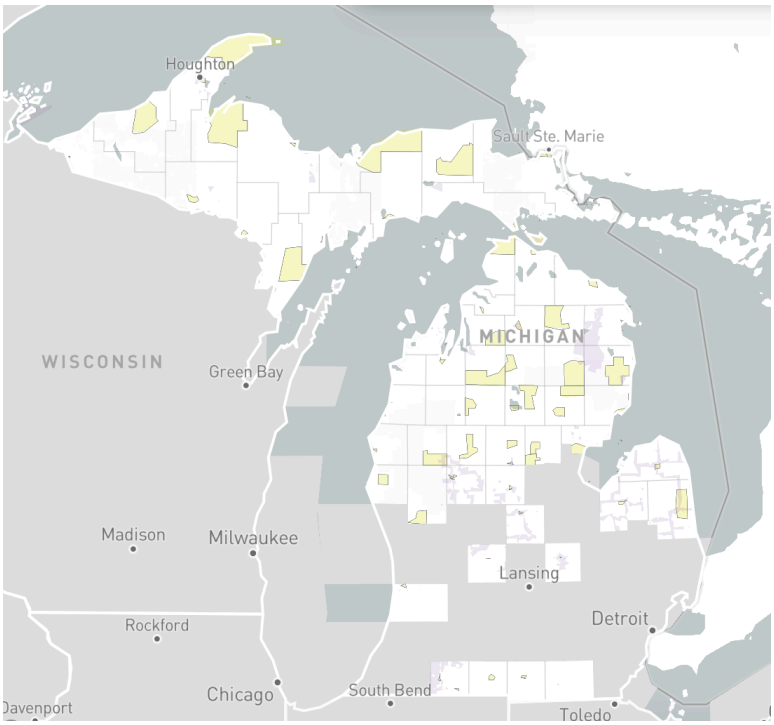
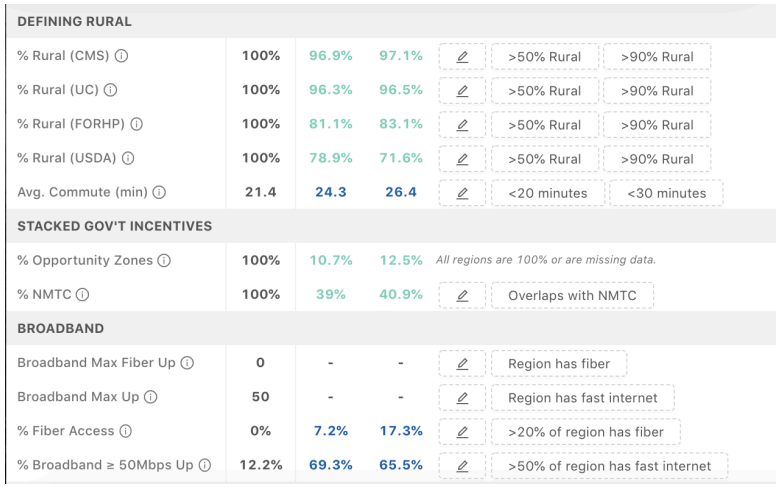
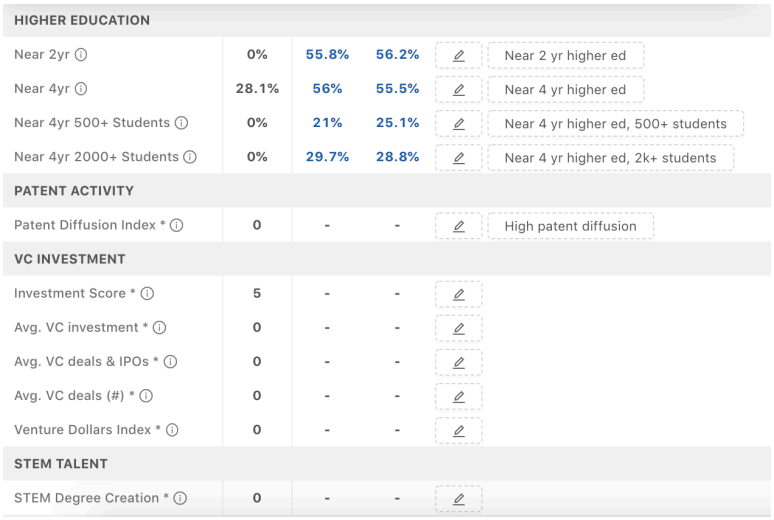



Figure 3.4: The Center on Rural Innovation's Rural Startup Scout Map

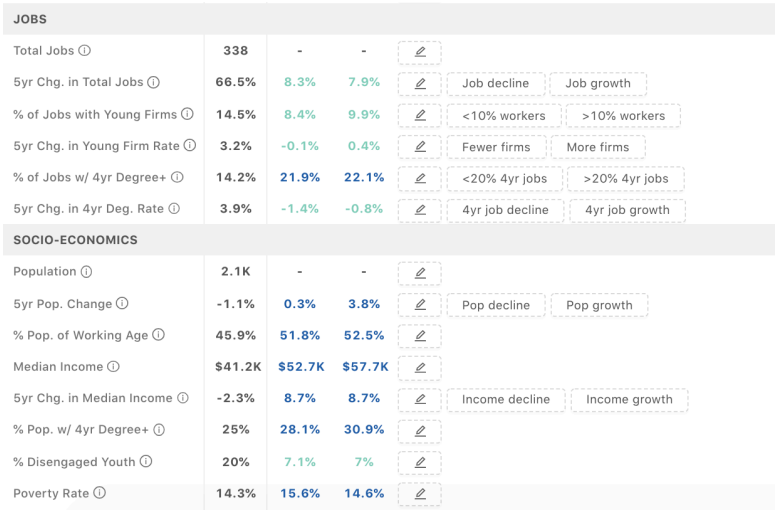
Below that is a variety of data with attached filters that can be applied to find communities that have similar or different characteristics. For example, below how each community applies to various definitions of rural is what they call “stacked government incentives” (See Image 3.5). This shares how much of the community is part of an Opportunity Zone and how much is eligible for New Market Tax Credits, a tax credit program administered by the Department of Treasury. Below that is various data about broadband availability, followed by proximity to institutions of higher education, patent activity, venture capital investment, STEM talent metrics, job data, and finally socioeconomic data.



| DEFINING RURAL | | | | | | |
|---|---|---|---|---|---|---|
| % Rural (CMS) | 100% | 96.9% | 97.1% | | >50% Rural | >90% Rural |
| % Rural (UC) | 100% | 96.3% | 96.5% | | >50% Rural | >90% Rural |
| % Rural (FORHP) | 100% | 81.1% | 83.1% | | >50% Rural | >90% Rural |
| % Rural (USDA) | 100% | 78.9% | 71.6% | | >50% Rural | >90% Rural |
| Avg. Commute (min) | 21.4 | 24.3 | 26.4 | | <20 minutes | <30 minutes |
| **STACKED GOV'T INCENTIVES** | | | | | | |
| % Opportunity Zones | 100% | 10.7% | 12.5% | *All regions are 100% or are missing data.* | | |
| % NMTC | 100% | 39% | 40.9% | | Overlaps with NMTC | |
| **BROADBAND** | | | | | | |
| Broadband Max Fiber Up | 0 | - | - | | Region has fiber | |
| Broadband Max Up | 50 | - | - | | Region has fast internet | |
| % Fiber Access | 0% | 7.2% | 17.3% | | >20% of region has fiber | |
| % Broadband ≥ 50Mbps Up | 12.2% | 69.3% | 65.5% | | >50% of region has fast internet | |



| HIGHER EDUCATION | | | | | |
|---|---|---|---|---|---|
| Near 2yr | 0% | 55.8% | 56.2% | | Near 2 yr higher ed |
| Near 4yr | 28.1% | 56% | 55.5% | | Near 4 yr higher ed |
| Near 4yr 500+ Students | 0% | 21% | 25.1% | | Near 4 yr higher ed, 500+ students |
| Near 4yr 2000+ Students | 0% | 29.7% | 28.8% | | Near 4 yr higher ed, 2k+ students |
| **PATENT ACTIVITY** | | | | | |
| Patent Diffusion Index * | 0 | - | - | | High patent diffusion |
| **VC INVESTMENT** | | | | | |
| Investment Score * | 5 | - | - | | |
| Avg. VC investment * | 0 | - | - | | |
| Avg. VC deals & IPOs * | 0 | - | - | | |
| Avg. VC deals (#) * | 0 | - | - | | |
| Venture Dollars Index * | 0 | - | - | | |
| **STEM TALENT** | | | | | |
| STEM Degree Creation * | 0 | - | - | | |



| JOBS | | | | | | |
|---|---|---|---|---|---|---|
| Total Jobs | 338 | - | - | | | |
| 5yr Chg. in Total Jobs | 66.5% | 8.3% | 7.9% | | Job decline | Job growth |
| % of Jobs with Young Firms | 14.5% | 8.4% | 9.9% | | <10% workers | >10% workers |
| 5yr Chg. in Young Firm Rate | 3.2% | -0.1% | 0.4% | | Fewer firms | More firms |
| % of Jobs w/ 4yr Degree+ | 14.2% | 21.9% | 22.1% | | <20% 4yr jobs | >20% 4yr jobs |
| 5yr Chg. in 4yr Deg. Rate | 3.9% | -1.4% | -0.8% | | 4yr job decline | 4yr job growth |
| **SOCIO-ECONOMICS** | | | | | | |
| Population | 2.1K | - | - | | | |
| 5yr Pop. Change | -1.1% | 0.3% | 3.8% | | Pop decline | Pop growth |
| % Pop. of Working Age | 45.9% | 51.8% | 52.5% | | | |
| Median Income | $41.2K | $52.7K | $57.7K | | | |
| 5yr Chg. in Median Income | -2.3% | 8.7% | 8.7% | | Income decline | Income growth |
| % Pop. w/ 4yr Degree+ | 25% | 28.1% | 30.9% | | | |
| % Disengaged Youth | 20% | 7.1% | 7% | | | |
| Poverty Rate | 14.3% | 15.6% | 14.6% | | | |

Figure 3.5: Data filtering options on the Rural Startup Scout Map. The data provided in the images is about Keweenaw County.

What do the displayed data categories tell us about the perceived priorities of Opportunity Zone investors? What we see here is how opportunity for investment is tied to explicit kinds of knowledge about rural communities, including the ability to fall in line with normative expectations of innovation through access to fiber broadband, patent activity, and venture capital activity. Navigating the data dashboard for the Opportunity Zone that occupies all of Keweenaw County (see images above), we see a very rural place, with low access to Internet, no patent activity, and no venture capital activity. While we get a sense that there are a growing number of jobs, it doesn't tell us what industry they are in.[5] We also see that incomes are declining, the population is declining, and there is little opportunity for young people. It paints a rather bleak picture for the kinds of "opportunity" that something like this map can provide for the people of Keweenaw County.

This data and this map are likely different from what is being called for by the State of Michigan in their push for integrated asset management and the work of WUPPDR in their push to gather all public land and infrastructure data into a centralized database for the purposes of attracting outside development. My purpose here isn't to show that there are certain kinds of data that are better for rural communities to find investment, or to demonstrate that maps are useless for places like Keweenaw County. Rather my purpose is to show the variety of ways that asset data and other

[5] Based on American Community Survey data documented in Chapter One, I would estimate that these job increases are only in service economy jobs.

data is utilized to lobby for specific kinds of futures. What I want to show is how land, people, and data judgements that portray them as the right or wrong kind of rural get codified into new systems for managing data that will make it easier to realize investment potential. In the case of asset management systems, it is the ability to demonstrate that certain land has the right kinds of infrastructure assets in order to facilitate redevelopment and economic growth. In the case of The Rural Opportunity Map, it is the ability to parse and find rural regions based on their ability to conform to normative expectations around financialization and capitalism that say that patent activity, STEM talent, venture capital, and broadband are the best ways to realize the innovation potential of a place.

In doing this, both the movement towards integrated asset management in Michigan and the ability to discover hidden rural tech talent in an Opportunity Zone portray access to data about a place as a major barrier to the development potential of a rural region. By packaging the right kind of data about a rural place in an appealing enough way and presenting it publicly on the Internet, both of these initiatives advocate that investment potential will be realized. But, there are no questions asked about why certain places have the right kind of data and other places do not. Rather than build up data dashboards that portray rural regions that need the most assistance, as Opportunity Zones are intended, these forms of data dashboards only portray where the most "opportunity" is using a particular framework of what is successful investment. As I will show in Chapter Five, access to tools and programs like these are arguably concentrating new resources in the already better-resourced rural communities, who fit into the normative narratives of what it means to be a progressive, innovative, and future-driven society.

**Codifying Rural Readiness for Digital Futures in the Keweenaw**

In this chapter, I show how redevelopment and asset management initiatives are largely predicated on the contemporary idea that access to data is one of the major barriers to rural redevelopment. I have shown how the adoption of asset management tools is facilitated by state programs that seek to create an equal playing field for municipalities of all sizes, but that these new tools do not have the same applicability to rural areas. Instead, I show how they introduce certain tactics and behaviors to rural economic development organizations and civic leaders that are selectively

picked up and deployed in communities in an effort to prepare rural communities for outside investment. Rather than become tools for making infrastructure maintenance more efficient, data-drive asset management systems and other digital mapping platforms become digital homes for the kinds of data that are seen as being the most effective in attracting outside capital. In other words, having and sharing data is a sign of readiness.

I see processes of asset digitization and the portrayal of rural regions as being ready for investment as what I call *codifying rural readiness*. By codifying rural readiness, I mean *the process through which data about rural regions, including land, people, and infrastructure, are transformed, or codified, in a way that makes their perceived value more easily extractable*. This process is done in the name of establishing an even playing field, through democratizing digital civic data for the future. The underlying, though often unspoken goal, is to bring these communities up to date, so that they may compete with the big urban centers that already have access to all the data they need.

Even though this is done in the name of redevelopment, codifying rural readiness is unable to be performed at a scale that allows for the equitable access to redevelopment for all communities. Rather, this process encourages competition between disadvantaged rural communities that should be cooperating. Similar to "smokestack chasing," where communities compete for industrial manufacturing opportunities, often through the process of providing tax breaks and shelling out precious community resources for a few hundred jobs, the competition aspect of redevelopment exposes disparities in contemporary approaches to redevelopment.

Returning to the formations of rurality that I unpacked in my literature review, we can see this emerge in how redevelopment and asset management programs work to codify specific aspects of rural places in an effort to make them more consumable for the purposes of digital dashboards. Public infrastructure is visualized connected to undeveloped and underdeveloped land in an effort to portray it as ready for investment. In the case of the Rural Opportunity Map, federal definitions of rurality based on population size and proximity to metro areas are literally mapped alongside data points that seek to fit rural areas into narratives of economic progress in the innovation economy. On these maps, rural places that do not embody stereotypes of being left behind, opiate ridden, and technologically backwards are visually drawn to the forefront through filtering

techniques in order to make them more readily accessible to global capital investment. What they do not show is what is special or valued by rural residents, such as tight knit communities, natural beauty, a slower pace of life, or proximity to wilderness, such as described in Keweenaw County's "Blueprint for the Future."

What I show here is that new forms of innovation and economic development are reshaping what the "right" and "wrong" kinds of rural are for new digital futures. The right kind of rural is easily accessible through GIS, ready for investment, and ready to jump at the drop of a hat to lay out the red carpet for outside developers, while simultaneously recognizing the specific assets that it can provide as a rural place to attract the right kinds of entrepreneurs to make this work possible. The wrong kind of rural is one without broadband, without the right kind of local legislation that eliminates blight, without infrastructure, and without digital data that can translate this to the outside world. What we see from organizations like the Center on Rural Innovation is actively reshaping what it means to be rural in the age of multinational investment firms and global flows of innovation. In the following chapter, I unpack exactly who are the rural entrepreneurs who can assist in doing this work, where they come from, and the tactics they use to enroll the specific parts of my rural fieldsite in capitalist visions of high-tech innovation.

## Chapter Four: Crafting the Rural Entrepreneur

Every year in December, the neighboring cities of Houghton and Hancock hold a joint City Council meeting. The purpose of the meeting is to recognize the interconnectedness of the towns and reflect on the past year. When it occurred during my fieldwork, in December 2018, it also doubled as a retirement ceremony of sorts for Clarissa Maki, then CEO of the MTEC SmartZone, a local self-described "nonprofit entrepreneurial support center" that provides business incubation and accelerator services in the two cities. At the beginning of the meeting, each council passed an official resolution in appreciation of Clarissa's work. She proceeded to give a speech to the joint councils, in which she described the history of the organization, which had started in 2003, with her taking the helm in 2011. She spoke about their SmartStart program as her primary legacy, the incubator program that works to bring potential entrepreneurs from initial idea through business plan. Extolling the work it takes to make a company successful, she applauded the region for its support of "risk-takers," though noted that the Keweenaw was limited in the kinds of expertise it had: "The people who fund a company bring in expertise we don't have in this community." The ecosystem of support to make Houghton and Hancock a successful hub for entrepreneurs was provided from sources both internal and external to the region. Applauding this success, she closed her speech:

> "Rural America is dying and we are not."

The regional exceptionalism that Clarissa claimed, Houghton and Hancock were thriving while other rural regions were dying, was embedded in the region's ability to support entrepreneurs while simultaneously accepting help and expertise from outside the region. In other words, the Keweenaw had the potential, but it needed outside intervention in order to realize this potential. It is this relationship, and the resulting tension, between internal promise and external intervention,

that I turn to in this chapter. I document the tensions between insiders and outsiders; the tension that existed between the region's unique cultural aspects that made it a place ripe for "risk takers" and the demands of contemporary economic development practices that promote economic growth models that are often at odds with the same regional culture.

In this chapter, I ask, how does regional culture get taken up in processes of economic development? I look at the work of three economic development organizations (EDOs) working in the Keweenaw to promote and expand high-tech entrepreneurship and innovation throughout the region. In this case, I am in some ways "studying up" (Nader, 1972) as I am interested in how cultures of authority understand and carve out figures of entrepreneurship in this region. These experts innovate on new methods and technologies to produce a new rural entrepreneur subject, different from the Yooper identity that has come to represent everyday citizens of the UP. I show how community leaders and EDOs go through the process of identifying unique cultural forms from the region as cultural assets, rejecting the parts that are not in line with their entrepreneurial visions, transforming them into a type of rural capital (Bosworth and Turner, 2018) that can be leveraged by anyone, whether they are from the region or not. This rural capital is marketed to capture the "right" kinds of entrepreneurs and innovators to the region who can provide the "right" kind of interventions so that the region can ensure economic growth in high-tech economic sectors. I call this process *crafting the rural entrepreneur*, and through this chapter I show how it has become a key technique for growing entrepreneurship in the Keweenaw. Before I move into my data, I briefly return to literature on rural assets and capitals to situate this chapter.

Recall the various literature in rural planning and development that I discussed in Chapter Two. Scholarship in asset based community development (ABCD), the community capitals framework, and rural capital all, in one form or another, advocated for different approaches to rural development that utilized uniquely rural forms of assets or capital. In the case of ABCD, Mathie and Cunningham (2003) argued that following a development approach entirely based on the needs of a community required that community groups frame needs as deficits to be solved for the sake of said community's health and prosperity. This approach, they argue, portrays communities primarily in a negative light, and they propose an assets based approach that presents opportunities that arise out of the unique assets of rural communities. The community capitals framework,

developed by Flora, Flora, and colleagues (2018), argued that there are unique forms of capital that can be identified and leveraged in rural development processes to ensure successful community economic development, including natural capital, cultural capital, and others. The rural capitals framework (Bosworth and Turner, 2018) challenged the idea of a "rural penalty," that rural places are inherently at a disadvantage for the growth of business in comparison to urban areas. They argue that rural communities need to stop "compensating for 'not being urban'" (p. 9), and instead focus on the unique contributions that rural capital provides to businesses and other economic actors. Each of these approaches hinge on the ability for rural communities to identify and articulate, often in a branded and marketed way, the unique aspects that make them rural and worth investing in.

The need to identify and leverage uniquely rural aspects of the Keweenaw came up frequently in my interviews. For example, in an early interview with John, the Director of a regional EDO, he told me:

> "There's a lot of assets in the region. There's a strong recognition of it...The key is how do you capitalize on those things in your respective areas as well as regionally...We have over 300,000 people spread out over 15 counties. We are a small city...it's how we really should look at ourselves if we want to change how [others see us], perception is everything... If we started to change how we looked at ourselves, we can now change how the rest of the world thinks of us, versus you know, Yoopers in Podunk nowhere in an economy driven by just tourism..."

What John is suggesting here is also what is broadly advocated by rural community economic development in practice and in the scholarship above: the transformation of rural economic development from a focus solely on expected economic sectors (e.g., tourism) to one that breaks open the idea of what rural amenities, assets, and opportunities really are. Furthermore, John understands that part of this development will require not only others to change their perception of Yoopers, but also changing how Yoopers think about themselves and what they do in Keweenaw. The shift in view of both economic development and culture is wide-reaching and involves the remaking of the entire region. The goal is, in part, a cultural transformation of what and who the Yooper is today.

While research on ABCD, community capitals, and rural capital demonstrate that there are many different types of capital or assets that can be utilized for purposes of community and economic development, I focus in this chapter on a particular cultural asset: the Yooper. In the following pages, I demonstrate how the Yooper as a regional cultural form is identified as a unique rural asset. I show how certain aspects of the Yooper related to "grit" and "determination" are identified, negative aspects are rejected, and the remaining positive traits are marketed to capture the "right" kind of prospective entrepreneurs. These entrepreneurs, who embody normative approaches to entrepreneurship and innovation that have come to dominate the high-tech sector, are seen as the ones who can truly spur the economic growth necessary to ensure the Keweenaw's survival.

**Culture as Asset, Culture as Roadblock**

In this section, I turn my eye to the Yooper. I first explain who the Yooper is, where the cultural form emerged, and the valuable traits that the Yooper embodies. I then demonstrate how economic developers and community leaders portray the Yooper as lacking the right kind of ideas or skills, rejected as being antithetical to normative forms of economic growth that ensure the Keweenaw's success in future high-tech capitalist economies.

*Embracing the Yooper*

*I was sitting in a Detroit bar this guy he says to me*
*You must be from Canada, Newfoundland maybe*
*No, I said, you're slightly off, as I pointed with my beer*
*I'm from up above the mitten, this place over here*
*I still wear my swampers and I drive my beat up truck*
*I go up to Witch Lake every year to get my buck*
*When I get back to Detroit all the guys they laugh at me*
*Two weeks at the deer camp and I'm speaking Yoopanese*

*I'm a Yooperman from Yooperland, you'll find us everywhere*
*I come here for the paycheck, but I miss that UP air*
*I'm a Yooperman from Yooperland, I'm not down here by choice*
*My heart is back in Yooperland but my ass is in Detroit*

*My wife is from Mt. Clemens, she's a troll from down below*
*I dragged her up to Yooperland, she didn't wanna go*
*But when she saw the colors and she smelled that UP air*
*Now she wants to quit her job and go to live up there*

*I work hard for Henry Ford I never miss a day*
*I don't like the city but I sure don't mind the pay*
*My kids were born below the bridge but their roots they can't forget*
*We head north to Yooperland every chance we get*

*I'm a Yooperman from Yooperland, you'll find us everywhere*
*I come here for the paycheck, but I miss that UP air*
*I'm a Yooperman from Yooperland, I'm not down here by choice*
*My heart is back in Yooperland but my ass is in Detroit*

- Da Yoopers, "The Transplant Song" (1991)

The passage above are lyrics from a song by Da Yoopers, a traveling comedy show and polka band that formed in Ishpeming, a town in the central UP, in the 1980s. The song tells the story of a man from the UP who works for the Ford Motor Company and lives in Detroit, but still feels a deep connection to the UP. The narrator of the song reminisces about the things he misses about the UP and how, when he returns downstate from trips to the UP, his Yooper dialect returns with him. With the slow economic decline of the UP through the 20th century and the opening of the Mackinac Bridge in the 1950s also came the increased migration of Yoopers downstate to find steady employment in automotive and other manufacturing industries. This contentious, but often necessary, relationship between the UP and downstate is nearly universal in families from the UP. Indeed, my own family had a partial exodus, with all but one of my mother's siblings leaving the UP at some time or another to move downstate or out of state to pursue new careers.

As sociolinguist Kathryn Remlinger (2017) argues, "Yooper not only defines the variety of English spoken in the UP, but it also symbolizes a regional identity" (p. 79). The regional identity of the Yooper signals both where one is from, but also the possession of the authentic country accent that Remlinger argues is attributed to a unique mixing of immigrant and Native American dialects in the UP in the late 19th- and early 20th-century. It's important to note that it's both the dialect and associated vocabulary ("swampers," "troll"),[1] but also the kinds of activities in which one engages, such as going to deer camp and driving a beat up truck. Remlinger argues that the Yooper dialect coalesced in the mid-20th century, and while the actual named cultural form of "Yooper" did not

[1] Swampers are "rubber boots worn by Yoopers in the spring during a muddy season" (Da Yoopers Glossary). Troll is the nickname given to people that live in the Lower Peninsula because they are "below" the Mackinac Bridge, referencing the classic children's story, "Three Billy Goats Gruff."

appear in print media until 1979, it was circulating in vocabulary prior to that date. But once it was named in that way, both the dialect/vocabulary and the related country culture of the UP began to be commodified by the tourist industry (for example, see below), and was helped along by popular figures in the UP like Da Yoopers.


Figure 4.1: Example of UP English. Photo by author.

In this way, the image and cultural object that is the Yooper became something that could be leveraged by the tourist economy and related industries in the UP. Culture and language were transformed into pamphlets, bumper stickers, roadside stands, and other tools that business owners and locals could leverage to promote their local economy. In other words, Yooper culture went from being an immaterial cultural form to a tangible (and commodified) asset.

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The politics of who is actually a Yooper are complex and I have my own complicated relationship with the term that I hope will shed some light. I was born in the UP, but my immediate family moved downstate when I was still a baby. My mother's side of the family is from the UP. Most of my father's side of the family moved to the UP in the 1990s, making me the only member of my father's family who was actually born in the UP. Growing up, my grandfather would always tell me, "You're a Yooper, boy!" but I didn't really feel like a Yooper. I didn't have the accent and I

didn't live there, I was just born there. It wasn't until I moved back to the UP in 2017 that I felt more comfortable claiming the term for myself. Some people believe that the term only applies to those who grew up in the UP, meaning that transplants don't get to claim it. Others believe that it's a catch-all term for everyone who lives in the UP, no matter where you grew up. The latter is how it's often used by civic and business leaders, as a term that represents all "citizens" of the UP.[2]

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In addition to the UP-wide dialect, vocabulary, and behavior that was attributed to the Yooper, some sub-regions, such as the Keweenaw, had additional ethnic tropes that were embraced as being a part of Yooper-ness. One that emerged in my fieldwork and became a central marketing tool for entrepreneurship and innovation initiatives is *sisu*.

"Sisu" is a Finnish culturally constructed ethnic trait that has been widely adopted in the Keweenaw and neighboring regions with a high concentration of Finnish Americans.[3] It has many interpretations, including: "the ability of individuals to push through unbearable challenges" (Lahti, 2019, p. 62); inner determination that is "likened to qualities such as perseverance, determination, courage and guts" (Lucas and Buzzanell, 2004, p. 280); and "guts, courage, determination, with just a trace of Finnish stubbornness" (Stoller, 1996, p. 154 quoting a participant). Derived from the Finnish word *sisus,* or the "internal organs of a human or animal body," (Lahti, 2019, p. 62), it doesn't have a direct translation into English, but as presented here, is broadly about pushing forward in the face of adversity by using one's own perseverance and determination.

In their research with Finnish American miners, Lucas and Buzzanell (2004) argue that "sisu" as a discursively constructed cultural trait is, "not a word or quality reserved for only Finnish miners but transcended ethnic heritage by its association with occupational values" (p. 281). In other words, "sisu" applied to miners no matter their ethnic background because of the kind of perseverance and determination that was required of work in a mine. In the Western UP, and

[2] The UP, at times, has had an antagonistic relationship with the rest of Michigan. There have been multiple unsuccessful secession movements, most recently in the 1980s (Binder, 1995)

[3] According to the 2000 US Census, Houghton and Keweenaw Counties, and four neighboring counties in the Western Upper Peninsula, were the only counties in the United States where Finns are the largest ethnic group.

particularly in the Keweenaw, "sisu" is similarly divorced from being exclusively applied to people of Finnish descent. Rather, it is a trait that is applied to Yoopers in the region more broadly, who must fight through long, cold winters year after year, who are often working class, and who have ingenuity and determination in making things work, even when they live in such a remote place with limited resources. In other words, while not all Yoopers have "sisu," many of them do, and "sisu" has become part of this broader cultural form that represents the hard-working, backwoods Yooper.

Throughout my fieldwork, I saw "sisu" and its characteristics being adopted by various initiatives promoting innovation and entrepreneurship in the region.[4] For example, Innovation Shore, an initiative promoting the Keweenaw Peninsula as a unique region for rural innovation, described "sisu" in their profile of a Director of Engineering at a regional manufacturing facility:

> "The U.P. region has a legendary work ethic. There's even a local word for it: sisu – the Finnish word for resilience and determination. [Director] says, 'The U.P. is built on a work ethic that I've not seen anywhere else. Up here you'll find the best and brightest, but also some of the hardest working people anywhere.'"

The profile goes on to describe the UP as being in opposition to the "fast paced corporate world" of the likes of Google or Apple. Rather, innovative work in the region provides a work-life balance which is a direct result of the culture of hard work and perseverance that is at the central to the emic trait of "sisu."

While this is just one example, of which I will explore more later in the chapter, it demonstrates how certain aspects of the Yooper are taken up by innovation and entrepreneurship initiatives in order to market the region. In portraying "sisu," and the determination, perseverance, and gutsiness that it represents, in this way, it became a source of a labor and self-reliance (Lindtner, 2020) that entrepreneurs and innovators could ensure would be available to them if they were located in the Keweenaw. But, not all aspects of the Yooper were seen as a positive contribution to the work of

[4] One limitation of this work is that I focused primarily on representations of the Yooper and "sisu" by community leaders and EDOs. This makes it so I am unable to contrast what Yooper and "sisu" mean to everyday Yoopers with how these traits are leveraged by the initiatives I describe in this chapter.

entrepreneurship and economic growth that was desired by community leaders and EDOs in my field site.

*Cultural roadblocks to economic growth*

While rural culture and community can be seen as a key tool for promoting economic opportunity and growth (Flora et al., 2018), as described above by John, it can also be a detriment to the "right" kinds of economic growth. Here I turn to interviews with civic leaders and a vignette from a statewide summit on the role of forests in the bioeconomy to show how Yoopers are portrayed as too nostalgic and anti-growth, failing to fit into narratives of economic growth that are so important to contemporary pushes for entrepreneurship and innovation.

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When you meet a new person in the Upper Peninsula, especially in places like Houghton and Hancock where there's a lot of in- and out-migration, there is often a back-and-forth that happens early on in the meeting in which you tell a new acquaintance about your relationship to the region. This could be short, "I grew up in the Sault [short for Sault Ste. Marie] and moved to Houghton for college," or could be a lengthy explanation depending on the conversation and the kind of posturing necessary to thoroughly explain your connection to the region.

At the beginning of each of my interviews, I regularly had to convey my own relationship to the UP, usually some variation of, "My mom is from Manistique and my dad was stationed at K.I Sawyer [a former Air Force Base in the Central UP]." But in one interview with a local city leader I stumbled and said that I was born in Gwinn, the village adjacent to the former Air Force Base, rather than the base itself. He exclaimed, "So you're a Gwinnbilly! I'm from Mohawk." Both Gwinn and Mohawk are towns on the edge of influence from the larger towns in the UP: Gwinn (pop. 2000) about 30 minutes from Marquette (pop. 21,000), Mohawk (pop. 1100) about 30 minutes from Houghton and Hancock.[5] Both Gwinn and Mohawk have a reputation for being

[5] Gwinn is not a suburb of Marquette, nor is Mohawk a suburb of Houghton and Hancock. Rather, my use of "edge of influence" is meant to denote they are the closest big town and where places like Walmart are.

towns that reinforce some of the negative stereotypes associated with Yoopers (e.g., rednecks with backwards attitudes).

Later in that same interview, we were talking about how EDOs attract business to the UP and we turned to the Yooper stereotype:

> "It's so difficult [to combat negative rural stereotypes]. That's one of the things that we seem to battle against. I think it was last summer, [he starts an aside] I still have my Mohawk accent. I know that. And you should hear me when I get with my peeps. It really gets thick. [he returns to his thought] But there was, the News or the Free Press or MLive or somebody had this article about the ghost towns of the U P. And I'm like, 'Doesn't this enrage anyone else?' You know, that seems to be consistently [pause], we don't get articles in Crain's[6] or anything else about the great things going on. You know, the most popular article this summer is, you know, about some toothless redneck, you know, who picks cans for a living, you know... we're kind of to blame. Yoopers are to blame for that a little bit because we embraced that whole, you know, Yooper [said in deeper accent] culture. And it was those damn guys in Ishpeming, they started the whole thing."[7]

The city leader here was lamenting how, in his view, the Yooper stereotype contributed to negative perceptions of the region that were reproduced in statewide news. The article in question (pictured below) was a longform piece in the *Detroit Free Press*, documenting the few remaining residents of the ghost towns scattered throughout the Keweenaw Peninsula. The article opened with a story of a man who lives in one of the towns describing where he lives and why he lives there, including how he spends most of his time fishing and cutting wood to sell. The article goes on to highlight other residents of some of the regional ghost towns, their businesses, and narrations of their connections to the region, often driving their desire to stay in the ghost towns.

[6] Crain's is a business news publication out of Detroit.
[7] This is a reference to Da Yoopers, the band whose lyrics open up this section.

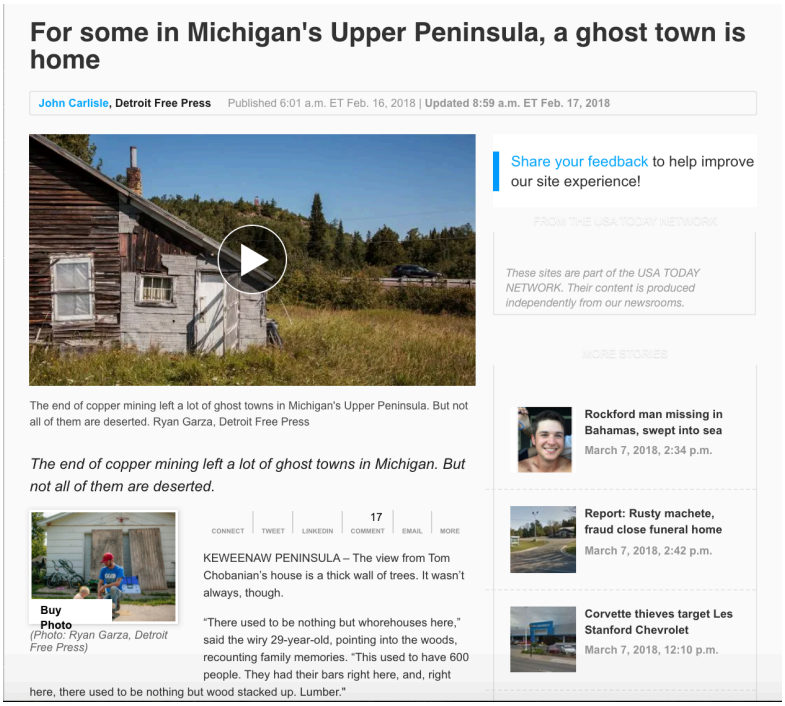


Figure 4.2: Media representation of UP ghost towns. Screenshot captured by the author in March 2018.

These lifestyles were seen as embodying the negative parts of the Yooper cultural form; Yoopers were portrayed as living in the middle of nowhere, surviving off the land, and nostalgic for a specific kind of past where the mill town or mining town was still thriving. This nostalgia of extraction economies, remoteness, and land-based economies are the bad stereotypes that were most often picked up by the press, rather than the "sisu" described earlier. The city leader from the previous quote was able to shed the Yooper backwardness of Mohawk, along with some of the accent, and was able to improve himself. He took offense at the way Yoopers would be stereotyped because of the *Free Press* article. The negative portrayal sat in contrast to the kinds of innovative rural futures that entrepreneurs, city leaders, and economic developers were trying to build in places like Houghton and Hancock. It is this kind of anti-growth and nostalgic depictions of the Yooper, with its own history and engagement in the U.S. resource extraction economy, that city leaders, entrepreneurs and developers actively avoid in favor of a hard-working and determined figure that can be readily understood across the U.S. as a "risk-taker." Following, I describe my experiences attending a statewide summit on the role of forests and timberland in the growing bioeconomy that took place in 2018. I show how Yooper cultural attitudes are seen as antithetical to high-tech futures envisioned for the region.

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I pulled into the guest parking lot near Michigan Tech's student union on a very cold October morning. A young undergraduate student, wearing far too little gear for how cold it was outside, waited at the gate to the lot and handed me a guest parking pass. I hung the pass up in the rearview mirror of my truck, signaling that I was an attendee for the special campus event that day: the Michigan-Finland Summit on Forest Bioproducts. The summit was the result of a collaboration between the FinnZone and the Michigan Forest Biomaterials Institute, a statewide non-profit research institute that grew out of research at Michigan Tech on the role of timber as a sustainable energy source and replacement for plastics. The summit brought together researchers, economic developers, foresters, and representatives from natural resource corporations throughout Michigan and Finland.

The FinnZone, which was the primary driver of the Finnish delegation's presence at the summit, is an initiative that combines the efforts of multiple EDOs, local universities, and civic leaders in Houghton and Hancock that were working together to attract Finnish companies to open satellite offices in the region. The FinnZone was started in 2018, with its website calling the organization "a soft landing and commercial launchpad...for Finnish companies seeking to establish a presence in the U.S. and access the large markets of North America" ("FinnZone"). The effort is housed in the Jutila Center at Finlandia University, a small Finnish Lutheran liberal arts college located in Hancock. The Jutila Center is a former Catholic hospital, which was abandoned and then sold by the City of Hancock to Finlandia for $1 in the early 2000s. The university converted the hospital to administrative offices and a variety of spaces, including incubator space, for small businesses. The FinnZone is led primarily by representatives from Finlandia University, the Finnish American Chamber of Commerce (headquartered in Hancock), and the MTEC SmartZone. Its leaders routinely take trips to Finland in an effort to recruit potential Finnish high-tech companies to the Keweenaw Peninsula. While its efforts have yet to cause a surge of investment in the region from its Finnish cultural connection, it has, as of April 2020, hosted two delegations of business leaders from Finland in two years.

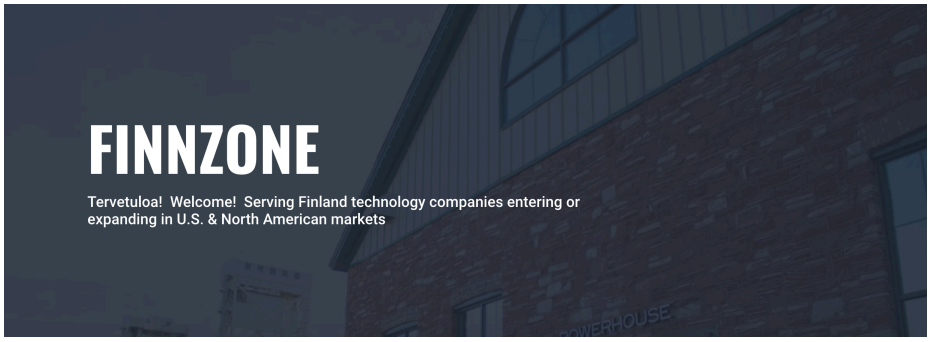


Figure 4.3: FinnZone website. The welcome message is transposed over an image of The Powerhouse, one of the SmartZone's facilities.

The summit was held on the top floor of the student union, a floor entirely made up of generic institutional banquet rooms, the ones with the movable walls and doors. I checked in to the registration desk and entered the first banquet room, which was dotted with tall bar tables occupied mostly by old white men in old suits drinking coffee provided alongside some bagels and fruit, the standard university event fare. I recognized a handful of people who were associated with local EDOs. At the time, my fieldwork was still in its very early stages, so I was nervous and didn't introduce myself to anyone, opting to walk past the group, nodding politely, and entering the second banquet room. This banquet room was where the two days of talks and panels would be taking place. It wasn't a very large room, only holding nine circular tables and a small platform with a projector for the presenters. It would be an intimate two days.

At 7:55am, people started filtering into the second banquet room and sitting down at the tables, mostly with the people they arrived with. The only person to sit at my table in the back corner, a spot I thought was most conducive to note-taking, was Veijo Komulainen, the Senior Specialist on International Trade for the Consulate General of Finland in New York. He had come as part of the Finnish delegation, which included government leaders like himself, along with researchers and business leaders. By the time everyone was seated, it was already obvious who was from the UP and who was a part of the delegation from Finland. While I was used to these sorts of university gatherings – always in 1990s corporate looking banquet halls serving burnt coffee and unripe fruit – it seemed like the men sitting at the table next to mine were not accustomed to events like this. I heard one of them say as they got seated, "This is fancy." I'd later learn that he was the local operations manager there to present on behalf of a Chicago area corporation that was building a biofuel refinery in Ontonagon County, about 60 minutes southwest of where we were sitting.

Kicking off the two-day summit was a parade of important officials who wouldn't stick around, but were there primarily to welcome the Finnish delegation and demonstrate institutional buy-in. The first person to speak was the Vice President of Research at Michigan Tech who drove home the often-repeated talking point that the Keweenaw had many similarities with Finland. Next up was Tom Casperson, then State Senator for the Western UP, who also owned a log trucking company. Casperson's short speech focused on the connections between the timber industry and the people in the UP:

> "We have wonderful opportunities and we're in the right place. The problem we're going to face is a cultural problem."

Casperson went on to describe that in the UP, when people think of forest industry, they think of lumber. This was an antiquated view of the possibilities that forests and timber provided as a source of capital. He went on: "When you talk about biomass, they think immediately of wood." The difference between "you" and "they" here is key. "You" was meant to refer to the people in the room who were researchers, business leaders, and economic developers invested in developing out new high-tech opportunities for the forest economy. "They" referred to everyday Yoopers and people working at the mills who processed the lumber.

Casperson's speech encapsulated a view of forest industries I would become familiar with during the summit, that there were very different geographic relationships to timber and innovative approaches to leveraging forest bioproducts. The UP's timber industry was leaps and bounds behind Finland's, which had, for example, multiple companies already producing cosmetics packaging, bags, and other types of reusable containers from byproducts that were derived from waste during the lifecycle of their regional timber industries.

What Casperson was implying with his comment about a "cultural problem" was that Yoopers were part of the reason that the industry was behind the times. He spoke about the lack of connection between the advances in the timber industry and those living in communities in the UP, even those working in papermills. How I interpreted this was that the Yooper culture of the UP was and remains to be very tied to its legacy in natural resource extraction, particularly logging and the downstream value-added businesses. Throughout the UP, paper mills were major

employers for many towns until the end of the 20th century. Casperson, and others, saw the nostalgic aspects of Yooper culture as to blame, at least partially, for the lack of progress that the region has had in its ability move forward with progressive and innovative uses of bioproducts, like those that were presented at the summit by Finnish delegates.

There were a handful of presentations from UP representatives at the summit that fell more in line with the desire to expand the forest economy's reach into more technical areas, such as biofuels. But, if we are to take seriously the comments made by Senator Casperson and the city leader above, the relationship that Yooper culture has with natural resource extraction and labor needs to shift. In order for there to be community support for the changes that Casperson desires, there will also have to be changes in nostalgic attitudes toward logging by everyday Yoopers.

Later in my fieldwork, this nostalgia would continue to rear its head at various points, especially when people whom I interviewed brought up the regional relationship to mining. One city leader told me:

> "We still have a lot of people wishing, you know, for, 'Oh, well there's all kinds of copper up in Keweenaw County. We should mine it' Yeah, that'd be great. Except, you know, you start talking about just the logistics. Is there a social license to do that anymore? And do you want to, you know, do you really want to, for lack of a better word, shit in your own nest?"

There was a continual and often intense tension between the kinds of economic growth that were seen as positive by civic leaders and economic developers, and the way these same people talked about the desires of everyday citizens. In other conversations and observations I had throughout my fieldwork (and in my own personal experience as a resident elsewhere in the UP), the "reopen the mine" folks were a relatively small, albeit vocal, minority of people. Yet, that nostalgic image and that discourse was latched onto, not only by leaders who used it to stereotype Yoopers as broadly against new kinds of economic growth, but in statewide perceptions of what the UP was like and who lived there.

Take for example, this quote from an interview with an employee of a statewide small business support organization:

> "There are businesses [in the region] that have been really, really good at what they do. But they don't want to service people outside the area. And it's sad because they could grow and they're happy not to grow. I'm told that's the genuineness behind being a local Yooper, you know, they're not really in it to [grow]. They're in it to make a good living, provide for their families, and enjoy life. The idea of growing just scares them to death. Being a service provider outside the area is like, 'No, we got in business to help Joe down the street.'"

In this quote, and the cases above, the cultural form of the Yooper becomes a sort of scapegoat to attach many of the obstacles that normative forms of economic growth face when they are attempted in a place like the Keweenaw. Yooper attitudes were presented as nostalgic, as obsessed with natural resource extraction that is damaging to the earth and the communities in where it occurs (i.e., "shitting in your own nest"). The Yooper was considered antithetical to opportunities for progress envisioned by researchers at local universities, economic developers, and ultimately executives at timber companies who were out to ensure their business models would evolve to ensure profits in the future as more sustainable forms of natural resource extraction were being demanded by markets.

What I've shown in this section is how culture is simultaneously an asset and a roadblock to economic growth and development that seeks to develop entrepreneurship and high-tech innovation in the region. I explained how the Yooper was taken as a package of vocabulary, dialects, and regional behaviors, and packaged into a tangible commodity for the tourism economy. I then demonstrated how certain aspects of the Yooper are extracted for purposes of promoting a specific approach to labor in the region. I will return to this (i.e., "sisu") in more detail in the following section. Finally, I dwelled on the various ways that the Yooper is seen as antithetical to normative forms of economic growth promoted by the likes of economic developers in the FinnZone and regional civic leaders. The Yooper is portrayed as being nostalgic, as anti-growth, and as not having the right kind of skillsets or outlooks on life to truly engender the kind of change that is needed for the region.

But the question remains, if the Yooper is not in a position to be a leader for economic growth and high-tech innovation in the UP, then who is? In the following section I turn to this question and

show how aspects of the Yooper that I have just explored are taken up and used to market the region to outsiders who are considered better suited to intervene in the regional upgrades that are desired to make the Keweenaw a place for high-tech innovation.

**If they can't innovate, then who can?**

Much of the recent social history of innovation in the high-tech industry is dominated by the likes of Silicon Valley. But as scholars such as Silvia Lindtner, Seyram Avle, Lilly Irani, Anita Say Chan, and others have argued, this discourse often ignores the unique and geographically specific local innovation and possibilities for technology that can and do emerge elsewhere. The insider-outsider relationship in the technology industry, where it was once seen as necessary to have an office in one of only a handful of tech hubs in order to be successful, that is being broken down and exposed in international conversations as actually not the case. Those I list above have already written about emerging tech and start-up scenes all over the globe that wish to compete with or offer an alternative to the dominance of Silicon Valley. Meanwhile, others are just looking for their piece of the pie in the growing digital economy.

It is the searching for the right piece of the pie that I saw emerging in my fieldsite, where economic developers, entrepreneurs, and rural cities and villages were trying to understand where they might fit in the high-tech economy. While some regions have turned their attention inwards to see what endemic technological innovation can look like, important leaders in my fieldsite have rejected local Yoopers as backwards and anti-growth. Instead, as I will show here, the entrepreneurship and innovation initiatives at the center of economic and high-tech development in the Keweenaw turn their eyes outwards to find and attract people to the region whom they believe have the skills and ability to "turn it around." To do this, I first turn to the role of the TOOT, or "Tech out of Towner," in providing opportunities for technology transfer in the area surrounding Houghton and Hancock. Following, I turn to one innovation initiative in particular, Innovation Shore, and show how it extracts and markets certain aspects of Yooper culture, transposing "sisu" onto potential entrepreneurial outsiders.

*Tech transfer and the TOOT*

Technology transfer, the process of spinning off technological and research innovations from a University to external entities who are then able to monetize the innovation, is a key aspect of developing high-tech regional economies (Saxenian, 1996). This is especially important in rural regions fortunate enough to be home to research universities (Trauth et al,. 2015). Connected to so many things at the center of my fieldsite, Michigan Technological University is not only important for tech transfer, but for the population it brings to the region in its staff, faculty, and students. In this section, I turn to the "Tech out of Towner," or TOOT, and how they are portrayed as playing a pivotal role in supporting high-tech innovation and entrepreneurship in the Keweenaw.

Michigan Technological University (e.g., "Tech"), founded in 1885 as the Michigan Mining School, is the lifeblood of Houghton. With approximately 7000 students and 1500 faculty and staff, in a city of only 7900 people, the vast majority of people living in Houghton, and many of the people living in neighboring communities, are there because of the university. They are either directly affiliated with Tech, work in a business that mostly serves people from Tech, or work for a company that was created by a Tech affiliate. A recently-commissioned report on the university's economic impact showed that Tech' output had a net economic impact of $130.5 million in Houghton County for the 2016 fiscal year.

The prevalence of TOOTs in the region is not without contention. There is fairly tangible TOOT/Yooper divide, with many native Yoopers not considering TOOTs to be one of them. This results, from my observations, in social and business circles that are often more insular, with TOOTs socializing mostly with other TOOTs, and Yoopers socializing mostly with other Yoopers. While there is, of course, some crossover, the TOOT/Yooper divide was especially noticeable in the entrepreneurship and innovation initiatives active in my fieldsite. Those initiatives were deeply embedded in Michigan Tech and the world of the TOOT.

Entrepreneurship and innovation initiatives, and the EDOs that promote them, focused much of their attention on supporting and promoting companies and business models that were a result of technology transfer from the university. Technology transfer, in this case, involved the university's Office of Innovation and Commercialization, which, in their words, "supports campus innovators

working on discoveries resulting from their research activities by providing an array of expertise, services, and initiatives including assistance in pursuing funding opportunities for late-stage basic and applied research and development, hosting training and education programs, preparing and negotiating licensing agreements with established companies as well as start-ups" ("Innovation and Commercialization").

During my fieldwork, the research administration at Tech, and even higher-ups such as the new President of Tech, were sure of the potential of the Keweenaw as a source of rural high-tech futures. As soon as he started at Tech in 2018, the new President started an initiative called "Tech Forward." The initiative spawned a series of campus and community conversations over the course of a semester that were "designed to position the University as an internationally recognized academic thought leader in the Fourth Industrial Revolution" ("Tech Forward"). The conversations and program were guided by the question, "How will Michigan Tech influence and adapt to five disruptive forces?" These forces included the growth of "autonomous and intelligent systems" (i.e., artificial intelligence) and "data revolution and sensing" (i.e., big data).

Much of the fanfare about the possibilities of high-tech innovation in the region had started after a handful of successful engineering firms were spun out of the Keweenaw Research Center in the 1990s. The Keweenaw Research Center is a Tech research facility that focuses primarily on vehicle testing in deep snow conditions, largely funded for commercial and military purposes. The company that was sort of seen as the "godfather" of high-tech companies in the region was ThermoAnalytics, a thermal imaging software company that got its start at the Keweenaw Research Center working on projects funded by Ford. Many of the companies that came about the past decade as a result of Tech's tech transfer were all clients of the MTEC SmartZone

The Michigan Tech Enterprise Corporation (MTEC) SmartZone, colloquially known locally as just "the SmartZone," is a non-profit corporation that promotes and facilitates the creation of high-tech businesses in Houghton, Hancock, and the surrounding region. The MTEC SmartZone has three facilities spread across Houghton and Hancock, offering incubation services, low-cost office space, and other resources to companies that fit their mission. One of the most visible programs

they offer is their SmartStart program, designed to get potential local entrepreneurs' ideas out of their heads and give them the space and resources to explore business opportunities.

The MTEC SmartZone is one of 21 SmartZones spread throughout the State of Michigan. Each SmartZone is tasked with promoting economic development, primarily through business creation, that is regionally responsive. In other words, the goal is to promote economic development that deals explicitly with unique strengths of the region in which it is housed. All SmartZones are at least partially funded by local tax capture from the municipality in which they are housed; this adds a kind of responsibility to respond to the needs of the places that they are supposed to serve. Given the proximity to Michigan Tech University, the MTEC SmartZone focuses a lot of energy on developing the business ideas of students, faculty, and staff of the university. At the time of fieldwork, the focus and growing interests of the SmartZone was in high-tech industries aligned to the work of the Tech Forward initiative, particularly advanced materials, bioforest products, cyber security, and aviation.

As a business incubator and entrepreneurial support office tasked by the State of Michigan with building up the high-tech industry in Houghton and Hancock, the MTEC SmartZone was deeply embedded with the work of Michigan Tech. Its main administrative office was on the first floor of the Lakeshore Center, a building owned by Tech which also houses much of the research office of the university, including its Office of Innovation and Commercialization. The placement was intended to streamline relationships between the entities. In fact, the website for the Office of Innovation and Commercialization touts the SmartZone as a major resource for their faculty who wish to commercialize their research: "as a means to facilitate transfer of technologies developed on campus, we partner directly with the MTEC SmartZone and other organizations in active and direct support of researcher-led startup businesses" ("Innovation and Commercialization").

While it's duty was to Houghton, Hancock, and the surrounding communities, much of the efforts of the SmartZone went towards supporting the work of Tech and TOOTs. In fact, through my observational data and interviews, I witnessed organizational pivots at the SmartZone signaling to me that it saw limitations in continuing its primary focus on supporting endogenous business creation among community members.

Let's return briefly to the departure of Clarissa Maki, the CEO of the SmartZone who led the organization from 2011 until 2018. During her speech at the joint City Councils meeting that I documented at the beginning of this chapter, she applauded the region for its support of "risk takers," but also said that outside expertise was necessary in making sure that the region was able to flourish in the future. The new CEO, Jay Teeling, had a solution for this. A few months after he started, I reached out to Jay and met with him at the SmartZone's conference room in the Lakeshore Center. I asked him about his plans for the organization and how he envisioned the future of the region among various economic changes, and the strategic shifts of the University. He confided in me that he saw their existing work as producing lots of ideas, but very few entrepreneurs:

> "We need to get away from the concept of incubators and we definitely need to stop using the term entrepreneur and invention because inventions and entrepreneurs aren't available in sufficient quantities. You'll find a unicorn up here faster than you'll find a real entrepreneur..."

With such a close connection to tech transfer at Michigan Tech, there were a ton of "innovators" with great ideas in Jay's mind, but there weren't the right kind of people to transform the ideas into successful business practices. The researchers at Tech could innovate all day, but when it came to financing and business planning, the ideas fell apart as the "innovators" weren't actually entrepreneurs.

This attitude of too much innovation but not enough commercialization was compounded by the views held by community leaders and economic developers that I discussed earlier in the chapter. The economic potential of local Yoopers was not oriented towards the kinds of economic growth that were seen as necessary to push the Keweenaw into the future. In an awkward paradox, the region was seen as having simultaneously too much innovation, but not enough of the right kind of entrepreneurial spirit to exploit that innovation. Instead, Jay told me, the plan for the SmartZone was to increase their focus on second stage businesses that were already well-established in the region and had demonstrated the ability to grow. But, the SmartZone still needed to maintain something of a community-driven entrepreneurship façade, so it began to experiment with new programs that sought to bolster the extraction of ideas from the local community (i.e., the kiosks

discussed in Chapter Three), while also working to attract former TOOTs and other entrepreneurial former residents back to the region.

Shortly after the launch of the idea kiosks in Calumet, the MTEC SmartZone held their first "Return North" event. This event was part of their ongoing work to help develop and support the growing high-tech sector in the Keweenaw. Starting in late 2018, the Return North event has been held the day after Thanksgiving in Houghton. It was designed to be a networking event to bring together people who live elsewhere or are returning to the region to visit family for the holidays. The goal of the event was to connect former residents and people with family ties to the region to high-tech employers or plug them into the entrepreneurial services that the SmartZone provides. In other words, the goal of Return North was to find those that have managed to build up the "right" kind of high-tech skills and entrepreneurial mindsets in their time outside of the region, and convince them to come back so they can contribute to the growth of the Keweenaw.[8]

What we see in the work of the SmartZone is very much in line with the work of typical high-tech business incubators: they offer cohort-driven education and programming, support the creation and financialization of local innovation, and offer networking and other opportunities to attract the "right" kind of people to their entrepreneurial ecosystem. Yet *who they do it with* allows us to see exactly the kind of person they deem as the "right" kind of innovative and entrepreneurial to help them build their vision for the region. This person is not your everyday local Yooper. They are the engineers and scientists (i.e., TOOTs) working in the labs of Michigan Tech, imported from other places, as well as those Yoopers were deemed smart enough to escape and build up the right kind of knowledge elsewhere. What we see here is the beginning stages of the creation of a unique rural entrepreneur that leverages the uniqueness of the region, but doesn't actually include the local Yooper.

[8] This is similar to other national projects that support the education of citizens in other places where they might access skills they couldn't at home, in hopes that they would return and contribute to further development (Abraham, 2014; Irani, 2019).

*Sisu and the Innovation Shore*

The SmartZone's Return North program was not the only initiative that sought to attract entrepreneurial outsiders; the Innovation Shore campaign did this as well. The Innovation Shore is an initiative based at Michigan Tech that seeks to promote the Keweenaw Peninsula, and the UP broadly, as a unique place for innovative businesses and people. It is largely a marketing initiative that takes stories from local successful entrepreneurs in high-tech industries and situates them discursively within assets of the region that have deemed attractive to the right kinds of entrepreneurs and innovators. The initiative was birthed out of a focus group held by the University of Michigan Economic Growth Institute as part of their facilitation of the Defense Manufacturing Assistance Program.

By the mid-2010s, defense spending was at the lowest it had been since 9/11. Two long wars in Iraq and Afghanistan coupled with military intervention in many other places had ballooned the budget of the Department of Defense (DoD), which relies heavily on American manufacturing contractors. A declining budget meant declining opportunities for contracting, and many manufacturers that built up their business around DoD contracting were left without clients and wound up closing. This had an outsized impact in the Midwest, where manufacturing still plays a large role in the regional economy, particularly small-scale manufacturing that has cropped up since the decline of mass manufacturing beginning in the 1970s (Markusen et al., 1991).

To combat this decline of available contracts, the DoD funded the Defense Manufacturing Assistance Program, or DMAP. It was a funded partnership between multiple research universities in the Midwest that worked to identify and fund economic development initiatives related to manufacturing in communities that had been affected by the decline in DoD contracting in the recent past. Innovation Shore was a project that emerged out of the DMAP project.

Empowered by DMAP, the University of Michigan Economic Growth Institute conducted a focus group with community leaders from the Houghton and Hancock area in 2017. During this focus group, a series of potential projects were proposed that could address some of the shortcomings in the decline of regional small-scale defense manufacturing. What was determined as having the most promise was "Innovation Shore," a regional marketing campaign that sought to leverage the

position of Michigan Tech and the resulting high volume of local tech transfer and associated entrepreneurship to frame the region as particularly innovative and to "grab the attention of Lansing," the capital of the state of Michigan.[9] A local marketing firm was chosen to gather stories of local entrepreneurs, develop a website to be the home of the campaign, and create and distribute a brand guide that could be used by partners of the initiative in their own marketing material. In July 2018, one month before I arrived for the start of my fieldwork, a branding guide and "talent attraction" manual were launched on the Innovation Shore website, joining the SmartZone and FinnZone trumpeting the innovative potential of the Keweenaw Peninsula.


Figure 4.4: Innovation Shore's Talen Attraction Manual. Screenshot captured by the author.

The "talent attraction" manual of Innovation Shore, pictured above, framed the UP, the individuals who live there, and therefore the individuals they were trying to attract in a familiar language: that of "sisu." The manual opens up on the very first page with, "U.P. STEM professionals ooze grit & determination...We crave adventure and fresh air – its [sic] fuel for our innovation." The manual positions this "grit & determination" alongside access to nature, safe cities, and local successful entrepreneurs as selling points for the region. It's essentially saying, "You too can have all these things if you innovate here."

[9] The Innovation Shore moniker was proposed as part of the efforts to expand the work of the MTEC SmartZone to Marquette with the creation of a new SmartZone. The two SmartZones were to become a part of what they called "Innovation Shore." I found this information in a 2014 document from the Marquette Local Development Financing Authority: http://www.marquettemi.gov/wp-content/uploads/2017/08/smartzone_development_tif_plan_2014.pdf. I was not able to trace the idea any further back than that, but from my understanding, it didn't gain much traction as a discursive tool until DMAP funded it in 2018.

The talent manual is only one of the initiative's tools that frames the region in this way. To highlight the quality of the local innovators, Innovation Shore crafted a handful of profiles of people who work in tech sectors of the Keweenaw. One of those profiles was summarized above in the section on "sisu," but I'll return to it briefly here in more depth. Recall, the profile highlighted an engineering director at a local manufacturer that made printed circuit boards. The profile used narratives of rugged individualism to describe her, traits that we are used to hearing in stories of the American entrepreneurial spirit. But this narrative was crafted in a way to exploit unique aspects of Yooper culture, in doing so framing Yooper culture as being an essential piece of what it means to be an innovator in the Keweenaw.

> "The U.P. region has a legendary work ethic. There's even a local word for it: sisu – the Finnish word for resilience and determination. [Name] says, 'The U.P. is built on a work ethic that I've not see anywhere else [sic]. Up here you'll find the best and brightest, but also some of the hardest working people anywhere.'
>
> The U.P. has a sense of community that is hard to find elsewhere, and that's important to [name]. She appreciates living in the kind of place where, if you see someone stopped by the side of the road, you don't drive by – you get out and help. She describes her work and personal relationships alike as 'very genuine, unlike in the fast-paced corporate world elsewhere where they seem very situational.' She loves that the U.P. is a kind of throwback community, where people don't have to lock their doors or their cars. [name] explains, 'I'm not worried about my daughter's safety when she's walking down the street. It's a very insulated part of the country where the people are nice and they look out for you.'
>
> 'In the UP you're not a number – you're a unique individual who's exploring a unique land where you're surrounded by very strong independent folk. In California when you join the rat race, what distinguishes you from the person next to you? Essentially nothing.'"

What we see here is how discourses of unique cultures of rural rugged Yooper individualism and dedication in the form of "sisu" and unique attributes of rural society (e.g., safety, familiarity) are bound together to create a unique rural entrepreneur that can find a home in the Upper Peninsula.

Alongside the work of Innovation Shore, there was a general desire to attract a very certain kind of outsider. Some referred to them categorically as "nesting Millennials." Others referred to them as mountain biking engineers, who could take advantage of the outdoor amenities of the region

while still holding well-paid jobs in the high-tech sector, and ultimately contributing more tax dollars locally with that well-paid job. What we see in all of these efforts, by Innovation Shore, Return North, and broadly among the people I spoke to, was how certain cultural and regional qualities were leveraged as rural capital to market the region to outsiders, marketing those same characteristics that were native to the Yooper as ones that could also be held by those coming from elsewhere. In the following section, I explain how this happens in more depth.

**Crafting the rural entrepreneur**

In this chapter, I took a regional level view of three economic development organizations (i.e., FinnZone, SmartZone, Innovation Shore), civic leaders, and a local university, working in the Keweenaw to promote and expand high-tech entrepreneurship and innovation throughout a remote rural region. I showed how these organizations go through the process of identifying and extracting unique cultural forms from the region as cultural assets, transforming them into a type of rural capital (Bosworth and Turner, 2018) that can be leveraged by anyone, whether they are from the region or not. This rural capital is marketed to find and attract the "right" kinds of entrepreneurs and innovators to the region who can provide the "right" kind of interventions so that the region can ensure economic growth in high-tech economic sectors. I call this process *crafting the rural entrepreneur*, and through this chapter I showed how it has become a key technique for growing entrepreneurship in the Keweenaw.

Before I further unpack the process of crafting the rural entrepreneur, I'd first like to further explore the ideas rural entrepreneurship and rural capital. In a 2015 article, Korsgaard et al. make the distinction between what they call "rural entrepreneurship" and "entrepreneurship in the rural." "Entrepreneurship in the rural" is entrepreneurial activities conducted in rural communities for the sake of profit, and does not contribute to the "overall well-being and development of the rural area...[having] only limited engagement with the locality as a meaningful location" (p. 11). "Rural entrepreneurship," on the other hand, "engages with its location not primarily as a space for profit but with 'place' as a location of meaningfulness and social life" (p. 13). In other words, "entrepreneurship in the rural" does not need the rural and does not give back to the rural in the same way that "rural entrepreneurship" does. Bosworth and Turner (2018) use rural capital to

understand what aspects of rurality become a part of the different kinds of capital that a business or entrepreneur deploys in their work. Similar to the Community Capitals Framework (Flora et al., 2018), Bosworth and Turner argue that rural capital is made up of unique aspects of physical, natural, financial, human, social, organization, cultural, and symbolic capitals. For example, they describe cultural capital as, "heritage, rituals, events, stories, and traditions" and symbolic capital as "rural identity that can be conferred to the business" (p. 3).

Using the rural capitals framework (Bosworth and Turner, 2018) and the distinction made between entrepreneurship in the rural and rural entrepreneurship (Korsgaard et al., 2015), I argue that the exploitation of rural capital is key to the process of *crafting the rural entrepreneur* that embodies the aspects of "rural entrepreneurship" as described above. What I've shown in this chapter is how entrepreneurship and innovation initiatives *identify* key rural assets and rural capital, *reject* the parts that do not fall in line with narratives of what is "right" for economic growth, and *market* unique cultural aspects of a region that fall in line with the desired entrepreneurial narratives, all in an effort to *capture* the "right" kind of rural entrepreneur. I see this as a process that is key to the successful economization of rural regions for the purposes of furthering neoliberal forms of entrepreneurship and innovation. In framing this as a process, rather than a site specific phenomenon, I also show how the desired "rural entrepreneur" can change depending on the unique assets and rural capital that a rural region has. What I present in this chapter is only one example of this process. I will unpack this process further.

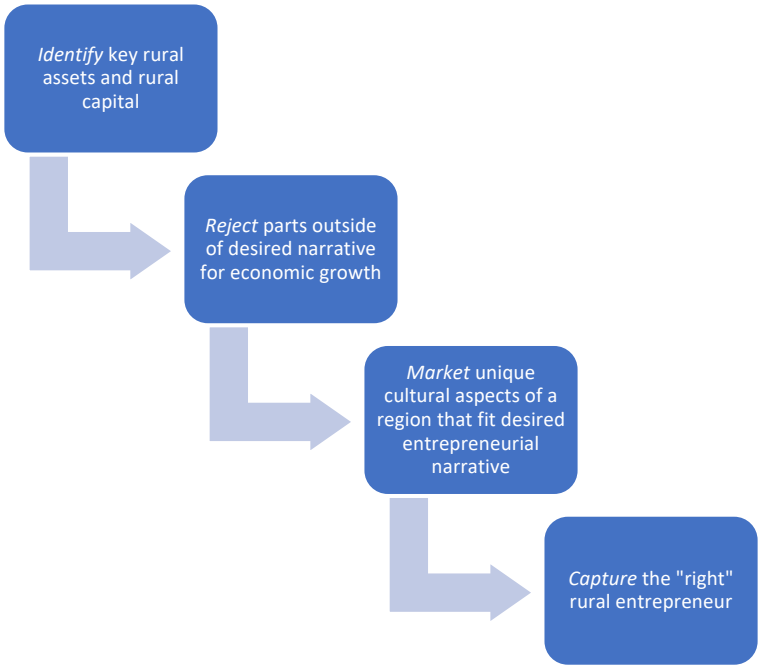


Figure 4.5: Crafting the rural entrepreneur diagram.

First in this process is identifying key rural assets and rural capital. While the cultural form of the Yooper had existed for a while beforehand, Remlinger (2017) argued that it was able to come together as a commodified media object and tool to promote tourism in the late 1970s. In this, the Yooper was an already-existing commodified asset that entrepreneurship and innovation initiatives were able to easily enroll in their project. The hard-working aspect of the Yooper, the notion of "sisu" that came from Finnish-American culture in the Keweenaw, became the key rural asset in what I've documented here that these initiatives were able to leverage.

Next, it is necessary to reject the parts of the rural asset that are undesirable for achieving the desired aims. The aim here was for a specific kind of economic growth, one that focused on "growing the pie," expanding the pool of wealth in the community, not necessarily redistributing existing wealth. This economic growth narrative was seen to be at odds with Yooper culture that was seen as anti-growth and too nostalgic. As the representative from the statewide small business support entity said:

> "...it's sad because they could grow and they're happy not to grow. I'm told that's the genuineness behind being a local Yooper, you know, they're not really in it to [grow].

> They're in it to make a good living, provide for their families, and enjoy life. The idea of growing just scares them to death."

The desire to just make a good living and provide for families and communities, rather than constantly seek out more profit and growth, was not going to be compatible with the needs of entrepreneurship and innovation initiatives. Instead, they had to turn to elsewhere to find those that would be compatible with their desire for economic growth.

Looking to external sources required these initiatives to market the unique cultural aspects of the region that fit their desired entrepreneurial narrative. "Sisu" became a tool through which anyone could attach their entrepreneurial ambitions. The marketing tactics of the Innovation Shore initiative and its partners sold the "grit" and "determination" of the Yooper as something that could be applied to anyone if they moved here to pursue their entrepreneurial dreams. To counter the decline of manufacturing in the region, the goal was to increase the number of entrepreneurial citizens (to borrow a term from Lilly Irani, 2019) in the region. This would help deal with the limited number of entrepreneurs, as noted by the CEO of the SmartZone:

> "We need to get away from the concept of incubators and we definitely need to stop using the term entrepreneur and invention because inventions and entrepreneurs aren't available in sufficient quantities. You'll find a unicorn up here faster than you'll find a real entrepreneur..."

The overarching goal of this whole process was to capture the "right" kind of rural entrepreneur. This entrepreneur would enable the organizations at the center of what I've documented here to expand their work in promoting normative forms entrepreneurship and innovation in a region that they saw as being ripe for these interventions, but was failing to cooperate appropriately. This would enable them to maintain their call: "Rural America is dying and we are not!"

But this has implications beyond just this region. Rather, an application of this process can be helpful for understanding what makes a place meaningful and deserving of recognition within the context of building up region-specific entrepreneurship. While I speak about "sisu" and the Yooper in this chapter, it can be about many other traits or cultural forms. Further, while I have focused mostly on the traits that are captured, I haven't dwelled much on those traits that are rejected. This is a weakness of the current approach and deserves more attention. Clearly anti-growth sentiments

and blight tolerance don't disappear, they are still barriers to the project of economic development. Future work could look at this intersection between what remains and what gets rejected, and how they both play a role in this process.

**Conclusion**

I started this chapter by asking, how does regional culture get taken up in the process of economic development? To answer this question, I looked to the work of three economic development organizations working in the Keweenaw to promote and expand high-tech entrepreneurship and innovation, as well as the city leaders and others who support their work. I showed how these organizations go through the process of identifying and extracting "sisu," a unique cultural form from the region, as cultural assets and transforming them into a type of rural capital that can be leveraged by anyone, whether they are from the region or not. This rural capital, I showed, is marketed to find and attract the "right" kinds of entrepreneurs and innovators to the region who can provide the "right" kind of interventions so that the region can ensure economic growth in high-tech economic sectors. I explained how this culminates in a process I call *crafting the rural entrepreneur*. In the following chapter, I turn to how the efforts of these organizations are concentrated in particular places in the region, largely centralizing the positive effects of their work in regional cities that are already the most well-resourced.

## Chapter Five: Zoning Rural Exceptionalism

In the summer of 2018, shortly after moving to Hancock to begin my fieldwork, the Michigan Department of Transportation installed new sensors on all five traffic lights in Houghton. The sensors, a type of V2I or vehicle to infrastructure sensor, provide autonomous vehicles with contextual data about traffic and road conditions, and allow for communication between autonomous and semi-autonomous vehicles. The project that installed the sensors was funded by an earmark from the 2017 Michigan State Legislature for autonomous vehicle research. As the home of Michigan Technological University, the only public research university in the Upper Peninsula, and one with a fleet of autonomous vehicles, Houghton was chosen for these upgrades despite its very remote and rural location. In fact, this part of the country, with its long winters and nearly 250" of snow every year, is arguably an ideal place to test technological infrastructure in extreme conditions.

Only a few months earlier, in June 2018, Houghton County was struck by horrendous flooding that destroyed many local homes and businesses, causing over $100 million in damage. In the particularly hard hit area of Franklin Township, an unincorporated community east of Hancock, a 12 year old boy died. Most of the catastrophic impact of the region's flooding, and the resulting landslide that caused the boy's death, was blamed on crumbling storm water infrastructure. Much of the storm water infrastructure in unincorporated townships across the region was built in the early 20$^{th}$ century during the copper mining boom, was never replaced, and rarely maintained.

These two examples, the new street light sensors and the catastrophic flooding due to infrastructural decay, point to a complex and growing problem in the world of economic development and municipal management: it is often much easier to find funding for opportunistic and flashy technology projects than it is for essential infrastructure repair. This is especially

apparent in rural communities with shrinking populations and shrinking tax bases that are often left waiting to fund essential infrastructure fixes until they break. A handful of rural communities have bucked this trend, weathering post-industrial collapse and population loss. They have transitioned to new economic opportunities through a combination of leveraging state and federal resources, local institutions such as universities, and robust and flexible local economic sectors that were able to diversify before the impacts of globalization and neoliberalism were felt in key rural economic sectors such as agriculture and manufacturing. For example, by the 1970s, Houghton already had a medium-sized state university, local manufacturers, a diverse retail base, and a growing tourist industry.

It is this disparity that I turn to in this chapter: between the rural haves and have-nots, between communities that in many cases are able to flourish and others that continually fall farther behind. I return to the overarching question of this dissertation: *How does this rural region seek to reframe and reinvent itself through contemporary modes of innovation and entrepreneurship?* I have thus far documented four primary tactics through which organizations reframe and reinvent the Keweenaw for purposes of technological innovation and entrepreneurship: (1) revitalization efforts; (2) successfully capturing grants and leveraging policy mechanisms to signal municipal progress; (3) technology transfer from universities to the surrounding community; and (4) through culturally-situated tech industry growth and talent attraction. I briefly summarize these tactics here before returning to the literature on rural growth in regions with amenity-based economies.

In Chapter Three, I documented two tactics that I see as contributing to the ability to reframe and reinvent regions through technological innovation and entrepreneurship: revitalization efforts and leveraging grants and other policy mechanisms. Revitalization is a primary pathway through which rural redevelopment tactics were framed. For example, initiatives such as Michigan's Redevelopment Ready Communities promote revitalization through attracting outside real estate investment opportunities. This process, as I argue in Chapter Three, is aided by digital mapping and open data initiatives that seek to make rural communities and their infrastructure more readily observable for external investors (e.g., real estate developers). The ability to successfully capture grants and leverage policy mechanisms to signal municipal progress is also essential to reframe and reinvent regions. I described this through the Redevelopment Ready Communities program

and the asset management programs. These were ways, both formal and informal, for communities to signal that they were "ready" for investment, and particularly that they had the required digital assets and know-how.

In Chapter Four, I documented two other tactics: technology transfer and culturally situated high-tech industry growth / talent attraction. Technology transfer is essential in aiding regional development efforts in rural regions that are fortunate enough to have large universities, such as Michigan Tech. In the case of Houghton and Hancock, additional economic development organizations were built up to exploit and enhance technology transfer (i.e., the SmartZone). Scholarly literature in community and economic development has argued that rural places are well situated to leverage unique rural culture and rural capital in their development practices (e.g., Bosworth and Turner, 2018). I saw this occurring in the adoption of regional cultural tropes by innovation and entrepreneurship initiatives who used it to promote the growth of high-tech sectors and attract the right kind of rural entrepreneurs to the region.

The efforts I summarize above were largely concentrated in the neighboring cities of Houghton and Hancock. Returning to the literature on the economic progress of rural communities in the United States, we can begin to see why. In their 2018 article in *The Journal of Peasant Studies*, Jessica Ulrich-Schad and Cynthia Duncan propose that rural America is home to three types of rural places: amenity rich, transitioning, and chronically poor. The amenity-rich areas represent those rural places that are able to utilize, market, and exploit their unique rural assets in ways that have made them "attractive to retirees, recreationists and 'laptop professionals'"(p. 61). These rural places maintain growing economies and populations in comparison to transitioning and chronically poor places which largely do not. The ability to attract high-tech professionals and maintain robust and diverse regional economic sectors that support each other is also essential to the work of rural development literature and think tanks that argue a regional development hub strategy is key to rural regional prosperity.

But, as I've begun to unpack above, each of the development tactics that I saw used in the Keweenaw largely resulted in a concentration of development opportunities in already well-resourced communities (i.e., Houghton and Hancock). They do not usually result in region-wide

development opportunities. Because of this, I ask, *how do regional approaches to innovation break down?* In this chapter, I turn to three examples from my fieldwork to demonstrate how technological opportunity remains concentrated in the same communities that are reaping benefits for development: (1) through the failure of federal investment policy to consider the needs of the most remote and low-resourced rural communities; (2) through models of economic success that prescribe growth over sustainability; (3) when communities reject the technological advancement that they are "supposed" to be embracing.

Drawing on the work of Aihwa Ong and other scholars of globalization and neoliberalism, I draw out one particular effect of innovation breakdown I call *zoning rural exceptionalism*. Zoning rural exceptionalism is a process wherein rural communities are able to leverage economic development policy and the corresponding opportunities to differentiate themselves as a "rural player" in the new innovation economy. What I document here is not a simple story of uneven development. This is a story of rural development initiatives that seek to create regionwide wealth and prosperity, but fail by concentrating opportunity and progress in already well-resourced communities. I first turn to the new federal Opportunity Zone initiatives created in 2018.

**Finding Opportunity in an Opportunity Zone**

Federal policy in support of economic development is complex, ever-changing, and comes from many different sources. The most recent large-scale intervention at the federal level comes in the form of the Opportunity Zone designation, regulated by the United States Treasury and Internal Revenue Services (IRS). The Opportunity Zone program was established in 2017 by the Tax Cuts and Jobs Act and based on proposals from the Economic Innovation Group, a neoliberal public policy think tank. In its inception, the program was touted as being an economic development tool for low income urban and rural communities (Tankersley, 2018). The act gave certain agencies in each state the power to nominate specific geographic areas, usually at the census tract level, to become "Opportunity Zones." These zones are areas in which investors can take the gains they've realized on a past investment and reinvest them into a new or growing business located, and doing business, in an Opportunity Zone. If the investors keep their money invested in the company for long enough (10 years at the time of research), they no longer have to pay taxes on the gains that

they had invested. If the investors keep it in for even longer, then some of the taxes on the gains that result from the new investment are also waived.[1]

The tactics of the Opportunity Zone program are nothing new. It is similar to many tax breaks programs that are used to encourage economic development in the United States and elsewhere. For example, the Enterprise Zone program popularized in the United States in the 1980s and 1990s also designated special geographies as Zones and had dedicated tax concessions and incentives for businesses, and sometimes residents, in those places. Similarly, Michigan's Renaissance Zone program gives tax incentives to businesses and residents in certain places for purposes of revitalization and economic growth.

In December of 2018, I attended an information session about Opportunity Zones in the UP. It was at the Michigan Tech Lakeshore Center, the same building that had the offices of the SmartZone and Michigan Tech's Innovation and Industry Engagement program. As of late 2018, the designation of Zones in Michigan was recently announced and most of the City of Houghton and all of Keweenaw County were declared Zones. The atmosphere in the room before the meeting started was jovial and friendly. Everyone knew each other, and they all seemed excited to learn about new opportunities for investment that were supposed to amount to potentially millions of dollars in the region. This was lauded as phenomenal opportunity for the Keweenaw. The facilitator, the Director of a regional economic development organization, opened up the meeting and dialed in two people on teleconference: a representative from the Michigan State Housing Development Authority (MSHDA) and an analyst from Plante Moran, a large accounting and wealth management consultancy based in Michigan.

Over the course of the next hour, the two men on the phone at the center of the large conference room described the various opportunities that were possible for Opportunity Zones in the State of Michigan and the UP. The MSHDA representative emphasized that the purpose of the Zones was to increase population and business activity in low-income communities, "the goal is investment in community instead of Wall Street." The financial analyst was less "blue sky" about his pitch,

[1] The exact specifics of the Opportunity Zone program have been modified since it first started. What I describe here is how the Zones benefited investors as of attending an information session about them in December 2018.

noting that, “this program is not going to make a bad deal a good deal,” that “unlike a loan, it goes beyond preferred return,” and that “additional tax benefits are not going to make up for losing money.” In other words, the new or growing business being invested in was going to have to be incredibly lucrative and essentially guarantee high returns for Opportunity Zone investors in order for the whole process to be successful. There’s one major problem though: businesses that generate such high returns are few and far between in the UP.

By the end of the information session, the energy in the room had changed dramatically. The question and answer session was short, with two people asking if there would be an opportunity for public comment on the program. The tone in their voice and the question indicated that there were necessary changes in order for it to be relevant to the region. As the call ended and conversation erupted in the room, an economic developer from a nearby county turned to me:

> “It’s for rich people.”

*Opportunity for who?*

Policies like the Opportunity Zone initiative are arguably incompatible with many rural communities, especially those that in more remote areas of the country, away from the influence of metropolitan areas (Besser and Miller 2013; Hardy 2019). In their research, Besser and Miller (2013) find that remote rural entrepreneurs are more motivated by push factors rather than pull factors for starting and expanding a business. Push factors are external motivations that push someone to start a business, such as “the inability to find suitable employment, or undesirable working conditions in a given location accompanied by the desire to remain in that location and/or the high cost associated with changing locations” (18). Pull factors are internal motivations that pull someone to start a business, such as “the desire for wealth, personal growth and independence, or the drive to implement creative ideas” (18). In other words, entrepreneurship in remote rural communities is motivated more by providing for family and offering community resources than by generating large profits.

I talked about this at length in the previous chapter. I showed how the cultural form of the Yooper was simultaneously seen as an opportunity for economic growth through tourism and leveraging

"sisu" to attract entrepreneurial outsiders, while many working class Yoopers were seen as backwards and anti-growth. This jockeying for outside investment is also clearly key to the successful implementation of the Opportunity Zone program. In other words, this was just one other way that outside investment was prioritized as a potential solution, rather than the endogenous work of communities. Instead of investing in community-based resources and efforts, state and federal government efforts focused on a places ability to attract outside investors.

It is difficult to get reliable data on existing Opportunity Zone investment. The Michigan Economic Development Corporation (MEDC) and MSHDA have their own website[2] that provides resources for potential investors, Zone communities, and lists completed projects. At the time of writing in May 2020, the website only lists three completed projects: two in Detroit and one in Lansing. All three are new construction multi-unit real estate. OpportunityDb[3] is another website that tracks Opportunity Zones state-by-state, but most of the investment opportunities listed in Michigan were submitted by MEDC and are not necessarily attached to existing funds or projects.

In my searches on these and other sites, I did not find a single fund or project in the Upper Peninsula. In a handful of interviews, I was told that there was interest in starting Opportunity Zone Funds to support development work, but that it hadn't come to fruition yet. Shortly after I stopped data collection in December 2019, the City of Houghton announced that it was going to be working with a real estate developer based in Marquette to redevelop a large portion of the waterfront where there was currently a city-owned parking deck. I tried to determine if this project, which is located in an Opportunity Zone, was going to be looking for fund investment, but was not able to secure that information.

While I was unable to gather evidence of Opportunity Zones having an impact on economic development processes in the Keweenaw, what I demonstrate here is that even the potential for intervention is opportunity in and of itself. In this way, new and different ways to incentivize redevelopment continued to accumulate in Houghton, even more so than neighboring Hancock. This is because of a continued focus on economic growth opportunities as models for success, and

[2] miopportunityzones.com (Accessed May 28, 2020)
[3] opportunitydb.com (Accessed May 28, 2020)

the various resources that already existed in Houghton and made it a place that was ideal for intervention. In this way, federal policy that is supposed to be enhancing opportunities for at-risk communities is in fact drawing potential investment away and concentrating it in an already well-resourced community. This results due to the failure to consider the needs of the most remote and low-resourced rural communities. In what follows, I turn to two different broader pushes to further technological advancement and opportunity in the region and how it too is concentrated in Houghton and neighboring Hancock.

**Remote Work as Rural Savior**

Remote work, also known as telework, telecommuting, or "work/ing from home," has been widely lauded since the 1970s as a flexible work arrangement that allows workers, often professional, white collar, and/or self-employed, to work full- or part-time from an atypical office setting. At the time of writing, COVID-19 has rapidly transformed many work places, particularly office-based jobs, as millions of people have transitioned to working from home. This has resulted in a whole host of think pieces and op-eds that argue this could (finally) radically transform the kinds of work that are done in peripheral cities and rural areas (e.g., Axelrod, 2020; Richardson, 2020). For example, Mark Muro, Senior Fellow and Policy Director of the Brookings Institute's Metropolitan Policy Program, published a piece about the ability of remote work to "save the American heartland" (Muro, 2020). Writing in response to announcements from Facebook and Twitter that a large portion of their workforce would likely be working from home for the next few years, Muro describes how this could be a catalyst for breaking up high-tech agglomerations that have concentrated on coastal cities. He writes:

> "The announcements could also forecast a degree of tech decentralization *across the continent* that no amount of real estate appreciation, pleas from heartland leaders, and promises to open branch offices have been able to achieve" (emphasis his).

What Muro is referencing here is the perceived failure of peripheral cities and rural communities to attract high-tech companies in the face of widespread rural brain drain, despite widespread efforts to expand remote work. He and many others are hoping that this could finally be the trigger convincing high-tech companies that agglomeration in places like Silicon Valley are no longer

necessary. But this isn't the first time that these sorts of triggers appeared that were supposed to decentralize such industries.

Before COVID-19, remote work was often touted as an opportunity to radically alter rural places. Seamus Grimes, a critical geographer, writes about this in his 2000 article, "Rural areas in the information society: diminishing distance of increasing learning capacity?" He argues that the promises of techno-solutionism in rural communities, particularly the promise of telework, ultimately failed in Europe. This failure happened despite millions of Euros being invested by the European Union (EU) to heavily expand Internet infrastructure in the 1990s. This happened alongside the widespread LEADER program also funded by the EU, which sought to expand rural development opportunities. As he argues, "Teleworking, which has been widely hyped as providing the greatest scope to the periphery for exploiting ICTs, has evolved mainly as an urban or suburban form of decentralization. Only a small minority of highly skilled professionals, possessing well-established market connections, has been in a position to sustain economic activity in remote areas" (p. 20). Like many solutions that were supposed to revolutionize rural areas (Kline 2000), it also ultimately failed to do so in the expected timeline, despite there being the infrastructure and government support in many places to support the process.

Despite the missing outcomes from remote work, economic developers in the United States continue to pursue it. Attracting remote workers remains a goal for small cities and rural areas nationwide, with some states in the recent past developing statewide campaigns to attract high-tech remote workers. The opportunity and promise of remote work was especially tangible in my fieldwork, which is what I turn to in this section. I document the regional support and social/business infrastructure that sought to prepare the region for growing opportunities for remote workers. I then turn to efforts in Calumet to attract remote workers and the barriers they faced in their work.

*Regional support for remote work*

Remote workers often need a support infrastructure to work successfully, such as access to reliable Internet, a coworking space, and/or quiet meeting areas. To reap widespread regional benefits from remote work, communities build up programs, establish coworking spaces, and develop

networking opportunities to facilitate and support remote work. I briefly look here at a handful of these support mechanisms from my fieldwork.

In 2018, a regional planning and development organization responsible for facilitating the granting of state economic development dollars made "mini-grants" available for "community marketing." These community marketing grants were part of the State of Michigan's Regional Prosperity Initiative (RPI), the same initiative that funded the integrated asset management programs I discussed in Chapter Three. Started in 2014 and funded through 2019, the RPI was a program "to encourage local private, public and non-profit partners to create vibrant regional economies" ("DTMB-The Basics"). In 2018, community marketing became a new focus for the regional organization responsible for distributing the RPI dollars in Houghton and Keweenaw Counties. While communities were able to use these marketing grants for a variety of things, ranging from graphic design to social media campaigns, two Villages in my fieldsite chose to use them to market their communities to potential remote workers looking to relocate to the region.

Another support mechanism for remote work in the Houghton and Hancock area were two coworking spaces, both opened in 2018. Shortly after moving to Hancock, I joined one of the coworking spaces as a member and worked there nearly every week for the duration of my fieldwork. Most members of the space worked in tech and related industries. About half of the people in the space ran their own business, usually working on contracts with companies outside of the area, and the other half were remote employees of existing firms. While there were informal coworking spaces and plenty of people who worked out of coffee shops and their house, the opening of two coworking spaces within just a few months of each in such a remote place was a bit of a surprise. But, according to interviews I performed with six members of one coworking space, it was a welcome relief to have something like that space to get yourself out of the house into a social environment, instead of relying on coffee shops and home offices to get work done.

The founders of the coworking space believed that it offered both a space for remote work and a community-driven space that gave people opportunities to explore business ideas. As one of the cofounders told me in an interview:

> "Houghton and Hancock has a tech innovation piece that people can feel and see as spinoffs from the university and some of the local employers. But there's not really an open welcoming to everybody kind of incubator, if you will. Everything that's made for people that are interested in either starting businesses or having a place to go to explore different ideas is either gated or inaccessible based on price. So, this is trying to remove some of those barriers for people that maybe don't have the next big tech startup idea. Maybe they just want to be a really bad ass photographer and they just need a place to go and whiteboard out their business plan and stuff like that..."

In this way, remote work and the other activities that the coworking space supported were offering alternatives to the typical entrepreneurial support ecosystem in places like the SmartZone and FinnZone that were, in this cofounders words, "gated or inaccessible based on price." I saw this reflected in the community atmosphere of the space, as I spent upwards of 30 hours a week there for almost an entire year. There was a solid crew of 10-15 coworkers and a rotating cast of 30-40 friends, colleagues, and locals who dropped in for events or utilized day passes every once in a while. But returning to the argument I made in Chapter Four, about crafting the rural entrepreneur, the coworking space largely facilitated the work of Tech-out-of-towners (TOOTs) and the kinds of entrepreneurial outsiders that were seen as being so attractive to the region. It was these kind of remote workers that organizations seeking to expand remote work in the region wanted to find and support.

*Expanding remote work in Calumet*

By the time I started my fieldwork in the Keweenaw, attracting remote workers and their families was widely being circulated as something like a silver bullet for population decline in rural communities. The potential impact of telework on rural communities had already seen a hype cycle or two in the past that had not lived up to its expectations (Grimes 2000), but new research on remote work (e.g., Gallardo and Whitacre 2018) and resulting state policies to attract remote workers had created a new hype cycle. This hype cycle resulted in multiple communities in the Keweenaw applying for the community marketing grant explicitly to create campaigns to attract remote workers to the region.

Main Street Calumet, whose work I introduced in Chapter Three, was one of those organizations. The Village of Calumet and the various economic development organizations that served it saw its historic downtown, surrounding natural beauty, and proximity to the amenities of Houghton and Hancock as an ideal place for new migrants to the region, remote workers, and their families. Written into the most recent Master Plan created by the Village of Calumet in 2018 was a mandate to attract people who would otherwise migrate to Houghton and Hancock:

> "...housing available may not suit the lifestyles and needs of housing seekers, including new residents, young professionals, and an aging population...vacant and underutilized downtown buildings can be renovated to fit unmet demands for housing."

In other words, the Village of Calumet was working to capitalize on its largely vacant historic downtown to attract people migrating to the region, folks that were remote workers or those that would typically move to a place like Houghton or Hancock, in some ways acting as a sort of bedroom or commuting village.

Main Street applied for and received a community marketing grant in 2018 to develop a social media campaign to attract these forecasted families. As Lilith from Main Street would often say to me in some variation, "We're not looking for 100,000 people to move here – we just want 100 families." She and other members of Main Street, along with regional economic developers, believed that just a handful of new families to Calumet could radically change the feeling and outlook of the village, potentially reversing decades of decline. Through the grant, the Village and Main Street were able to hire local graphic designers, photographers, and videographers to create unique content about the local region. Lilith and the Main Street board used this new content to further the Village's presence on Instagram and Facebook, largely in an effort to attract remote workers who were alumni of local universities and who had grown up in Calumet but moved away.

This approach is largely in line with asset-based approaches to development, which argue that rural communities need to leverage their local unique assets for valuable development opportunities (Mathie and Cunningham, 2003). For Calumet, it was not only the local and tight-knit community of people, but also the historic architecture and the Keweenaw National Historical Park headquartered in Calumet and focusing on the mining legacy of the region. Though, there is a major problem with Calumet following broader trends to attract remote workers through

highlighting key rural community assets: competition. There are currently massive programs underway across the United States to attract high-tech remote workers to rural communities, including right in their backyard.

A town about 30 miles away named Chassell secured a community marketing grant in 2019 and was taking the same approach as Calumet, utilizing social media to attract remote workers. Further, as I documented in Chapter Four, the SmartZone had their own campaign, Return North, which targeted alumni of the local universities, trying to get them to move back as remote workers and entrepreneurs. Further, much larger nationwide campaigns were trying to target similar demographics. The State of Vermont and the City of Tulsa, Oklahoma both created programs in the few years before this that pay tech savvy workers $10,000 to move there. In other words, Calumet was facing a whole lot of competition.

Rural economic development and innovation policy, as I have shown throughout this dissertation, argue that an assets-based approach to rural development is the best way to go. Rural communities have unique assets that are naturally attractive and offer an alternative to city living. The problem is that there are only so many people who are attracted to the very specific assets that a place like the Keweenaw possesses. And some communities, like Houghton, are much better positioned with their resource base than others. Rather than decide that only some communities should grow, a growth orientation to economic development and technological innovation tells everyone that these are activities they must engage with. The saying in economic development goes, "If you're not growing, you're dying." But with all competition to grow, more losers than winners emerge. Places like Calumet spend time and energy trying to grow when they may be better situated to think critically about their sustainability, and wind up getting trapped in a self-defeating cycle that leaves them worse off than before.

**Rejecting Technological Advancement**

In April 2019, I attended a Keweenaw County Board of Commissioners meeting. Keweenaw County is notoriously disconnected. Cell service essentially stops functioning within minutes of crossing into the county on Highway 41. This meeting of the Board of Commissioners was

supposed to be a momentous occasion. Members of the recently reconstituted county economic development committee had met with an internet service provider (ISP) out of Houghton County and convinced him to develop WISP, or wireless internet service provider, infrastructure in areas of the county where there was no internet available.

WISP is a widely used style of internet infrastructure that frequently takes the form of wireless mesh networking. Access points are run to satellites which are fixed on top of structures or towers to broadcast a wireless signal across a specific geography, similar to how cellular infrastructure works, and antennas are attached to people's homes and businesses to receive the wireless transmission. It is widely used in rural communities because it is too expensive and not profitable to run wired broadband infrastructure across large distances for just a few internet customers. Keweenaw County residents only had one other ISP, another WISP which only serviced a handful of the more populated areas of the county, and satellite Internet was broadly seen as overpriced and ineffective, especially during long and snowy winters which often disrupted the service. One of the economic development committee members who spearheaded the project lived in a part of the county where there was no Internet available and volunteered to do much of the work to get the project off the ground. She and her husband had worked closely with the new WISP to negotiate the first contract between the county and the company.

The April meeting was supposed to involve the ratification of the first contract, but instead, a shouting match between the chair of the Board and the CEO of the new ISP erupted. The CEO accused the county of refusing to budge on contract language that would allow for him to more easily monitor and maintain his equipment attached to antenna towers the county owned. The chair of the board argued that this was the same language that everyone else gets, including another local ISP, and that they got along just fine. At this point in time, there had already been a lot of time spent figuring out the contract language, in and out of meetings, and neither side was satisfied with the outcome. Visibly upset with the lack of movement on his requests, the CEO left the meeting abruptly with the problem unresolved. The County Commission decided to table the conversations for June.

I showed up to the June meeting of the County Board of Commissioners. At the beginning of the meeting, the owner of the only other ISP in the county was talking about a grant he was applying for that would hopefully aid in 5G infrastructure rollout in the county. Next up was a local woman concerned with the loss of the only psychiatrist in the county. A regional committee that dealt with mental health was concerned that telehealth appointments, which were more expensive, would not be an appropriate solution and weren't accessible for county residents as many of them didn't have access to the Internet. Last on the agenda was a reignited conversation from the last board of commissioners meeting. The chair of the commission spoke at length, stating that the desired contract language went against the normal way of doing things, and in doing so the CEO was "taking advantage of the small-town nature of this board and of Keweenaw County." The board determined that they were going to reject all contracts offered by the new ISP and they requested he remove all of his equipment from county towers and cease operation in Keweenaw County. The board failed to understand how each of these agenda items were connected.

Later in the year, I was able to sit down and interview the member of the County's Economic Development Committee (EDC) who had done most of the work behind the scenes the two years that lead to this disaster with the County Commission. What she described as happening behind the scenes at the County, meaning outside of the meetings, verified some of the thoughts I already had regarding the outcome. What at first came across as a typical contract disagreement was more complex when you looked to the cultural and social dynamics at play in this scenario. First off, the typical way of doing things was left to be understood by the insiders. The Chair of the Commission said that everyone else didn't have any issues dealing with contract language. What he didn't say was that everyone else is one other ISP who happens to be run by a longtime resident and close friend of many of the County Commissioners. The contract existed for the new WISP for legal reasons, but "everyone else" did what they pleased. And while I was not able to verify this with County Commissioners, the EDC member told me that the contract provided to the old WISP was not actually the same contract that the County was requesting the new WISP to sign. In effect, she believed the County Commissioners were lying purposely to avoid creating competition for their friend who owned the old WISP.

This likely happened in part because there is a networked basis of trust in tight-knit rural communities (some might call it a "good ole boys club" or "old boy network"). The contract wasn't the document that maintained trust between parties, it was the actual knowledge and familiarity between parties as members of the same community. The CEO of the new WISP, even though he was from Houghton, wasn't aware of the cultural and social dynamics that governed day-to-day County business in Keweenaw County. He was coming into the situation expecting that contracts and the resulting contract language would guide behavior and relationships. In other words, the contract was a behavioral guide for him. But in the case of the County Commissioners, the contract was merely a legal document that was there as a liability. The contract did not actually suggest how the parties were supposed to behave in practice.

In the case of Keweenaw County, the many social and cultural dynamics at play resulted in the County Commissioners rejecting an opportunity for technological advancement. This opportunity should have been an easy sell, as many people in the County were without Internet and the problems of Internet access were accumulating right before the Commissioners' eyes in their June meeting. In the June meeting, nearly every agenda item had to do with Internet access, yet the Chair could not make the connection between why these needs still exist and the solutions that he had in front of him. This rejection was fundamentally at odds with the approach that the same Commission took to making asset management data accessible. In rejecting this opportunity, Keweenaw County was arguably reinforcing the outside perception of it, and other rural areas, as technologically backwards.

**Zoning Rural Exceptionalism**

What we see here each of these vignettes from my fieldwork, is how regional approaches to supporting growing infrastructure, both social and physical, that aid new digital economies break down once they leave the better-resourced communities that sit at the center of the region. Through my research, I found three primary ways that innovation initiatives breakdown: First, through the failure of innovation and development policy to consider the needs of the most remote and low-resourced rural communities. This came through in the rollout of the Opportunity Zone program, where particular urban-centric approaches to entrepreneurship and investment, primarily for the

wealthy, were prioritized. Second, regional approaches to innovation break down through models of economic success that prescribe growth over sustainability. This came out in the Opportunity Zone program, which prioritizes economic growth models of investment, rather than investment that seeks to assist communities in developing their own customized community resources. The prescription of growth over sustainability also came through in the remote work campaign in Calumet. In having to compete with many other campaigns, locally and nationwide, the remote work campaigns I discussed prioritized asset-based approaches. In this case, the winner, the community on the receiving end of opportunities for expanded innovation, entrepreneurship, and ultimately population growth is the community who is best able to market its assets. Third, regional approaches break down through the rejection of opportunities for technological advancement when communities are "supposed" to be adopting them. In the case of Keweenaw County, the Board of Commissioners actively worked to prevent another ISP from coming into the county, an ISP that would have provided Internet to many people who didn't have access. Rural networks of trust and a good ole boy network failed to account for the need of outsiders to intervene on some issues, especially in a place with limited technological opportunity and knowledge.

Returning to the literature on zoning that I summarized in Chapter Two, I'd like discuss an effect that this breakdown has. In particular, I'd like to show how the breakdown contributes to an increased divide between the "rural haves" and the "rural have-nots." I call this process *zoning rural exceptionalism,* wherein rural communities are able to leverage economic development policy and the corresponding opportunities to differentiate themselves as a rural player in the new innovation economy. In this section, I'll first revisit how the practice of zoning creates special geographies that encourage specific types of neoliberal economic engagement. Next I will explain how this has taken shape in contemporary pushes for innovation through federal and state policy. Last, I return to my fieldwork to demonstrate how this shapes economic opportunity in the Keweenaw and speculate about what this means for the future of rural development in the innovation economy.

As Aihwa Ong (2004) describes them in the context of China, zoning technology (e.g., Special Economic Zones) are used by the Chinese state to create what she calls a "variegated sovereignty." Variegated sovereignty is a name for the multiple systems of power and authority that vary

between China's zones and the rest of the country so that certain political entities (e.g., Hong Kong, Macao) can be incorporated into a Chinese "axis of trade, industrialization, and gradual political integration" (p. 70). This system of zoning technologies also enables China to more readily participate in global markets and take advantage of foreign investment and trade. The establishment of zones to enable participation in global markets and spur certain kinds of economic development and success was practiced heavily outside of China at this point, including with the establishment of multiple different kinds of special economic zones in the United States.

The zones in the United States that I discussed in this dissertation were not necessarily designed to encourage participation in global trade in the way that Free Trade Zones do in the United States and SEZs do in China. Rather, I focus on zones whose purpose it is to spur business investment, economic growth, and innovation in communities that are considered to be disadvantaged. In particular, I draw out how and why these zones are created and then show how they are leveraged to promote certain types of innovation in certain places. In the State of Michigan, I am going to focus on the deployment of SmartZones. At the federal level, I return to Opportunity Zone legislations and how rural-oriented think tanks are uniting it with US Economic Development Administration's Regional Innovation Strategies Program to target rural innovation.

*SmartZone(ing)*

The SmartZone program, whose Houghton-Hancock outpost I have discussed extensively in this dissertation, was created in 2001 by the Michigan Economic Development Corporation. Per their promotional material:

> "SmartZones provide distinct geographical locations where technology-based firms, entrepreneurs and researchers locate in close proximity to all of the community assets that assist in their endeavors. SmartZone technology clusters promote resource collaborations between universities, industry, research organizations, government and other community institutions, growing technology-based businesses and jobs. New and emerging businesses in SmartZone technology clusters are primarily focused on commercializing ideas, patents and other opportunities surrounding corporate, university or private research institute R&D efforts" ("Michigan SmartZones").

SmartZones are partially funded and connected to local municipal interests by local tax capture through what are called Local Development Finance Authorities (LDFA). In the case of the MTEC SmartZone in Houghton-Hancock, a portion of local property taxes are diverted to the LDFAs of Houghton and Hancock who then allocate that to the SmartZone. In this way, the SmartZone is held liable to the interests of the cities. According to the LDFA Operating Budget for 2019-2020, $1,000,500 was given to the MTEC SmartZone.

Due to the structure of the SmartZone program, its funding sources, and its relationships to Michigan Technological University, its focus since its founding in 2003 was bounded by the city limits of Houghton and Hancock. As I noted earlier in the chapter, the SmartZone is strategically placed in the same buildings as multiple local university offices for technology transfer and entrepreneurial support. In this way, the SmartZones have become an essential part of the local and regional entrepreneurial ecosystem, offering courses and resources to entrepreneurs with a focus on developing new companies in Houghton and Hancock. Looking at MTEC SmartZone's list of clients, you see a list of the "Who's Who" of innovative companies in the Keweenaw Peninsula, mostly concentrated in Houghton and Hancock.

This isn't by accident. Programs like the SmartZone legislation are explicitly built up in communities that already have certain types of resources available to make the SZs as successful as possible. By mandating that SmartZones are at the center of collaborations between "universities, industry, research organizations, government and other community institutions" and then tying the funding and responsibility to specific municipalities, the SmartZone program embodies a zoning process that privileges certain geographies over others. In this case, it concentrates these opportunities in Houghton and Hancock, alongside the vast majority of the economic development organizations in the Keweenaw and the institutions, such as universities, that drive much of economic development in the region.

*The Center on Rural Innovation and "innovation hubs"*

I briefly introduced the work of the Center on Rural Innovation (CORI) in the Introduction, and discussed their rural data dashboards in Chapter Three. I'd like to return to another one of their

programs here, their Rural Innovation Initiative, which supports the creation of rural innovation hubs in communities throughout the United States. According to their website:

> "Through the Rural Innovation Initiative (RII) we select communities that apply to receive intensive technical assistance as they execute an innovation hub strategy: an economic development model that works to educate and train local residents in digital skills, employ them in new economy jobs, and empower them to launch the startups that will drive their digital economy" ("Rural Innovation Initiative").

Each year (for the past two years at the time of writing), CORI accepts applications from aspiring communities that want to be a part of its program. When selected, CORI begins working with the designated entity in each community, often doing multi-day site visits to meet community groups and stakeholders. Through this process, CORI provides technical assistance to apply for federal grants, particularly the i6 Challenge Grant through the United States Economic Development Administration's Regional Innovation Strategies Program.[4] This program's approach should not sound foreign given what I have discussed about regional innovation strategies for building place-based economies. It essentially is the fund through which non-profits, institutions of higher-education, economic development organizations, and other organizations focused on entrepreneurship and innovation get funded by the federal government to build out regional innovation in their respective regions.

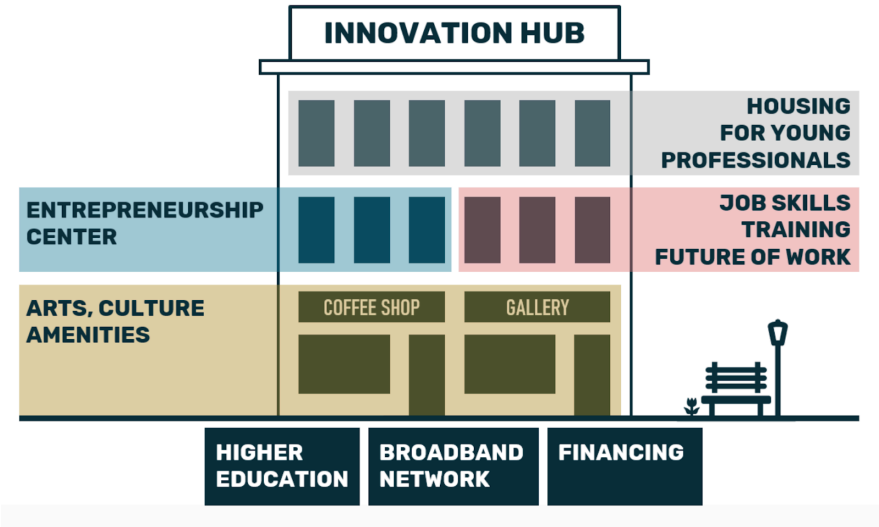


Figure 5.1: The Innovation Hub model advocated by the Center on Rural Innovation. Image saved from their website by author in 2019.

[4] This federal program is now known as "Build to Scale Program," but at the time of research was still called the Regional Innovation Strategies Program.

From CORI's first cohort in 2018, three rural communities, as represented by local non-profits that lead their interaction with CORI, were able to secure i6 Challenge Grants which would help facilitate this build-out of the rural innovation hub in their respective communities. Among the successful CORI-supported communities and organizations was 20Fathoms, a startup incubator in Traverse City, Michigan. Traverse City is often viewed as something of a poster-child for rural communities in Michigan. The city and the surrounding region were able to pivot away from a traditional tourist economy over the past 20 years into a much broader amenity-based destination, spurring population growth and support from organizations like CORI.

At first glance, the work of CORI seems commendable: supporting rural non-profits and their communities to secure federal grants to promote regional innovation strategies through rural innovation hubs that can hopefully transform their communities for the better. They argued that innovation hubs needed a combination of certain things: housing for young professionals, incubators and spaces for job skills training, and immediate access to cultural amenities. Taking a closer look at what is actually required of communities to participate in the CORI program, it becomes clear what this program is actually doing: concentrating innovation opportunities in rural communities that are already well-resourced. In order to qualify for their program, the communities applying need four things: existing high-speed broadband, significant portions of the community located in or near Opportunity Zones, a partnership with a 4yr college or university, and a local non-profit or government that was prepared to raise the matching funds that would be necessary to secure the state and federal grants that would build these innovation hubs.

But as I've demonstrated in this chapter, it's unlikely that most rural communities have all of these items. So, what kind of communities are programs like this for?

*An inter-rural digital divide for the high-tech economy*

As we progress into the digital economy, I argue that economic policies that focus on economic growth, such as the Opportunity Zones, and programs that contribute to the concentration of resources in already well-resourced communities, like the Center on Rural Innovation, are causing the digital divide to shift. In its current embrace, the digital divide is largely seen as a divide

between access to high-speed Internet, information and digital literacy, and the resulting effects, and this is amplified by the urban-rural divide. I argue that a new digital divide is emerging, one that is created by the ability to participate in new formations of the high-tech economy in the form of software start-ups, bioeconomy initiatives, incubators, and the ability to be seen as a viable market for a high-tech future. But rather than rural areas being wholly left behind, rural communities that have the existing resource base to go after the competitive grants and development programs are able to take advantage of their position as rural.

I call this process *zoning rural exceptionalism*, wherein rural communities are able to leverage economic development policy and the corresponding opportunities to differentiate themselves as a rural player in the new innovation economy. I call it exceptionalism, in that it creates rural communities that themselves become exceptional. They become the poster-children for what it means to do successful and progressive future oriented rural development. Meanwhile, the rural communities that don't meet these exceptional standards are not only left behind with respect to technological development, but are facing increasing competition from the places where these resources keep accumulating.

**Conclusion**

While rural cities like Houghton and Hancock weren't on the receiving end of programs like CORI (yet), as I have shown throughout this dissertation, they are able to amass opportunity in other ways: through Opportunity Zones, through SmartZone programming, through tech transfer from local universities. The list goes on and on. What I argue here is that places like Houghton and Hancock are on the receiving end of favor when it comes to the process I call zoning rural exceptionalism, meanwhile Calumet and Keweenaw County are on the opposite end.

The rural development hub model promoted by the Aspen Institute, and similar to existing approaches at the state and federal level (i.e., the SmartZone, i6 Challenge grant), would have us believe that a hub and spoke model is the best route forward for rural regions. Pump the resources into centralized rural hubs that have the community connections and existing relationships (i.e., connecting spokes) with other rural communities throughout the region, and wait for the spillover

to occur. Yet, there is something that this model doesn't consider: most of these regional hubs, while much more well-resourced than the peripheral communities in the region, are still themselves under-resourced compared to regions they are being pitted against.

I've set up Houghton and Hancock here as the sort of well-resourced hub in the middle of the Keweenaw. But if we are to look at how Houghton is resourced compared to Marquette two hours down the road, there is a disparity. If we look at how Houghton might compete with other centers for high-tech innovation in Michigan, such as Ann Arbor, there's an even greater disparity. This is to say, a hub model expects spillover into surrounding regional communities. But when the hub is vastly under-resourced compared to many other regions for high-tech innovation and is expected to compete for remote workers, entrepreneurs, and outside investment, the spillover is impeded. Instead, we get regions like the Keweenaw, where resources and opportunity continue to concentrate in Houghton-Hancock while others like Calumet struggle to stay afloat.

This is not a simple story of uneven development that has gone unnoticed. This is a story of the failures of intentional rural development initiatives that seek to create regionwide wealth and prosperity and, I argue, fail. What I document here are systems of rural development that are built up to encourage discourses and tactics of high-tech entrepreneurship and innovation that will purportedly result in widespread regional spillover. But rather than doing that, they are concentrating opportunity and "progress" in already well-resourced rural communities. In calling this "zoning rural exceptionalism" I am working to signal that this kind of progress, embedded in the ability to participate in what it means to be enrolled in high-tech futures, is now fundamentally a part of processes of zoning that Aihwa Ong and others documented as a result of globalization.

In the following chapter, I return to the overarching theme of this dissertation: rural transformation in the face of shifting economic demands in the 21st century. Zoning rural exceptionalism, like the other two processes of economization that I've documented in this chapter, is essential to the rural transformation that I see happening haphazardly in my fieldsite and across the United States.

Figure 6.1: A charcoal painting of five copper miners. Hung in the hallway of 101 Quincy. Art by Alyssa Dupuis, photo by author.

## Chapter Six: Economization and a "Turn to Assets" in Rural Economic Development

*"It's not the same sleepy Finnish town anymore."*

Molly was one of my coworkers at 101 Quincy, the coworking space founded in 2018, just a few months before I started my fieldwork. It was located on the busiest corner in downtown Hancock, nestled between a Mexican restaurant and an old shoe store where I bought a new pair of winter boots when mine proved inadequate for the harsh Keweenaw winter. Molly had grown up in Hancock, but moved away as a young adult. When she returned in 2008, 15 years after leaving,

she told me that the town had changed and that it took her a couple of years to get reacclimated and find community again. Now, as a local entrepreneur, she felt plugged into many of the exciting things happening in Hancock, and neighboring Houghton. She told me that something like a coworking space would not have been accepted in the town just 10 years ago, brushed off as "big city crap." Now, in 2019 at the time of our interview, there were coworking spaces in Hancock *and* Houghton. These coworking spaces had emerged as there was an increased demand in office space for remote workers and start-ups that were spun out from local business incubators and universities. While the street signs in Hancock were still written in both Finnish and English, the people had changed, Molly told me, "It's not the same sleepy Finnish town anymore."

It's the transformation that Molly told me about, and the various organizations and businesses that accompanied it, that have been my focus in this dissertation. But the transformations that had already occurred were not enough. Discourses of innovation and rural redevelopment, spurred by capitalist markets obsessed with economic growth at all costs, demanded that communities like Houghton and Hancock continually work to transform themselves. Recovering from the collapse of the mining industry in the 20$^{th}$ century was only the first step, the region now needed to shape itself for high-tech intervention and the growing digital economy. And as I show in the chapters of this dissertation, the economic development tactics promoted, policy governing, and initiatives funding modern development concentrated resources in the most well-resourced communities in the region.

The overarching question of this dissertation was, how does the Keweenaw seek to reframe and reinvent itself through contemporary modes of innovation and entrepreneurship? I briefly summarize each of my findings chapters, before outlining the rest of this chapter.

In Chapter Three, I asked, how do contemporary pushes for rural redevelopment prepare the rural to be incorporated into technological futures? I unpacked two specific programs funded by the State of Michigan to stimulate infrastructure and real estate development in rural towns across the state: Redevelopment Ready Communities and integrated asset management. Through the digitization of rural assets, mapping initiatives, and rural data dashboards, I argued that this process works to identify the "right" and "wrong" kinds of rural data, in the process reshaping and

repackaging rurality and rural communities. I called this process *codifying rural readiness*, and showed how the tools that were supposed to create an "even playing field," but instead stoked competition between rural communities that should have been cooperating.

In Chapter Four, I asked, how does regional culture get taken up in processes of economic development? Utilizing the cultural form of the Yooper and the Finnish concept of "sisu," I showed how economic development organizations (EDOs) identify and extract cultural assets from the region and transform them into a type of rural capital that can be leveraged by anyone, whether they are from the region or not. I demonstrated how these same EDOs marketed regional culture to attract the "right" kinds of entrepreneurs and innovators to the Keweenaw, ensuring economic growth through normative forms of innovation and entrepreneurship. I called this process *crafting the rural entrepreneur*.

In Chapter Five, I returned to the overarching question of the dissertation now that I had unpacked the multiple ways that the region was seeking to reinvent itself. I asked in response to the cumulative success of Houghton and Hancock, how do regional approaches to innovation break down? I described how technological opportunities continued to concentrate in the better-resourced places in the Keweenaw, despite policies and practices that are supposed to ensure spillover and regional success. I called this process *zoning rural exceptionalism,* wherein rural communities were able to leverage economic development policy and the corresponding opportunities to differentiate themselves as rural players in the new innovation economy.

I return to these processes in this chapter, and build with them to consider how our understandings of rurality are changing in the current economic landscape. I first look to theories of economization to demonstrate their relevance to the transformation of rural regions and people. Second, I look to how rural places are simultaneously constructed as geographies of deficits and as being full of unrealized assets that are ripe for opportunity. I speculate on what rurality might be in the shadow of the high-tech economy. Third, I return to the idea of innovation and ask, when innovation is demanded of everyone, what then does innovation mean? Lastly, I reflect on my own struggles to balance critique and intervention in this project and where it might take me moving forward.

**The Economization of the Rural**

The transformation of rural culture, land, and other rural "assets" into something to be exploited for purposes of economic growth is better understood through theories of economization. Çaliskan and Callon (2009) describe economization as the process through which things, people, behaviors, organizations, and institutions become part of the economy. In the realm of high-tech entrepreneurship, Silvia Lindtner (2020) argues that there are specific tools prescribed to entrepreneurs (e.g., prototyping, post-it-note walls) that subsume people and their ideas into discourses of technological progress. This process of economization reshapes people so that they are both more in line with dominant narratives of technological innovation *and* more readily accessible to investment capital.

Alexander Dobeson (2018) argues that economization transforms rural communities to better fit the demands of neoliberal capitalism. In his research with Icelandic fisheries, he argues:

> "the economisation of the small-boat fishers has furthered the economisation of the rural as such, with the rise of a new culture of liberal rural capitalism in which private ownership structures, individual entrepreneurship and market performance decide who stays afloat, rather than collective belonging, community-based forms of solidarity and redistribution" (p. 17).

In this case, Icelandic fisheries were restructured into a new national lottery. The resulting processes made it so fishers were freed from their rural locales and no longer had to pool together their catch with the other fishers in their communities. Dobeson refers to this process as economization because it has both reconfigured how "markets change practices of harvesting and production" and the "cultural meaning of small boats as former paragons of rural independence that traditionally have spread ownership and risk across communities" (p. 18). In other words, we can see processes of economization as altering rural people's relationship to work and labor that were fundamentally part of their constitution of rurality.

What I have shown here in this dissertation, I argue, are three processes of rural economization: codifying rural readiness, crafting the rural entrepreneur, and zoning rural exceptionalism. In each of these processes, I show how the rural region at the center of my ethnography is being actively

transformed to be made more accessible for outside investment and participation in high-tech economies. Dobeson (2018) and others (e.g., Gunnoe, 2014; Delvenne, 2020) have sought to understand rural economization and financialization largely in natural resource extraction (e.g., fisheries, land, soybeans). My research extends this theorization, looking to the economic development practices, the people, and region itself as they all go through processes of economization. While understanding economization in the rural through natural resource extraction is important, rural places worldwide are being called upon to transform their economic sectors and steer away from industries such as agriculture. What I've demonstrated is that regions do not just happen to become known for their entrepreneurship and innovation, and people do not just happen to become entrepreneurs and innovators, *they are made*. It is this making that I document here.

*Codifying rural readiness* is not only about the process to make rural communities "ready" for redevelopment. It is about economic development policies and practices that demand ease of access to infrastructure for private interests, performed through digitization and regional mapping projects. While these demands, at first glance, were accompanied by privileged participation in and funding from unique state programs, such as the sewer and wastewater (SAW) asset management grants, the infrastructural issues they uncovered went unfunded. Recall that Hancock's participation in the SAW program resulted in them finding nearly $10 million worth of issues. They will have to go millions of dollars in debt to fix the issues revealed. Meanwhile, the resulting data is currently being fed into centralized GIS systems in hopes that an industrial developer somewhere might stumble upon Hancock and see that it has all the right assets for a new facility. Codifying rural readiness, then, is about the process of making Hancock, Houghton, and other rural communities, more appealing for capitalist intervention. It is a recognition that the communities themselves will not perform the desired interventions.

*Crafting the rural entrepreneur*, from one perspective, is about EDOs doing their jobs, often at the behest of local municipalities and institutions. The EDOs' goals were to promote entrepreneurship and regional innovation, attract talented outsiders, and support economic growth. But in this process the EDOs and local leaders simultaneously exploited the Yooper's reputation as hard-working and entrepreneurial, while casting aside local Yoopers in favor of outsiders with the right

skills and connections. "Sisu" was the calling card of the backwoods, industrial Keweenaw resident, and a tool used by economic developers to market the region to others: "This can be yours too." It is this paradox that points us to processes of economization. Yoopers could simultaneously be hard-working, entrepreneurial, and dedicated, but too backwards and without the right kinds of innovation to exploit. The Yooper could not be transformed into the right kind of entrepreneur, but others could. In doing so, I argue that this process points us to how rural culture can be transformed and manipulated to serve discourses of innovation and entrepreneurship.

Zoning, as described by Aihwa Ong (2004) and others (e.g., Cross, 2010; Easterling, 2012), is in and of itself a process of economization. As Ong (2004) describes the Special Economic Zones in China, it is about creating new forms of governance so that national economies can be better incorporated into global forms of capitalism. It is about structuring the right kinds of geographies, with the right kinds of resources, so they can be brought under the umbrella of technological progress. *Zoning rural exceptionalism*, then, shows how this is done in rural communities, particularly in rural communities that adhere to narratives of regional innovation. Zoning rural exceptionalism is a process that also shows us which geographies and which regions are worth economizing for purposes of regional innovation, and which can be left behind, or economized in different ways. In the case of my dissertation, this process aided economic developers and others by identifying the places that would be most in line and most opportune for outside intervention. This is a project of region-making.

What I have shown here is that it's not only specific rural commodities that get incorporated into processes of economization, it is rural people through processes of self-upgrade (Lindtner, 2020) and rural regions through processes of zoning (Ong, 2004). The economization of rural regions and rural people, in this case, is about bringing them more in line with the demands of contemporary technological capitalism, that demands innovation from everyone.

**A Turn to Assets**

In Chapter One of this dissertation I documented what I called the "rural deficit narrative." The rural deficit narrative is the story perpetuated by a whole host of think tanks and media outlets that

ask questions like, “Can rural America be saved?” They ask this question alongside recommending a variety of interventions: from rural innovation hubs to relocating rural talent to urban areas. This narrative actively constructs metrics of distress and then points to rural and urban areas that are most worthy of the limited government intervention available. In an editorial article in *CityLab*, I argued that this narrative is misleading and mischaracterizes the kinds of opportunities, and efforts to exploit those opportunities, that already exist in rural communities across the United States (Hardy, 2018).

In fact, the rural deficit narrative stands in opposition to the scholarship in asset based community development (ABCD) and rural capitals that argue that rural places are uniquely situated to contribute to economic growth. Many rural communities in developed countries turned to amenity-based tourism and other industries that relied on nature and local culture to respond to the new economic realities in the era of post-productivism (Flora et al., 2018; Halfacree, 1993). The adoption of amenity-based regional economies has since been lauded as a tool to promote population growth and rural resiliency (Ulrich-Schad and Duncan, 2018). Rural development scholars and professionals saw these changes and a wave of theorization about the role of local amenities and unique regional assets began to emerge in the mid-1990s (Flora et al., 2018; Jóhannesson et al., 2003; Slee, 2005). In other words, new rural economies based on unique rural assets emerged at the same time that theories of place-based innovation emerged, largely as a result of the upending of global markets and financialization of global capitalism that happened in processes of neoliberalization (Harvey, 2005). I call this the *turn to assets*.

The turn to assets then is the period from the mid-1990s moving forward where rural economic development theory and place-based innovation theory both encouraged the transformation of non-tangible rural assets into new commodities. This was supposed to lead to a transformation of rurality and its economic capacity. Rather than be known for its economic capacity in agriculture and other forms of natural resource extraction, rural communities could (and should) turn to the extraction of unique cultures of rurality and experiences of nature. This turn to assets also helps describe a genealogical understanding of where today’s focus on rural cultures of innovation comes from. In other words, the obsession with rural innovation is just another unrealized asset.

So, what does this turn actually do? The turn to assets ensures access for investment while simultaneously promising opportunity for economic growth, which is necessary for sustaining capitalism. It makes rural communities in the United States and other regions still a resource for urban communities even when they are no longer a source of copper, lumber, and food. It streamlines rural capitalism and production so it is more in line with the demands of growing forms of technological capitalism and the digital economy. It also increases the number and types of ties between rural and urban communities. In other words, the turn to assets continues to be a process of transforming rurality to respond to global economic changes, from the realities of post-productivism in the 1980s to the digital economy of the present.

This begs the question, what is rurality in the shadow of the high-tech economy? Recall Cloke and Godwin's understanding of rural change: "a whole series of movements between the differing practices and procedures of various strategies of regulation operating at overlapping scales" (1992, p. 326-327). They were careful to reject the idea that there was a smooth and linear transition from Fordism to post-Fordism, that all rural communities were somehow now in an era of post-productivism. Rather, they argued, it was necessary to look at the overarching regulations, policies, and actors that were working to actively transform the economic capacity of rural communities. This transformation was being done so that rural communities could be more in line with the demands of contemporary capitalism and the realities of increasing global competition in productivist economies such as agriculture. Cloke and Godwin too highlighted the transformation that was taking place in rural communities from certain types of productivism to the information economy and service economy via amenity-based tourism. But it wasn't a natural or totalizing transformation.

I argue that this is an active and ongoing transformation from productivism to post-productivism. But, I'd like to suggest that my fieldwork demonstrates we are in a new stage of this transformation. It is now no longer enough to be merely a source of the idyllic for culture-based tourism or mountain biking trails. The rural must now also be a source of technological innovation and a home for the people and firms that have come to represent innovation and entrepreneurship (e.g., software start-ups, coworking spaces, incubators). While the turn to assets was argued as being something that could save rural communities and enhance rural economies through unique

place-based rural assets, it has now been used to find rural places that can too be exploited for the high-tech economy. This is what I mean when I say that there is a process of zoning rural exceptionalism happening in my fieldsite.

Some better-resourced rural communities have been able to continually package and extract their unique assets. They were the successful communities that emerged from the waves of growth provided by the turn to assets in amenity-based tourism (Ulrich-Schad and Duncan, 2018). Those are now the same communities that are being transformed by the likes of the Center on Rural Innovation, Opportunity Zones, and regional grants for the purposes of creating new rural spaces ready to take part in the digital economy. It is these places that become the poster children for what it means to be rural in the 21st century. Their success will be used to demand transformation of many other rural communities, in this way creating a new aspirational rural.

**An Innovation Crisis**

There is an interesting paradox forming, one that I have partially documented throughout this dissertation: everyone must be innovative. The promotion of innovation, often as a vague demand broadly connected to high-tech and manufacturing industries, has become a massive and ongoing project for government programs and public-private partnerships throughout the United States. The scholarly literature in rural economic development is overrun with different ideas about increasing regional innovation in rural communities and how high-tech innovation could be a solution for many of the economic woes facing downtrodden rural communities (Andersson and Eklund, 1999; Bock, 2016; Bonfiglio, 2017; Dabson; 2011; Eder, 2019; Stephens et al. 2013). But if innovation is supposed to be this totalizing solution, then what does it mean to be innovative when innovation is demanded of everyone?

In my own fieldwork, high-tech innovation was most often situated within the SmartZone, the FinnZone, and, of course, the Innovation Shore initiative. Like other regional marketing initiatives before it (e.g., Silicon Flatirons in Colorado), Innovation Shore sought to promote existing entrepreneurs and high-tech firms in the Keweenaw in an effort to attract more and bolster the region's reputation. While Innovation Shore worked to attract innovative outsiders, along with the

FinnZone, the SmartZone was ready to train and transform potential innovators through their SmartStart business incubator programming. In other words, there was an entrepreneurial ecosystem that supported the monetization of high-tech innovation.

This comes as no surprise. I'm not the first to take a closer look at how innovation has been taken up in our current historical moment. Others in critical computing (e.g., Avle and Lindtner, 2016, 2017; Freeman et al., 2018; Irani, 2019; Lindtner, 2020; Lindtner and Avle, 2017) have sought to unpack how innovation gets adopted as a development approach around the world, and the role it plays in creating specific kinds of actors that serve the spread of neoliberal capitalism. A frame of technological innovation driving entrepreneurship and development has been taken up worldwide, including in many peripheral economies (Avle and Lindtner, 2016; Freeman et al. 2018). As Avle et al. (2017) argue, there is an established "right way" to do innovation advocated, but it's largely dominated by discourses and practices from Silicon Valley: "[The] seductive draw of the SV method lies exactly on its universal promise of local applicability, individual and collective transformation" (p. 473). It is this universal promise that finds itself in the Keweenaw. These discursive demands for innovation help shape what kind of work is possible using innovation. For example, Irani (2019) shows how contemporary demands for innovation takes designers who aspire to aid NGOs doing development work, and diverts their desire to change the world through development into a need to add value to monetizable design projects.

What all of these texts show is the contested locations and purposes of innovation. There is a totalizing discourse, but it is resisted and altered. I argue that this totalizing discourse, despite efforts to respond and alter, is resulting in conflicting demands and increasing competition. In *Anti-Crisis*, anthropologist Janet Roitman (2013) argues that crisis is a "historical and experiential condition" (p. 2). She explains that crisis represents a narrative form that has been "mobilized as the defining category of historical situations" (p. 3). In other words, crises emerge because we name them as such. I am convinced that there is what I am calling an *innovation crisis* in the making. I argue that the universal demand for innovation has in itself created a kind of "innovation crisis" where everyone (regions, cities, scholars, firms, organizations) must seek innovation in their everyday practice or fear being left behind. In other words, the crisis is created to further a

specific economic trajectory in capitalism that demands growth. And in demanding growth, it demands new things to create said growth.

This crisis has been a long time in the making. The innovation crisis demands an "innovate or die" attitude of many places and people as the tech sector is seen as a last ditch effort to turn around economic prospects in a world that is increasingly designed only for the wealthy. Some of this crisis has been fueled by the rise of the creative economy in the 1990s and 2000s, alongside the dot-com boom and deeply intertwined with the tech economy. As scholars have noted, the tech start-up and creative Internet boom of the 1990s lead to the massive casualization of professional labor and normalized risk as an inherent and necessary part of being an employee within innovative tech and creative industries (McRobbie 2016; Neff 2012). This movement for a creative class was pushed by urban planners and academics (Florida 2002) and incorporated into public policy throughout the world. The casualization of labor and incorporation of risk taking that became an inherent part of the creative and new tech industries (McRobbie 2016; Neff 2012) worked hand-in-hand with the economic policies I discuss throughout this dissertation that helped incentivize real estate speculation and the movement of large corporations into downtrodden rural areas.

I am arguing that what we are seeing is not necessarily a crisis that has already happened, but an innovation crisis that is imminent in its arrival. As innovation becomes more widespread as the prominent economic development tactic to transform the economic output of rural communities, I speculate that it will lead to massive casualization of labor and the transformation, often for the worst, of rural communities. This transformation will further exacerbate already severe economic inequalities in rural communities, whose often seasonal economies already place rural people at risk. The innovation crisis will happen as rural places continually compete with each other for the scraps, the opportunities to attract the right kinds of innovative firms and industry clusters, that are thrown away from "superstar cities." The innovation crisis is already visible in the process of zoning rural exceptionalism, and it's only bound to get worst as the United States government continually pumps money into regional innovation projects such as the new Endless Frontier Act and the Economic Development Administration's Regional Innovation Strategies Program.

**Balancing Critique and Intervention**

What I have presented in this dissertation is rather critical of the rural economic development practices being advocated for and deployed in places like the Upper Peninsula. I found resources continually accumulating in the communities that seemed like they were already receiving a disproportionate amount of the opportunities. This should come as no surprise, as that is a natural function of capitalism: keep the downtrodden exploitable by continually funneling opportunity to the wealthiest. Yet, I went into my ethnographic fieldwork hoping that some kind of alternatives would come to the surface. After all, this was a very remote and rural region that I hoped would have more awareness about the trappings of models of development that advocated for economic growth at all costs. But, as an economic developer told me in one of the very first interviews I did: "If you're not growing, you're dying."

Despite this, I kept myself open to potential alternatives that might pop up. I began to see that intent in some of the work of the Western UP Planning and Development Region (WUPPDR), as they sought to create "an even playing field" for all communities in their service area using asset management. Yet, even this effort seemed to end in development practices largely centering the needs of external investment rather than internal resilience and solidarity for the communities being "developed." One WUPPDR staff member was active in organizing the Western UP Food Systems Council alongside the Keweenaw Bay Indian Community in nearby Baraga County, faculty and students at Michigan Tech, and other community/tribal organizations. The Council sought to unite food growers in the Western UP and help build infrastructure to promote further food sovereignty in the region. The Council, and the work of the Keweenaw Bay Indian Community in the region, offered potential alternatives to what I was seeing in my interviews and observations with traditional economic development entities. But, I chose not to engage with this work as I saw it as necessitating a much deeper and meaningful connection with the parties involved; a connection that I would not have been able to cultivate in the relatively short time I had in the Keweenaw.

As I was in the beginning stages of analysis and writing, I decided to test the waters with my critique in venues where I thought there might be people most impacted. Through my *CityLab*

article and behind the scenes policy work with the statewide group of rural economic developers, I was noticed by the staff at the Michigan Municipal League who invited me to give a talk at their annual forum on technology and policy. The policy forum brought together municipal leaders from all over the state and featured keynotes from people like Lilly Shoup, Senior Director of Policy at Lyft, and Dug Song, co-founder of Duo Security, an Ann Arbor start-up who had recently been acquired for over $2 billion by Cisco. In my talk, I used language that would be familiar to the people in the room, such as "the digital divide" and "grow the pie."[1] The talk was a pre-cursor to the argument that I eventually made in Chapter Five of this dissertation, that current economic development practices were concentrating technological resources in already well-resourced communities, actively shaping the ability to participate in the high-tech economy.[2] I closed with the question, "What exists beyond growth?" and largely expected to get ignored by most of the folks in the room (see Figure 6.2).

Figure 6.2: Presentation slide from Michigan Municipal League presentation.

I was the third speaker of six that afternoon, all of us coming at technology and policy in Michigan from a different perspective. The other speakers even included Jay Teeling from the MTEC SmartZone who spoke right before me about rural innovation and start-up incubators. At the end, the forum would go into breakout groups led by one of the six speakers. To my surprise, I wound up with the largest breakout group, with around 15 participants. I started the conversation by asking

[1] "Grow the pie" is shorthand in liberal capitalism for economic policies that seek to grow the amount of wealth that exists. Rather than taking away from one person's piece of the pie to make another person's piece comparable in size (i.e., wealth redistribution), these policies argue that we should be increasing the size of the pie so everyone has an opportunity to make their piece bigger without making other people's pieces smaller.
[2] The talk was titled, "Revisiting the Digital Divide: How economic development policy and practice concentrates technological resources into the hands of a few."

the people at the table what part of my talk resonated with them. They began introducing themselves, many of them were municipal and civic leaders from small communities across Michigan. They all felt the pressure to constantly reinvent their towns so that they may finally hit it big and attract the hip new start-ups and tech companies they heard about popping up in places like Detroit, Ann Arbor, and Grand Rapids. One person from Mason, a small city outside of Lansing, told the people at the table about how difficult it was to follow the advice of organizations such as the Michigan Economic Development Corporation. She wasn't sure how to compete with bigger cities nearby like Lansing, the state capitol, and East Lansing, the home to Michigan State University. Further, even if Mason wanted to become more of a "bedroom community" for techies who worked in the larger cities, it'd have to compete with every other small town in the region. She, and others at the table, felt frustrated with the demands for constant progress and reinvention.

While my work surprisingly resonated with many of the people in the room, I wasn't able to provide much solace in alternatives to the normative economic growth model. People asked what they should do, and all I could do was tell them about different approaches, such as asset-based development and the community capitals framework, that sought to do development more equitably in rural places. But, as I've laid out here in this dissertation, even those approaches still perpetuate a growth narrative that doesn't consider that some communities aren't going to be able to grow, or shouldn't grow.

While alternatives did not necessarily emerge explicitly from the work of the economic development organizations that I followed, throughout this dissertation I have proposed a handful of alternatives myself that I believe emerge from the actual lived experiences of people working the communities. These realities are often rejected by economic developers as being antithetical to the needs of economic growth and high-tech orientations in the 21st century, but what happens if policy makers, civic leaders, and economic developers took these lived realities seriously and used them to guide their work moving forward?

In "Chapter Three: Codifying Rural Readiness," I documented how initiatives to promote infrastructure data creation was oriented towards capturing externally driven redevelopment opportunities, akin to smokestack chasing. Smokestack chasing has largely been exposed as

antithetical and damaging to communities (Boothroyd and Davis, 1993) and was a term used to disparage certain types of economic development activity among people that I spoke to during my fieldwork. I suggest that we need to critically examine new redevelopment opportunities in a similar manner and reorient efforts to digitize infrastructural data and other tactics in an endogenous fashion. Data dashboards tend to prioritize the creation and display of urban-normed data that makes communities more readily accessible to global capital investment. How might communities create data that reflects the needs and desires of their community members; measuring how tight knit communities are, the kinds of natural beauty present, data that shows a slower pace of life, and how places are proximate to wilderness opportunities. These are all things demonstrably valued by the people who already live there (e.g., as evident in Keweenaw County's "Blueprint for the Future"). Instead of catering to investors, what does it look like to create data that would attract folks similar to those who already live there?

In "Chapter Four: Crafting the Rural Entrepreneur," I make the argument that the economic desires and lived realities of local Yoopers to make a good living and provide for their families and communities is rejected as antithetical to the normative demands of economic growth orientations to economic development. Rather, entrepreneurship and innovation initiatives sought to attract outsiders that were more compatible with their grand visions of the Keweenaw Peninsula as a bastion of the high-tech future. What might it look like to focus on sustainability and good jobs for all, rather than economic growth that has demonstrably only resulted in success for some?

In "Chapter Five: Zoning Rural Exceptionalism," I documented how a growth orientation concentrated economic opportunity in communities that are already the most well-resourced in the region. Despite initiatives being representative of contemporary rural development and policy literature that advocated for approaches that were supposed to encourage spillover throughout a region (i.e., rural development hubs), the resulting spillover did not materialize from the success of a few. Instead, new opportunities continued to accumulate in Houghton and Hancock. Rather than starting at the hubs of a region, what would happen if policy makers and civic leaders actually started at the periphery, the communities who are most in need of intervention and who don't have the "sexy" ideas and existing businesses? I suggest that rather than spillover, regional economic development policies in the 21st century need to advocate for solidarity and mutual aid. The Center

on Rural Innovation proposes putting rural innovation hubs in the rural communities that already have access to technological partnerships, broadband, and investment. Instead of innovation hubs that seek to spin out high-tech businesses and monetizable ideas, rural regions are better positioned to think about how technology can be used alongside rural cultural traits (e.g., "sisu") that encourage solidarity, mutual respect, and acknowledge the lived realities and hardships facing working people in rural communities.

One place that I have found inspiration to push these ideas moving forward is in theories of sustainable economics, particularly that of degrowth. Proposed as an alternative to sustainable development, which is still invested in economic growth, degrowth is "a project of voluntary societal shrinking of production and consumption aimed at social ecological sustainability" (Demaria et al., 2013). It emerged in the early 2000s from sustainability activism in France and has been taken up as a potential framework for understanding the future of many rural communities around the world (Alcock, 2019; Haartsen and Venhorst, 2010). I appreciate it because it recognizes that growth isn't the solution for all and suggests active interventions for ensuring the prosperity of people and communities to choose degrowth over normative alternatives. It is in opposition to many types of municipal decline, such as that in the "Rust Belt" narrative that constantly seek growth and reinvention while doing nothing to address the issues that are arising as industrial cities shrink (Neumann, 2016).

I think there are ways to frame technological interventions as helpful in assisting degrowth. There are opportunities for technologists and folks in disciplines like critical computing and science and technology studies to develop and study the role of technology as a critical intervention in situations like this. Rather than see remote work as a source of population growth and bringing in high-tech workers to a rural community, what happens when we think about developing systems of remote work that will allow people to stay in communities as they decline? Instead of thinking about telehealth as being a last ditch effort at connecting a rural elderly person to health care, we should be thinking about how sociotechnical health systems can empower people to access care in ways they might not normally be able to using normative forms of healthcare delivery. In other words, how can technology be a source of solidarity and sustainability rather than a source of economic anxiety?

**Leaving the Farm**

When winter temperatures start to rise and the snow starts to melt around the trunk of maple trees, that is nature's signal that it is time to tap. Tapping maple trees to extract their sap and transform it into food products (e.g., sugar, syrup) is something that Indigenous communities in the United States have been practicing for hundreds of years.[3] In mid-April of 2019, a good friend who worked at Michigan Tech invited me to join her to help the maple production of a local Anishinaabe (i.e., Ojibwe or Chippewa) farmer. Arriving in the early evening, we worked until it got dark, collecting sap in buckets and cutting wood to stoke the fire for boiling the sap down to syrup. The farmer and his family were generous hosts, sharing with us their plans for expanding their business and the work they did to support Indigenous food systems throughout the Upper Midwestern United States. Afterwards, we drove home to Hancock chatting excitedly about what we had learned and making outdoor plans for after the snowmelt finished.

The shaft-rockhouse overlooking Hancock and Houghton was not lit up that night,[4] instead a nearly full moon accompanied us as we snaked along the Keweenaw Bay on US-41. Copper mining was like many of the practices that were associated with the mythology of the Yooper, such as hunting, fishing, trapping, and making maple syrup. It too was actually something first practiced by the Anishinaabeg that was later adopted by white settlers who then transformed the practices into sources of capital accumulation (Magnaghi, 2017). Mining, alongside logging, led to the industrial development of the Keweenaw in the late 19th and early 20th century, and the resulting slow economic collapse. It was in that moment that I made the connection between the Yooper and the Anishinaabe farmer whose tribal land we had just left. The Yooper had been constructed around traits that had been borrowed or stolen from the Anishinaabeg.[5]

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[3] Tapping a tree usually involves drilling a hole into it and inserting a specially made "tap" (like a water tap) that allows the sap to flow out of the tree, usually collected in buckets.

[4] The shaft-rockhouse is only lit up during the months it's open to the public (May to October). The historic mining facility, like many other attractions in the UP, closes during the winter.

[5] There is no one good source to cite for this claim of theft. Yet, as historians of the Upper Peninsula, especially Theodore Karamanski and Russell Magnaghi have written in their own work, the economic legacy of copper mining is based in the knowledge of copper deposits that were discovered by the Anishinaabe long before white settlers arrived. Further, the backwoods cultural traits that have become associated with white Yoopers (e.g., spear fishing and making maple syrup), were likely subsistence activities first shared with fur traders and settlers in the 17th century. By calling this out as theft, I am acknowledging that like the land that was taken from the Anishinaabeg, the

As Rowe and Tuck (2017) argue, even critically-oriented research with the intent to "challenge systems of exclusion and privilege unwittingly reify the normatively White enlightenment subject, and the settler colonial grounds on which it is formed" (p. 7). I knew going into this project that I could not justify a deep engagement with the tribal communities located near my fieldsite, who were the same communities forced off the land that would become my fieldsite. Yet even with this knowledge, my project was still embedded in the erasure of settler colonial legacies in the Upper Peninsula, and rural America more broadly. As Panelli et al. (2009) note in their introduction to a special issue of *The Journal of Rural Studies* on race and rurality, rural studies has historically treated the rural as "a repository of White values, ideologies, and lifestyles, contrasted with an urbanity that is multicultural and cosmopolitan" (p. 357). My own research was embedded in the history and economic reality of the Keweenaw and the Yoopers who live there, concerned with economic inequality and pushes for development that are, as I argue, inappropriate and exclusionary for the region. Yet, I will be the first to acknowledge that my own research, in its focus on specific kinds of economic development, continues to reinforce the perceived whiteness of Yoopers. Moving forward, the study of rural economic development in the 21st century, especially my own, must also center the realities of settler colonialism.

After leaving the farm that evening, I had come to the realization that the handful of tribal governments remaining in the UP, who focused on community sustainability rather than economic growth, were looked down upon by the same economic developers who saw wasted opportunity among the local Yoopers. It wasn't high-tech remote workers that the Keweenaw needed. Rather, moving forward with something like sustainable and equitable development would require the centering of the Anishinaabe communities and knowledges that were the basis of regional identity.

cultural practices that are now associated with the white Yooper were once shared in good faith, but have since been commodified through processes of settler colonialism.

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