
The Ethnic Composition of Underground Labor in a Michigan Copper Township: A Quantitative Portrait, 1870-1920

By Stephen D. LeDuc

Between 1870 and 1920, the U.S. copper industry underwent a tremendous expansion in production. In 1871 the U.S. produced 10 percent of the world's copper, by 1920 it produced almost 60 percent.¹ A number of factors precipitated this rapid growth: increased demand for copper by the nascent electrical industry, the connection of large western mines to eastern capital and markets via the railroads, and new drilling and blasting technologies. Waves of European immigrants provided the necessary labor for the mines. The rapid expansion of the copper industry and of immigration radically altered the face of work in U.S. copper mines and substantially shifted the ethnic composition of underground labor.

The general portrait of the changing underground labor force put forward by the literature depicts early copper miners as coming from western Europe, primarily England, Ireland, and Germany. But by the 1890s and into the twentieth century, many of these western Europeans were replaced by immigrants from Scandinavia, central and southeastern Europe, and, in the case of many western mines, Mexico.² The most recently arrived immigrants frequently filled menial positions in the mine hierarchy, while the western Europeans who were not replaced stayed on as miners or in management.

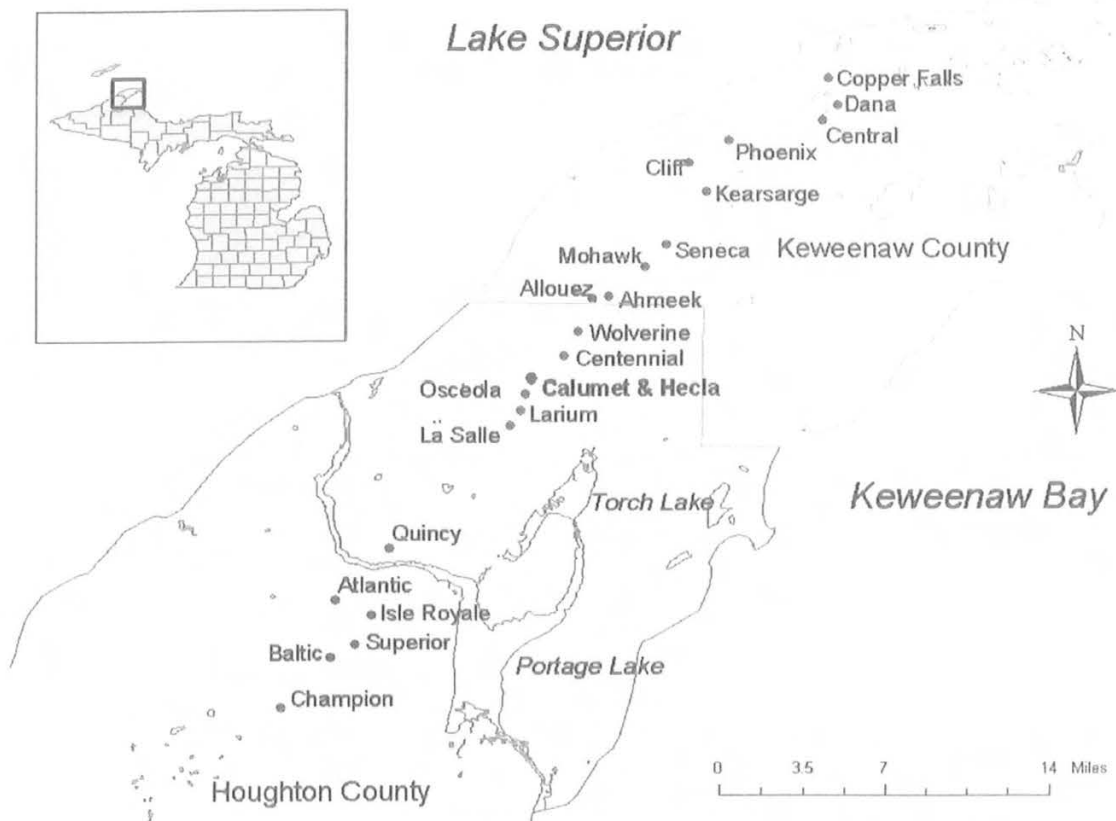
Although this broad narrative of a changing workforce is undoubtedly accurate, no study has quantitatively examined these large trends in detail.³ The following article employs the U.S. manuscript censuses of 1870, 1880, 1900, 1910, and 1920 to follow the ethnic transformations of the mining

workforce of Calumet Township, located in the heart of Michigan's copper district.⁴ Through a systematic sampling of these censuses, this study tracks the changes of each major position—captain, foreman, boss, miner, laborer, timberman, and trammer—within the underground workforce. This article does not attempt to replace the depiction of a labor force by contemporary and secondary accounts, but rather to complement that representation with detailed quantitative data gathered from the censuses.

The Michigan Copper District

Michigan's nineteenth-century copper industry developed on the Keweenaw Peninsula, which juts into Lake Superior at the state's northernmost reaches. On 1 February 1841, Douglass Houghton, Michigan's first state geologist, reported the results of his survey of the Keweenaw's copper deposits. His findings set off a speculative craze, one of the first mining rushes in U.S. history. The Keweenaw Peninsula remained the country's dominant copper producing district until the opening of the mines at Butte, Montana, in the 1880s. Despite their declining share of domestic production, Michigan companies continued to produce ever-increasing amounts of copper into the mid-1910s.⁵ By 1920, production and employment in the Michigan district began its slow decline.

Calumet Township was dominated by the largest, most financially successful copper mining company in Michigan. In 1871 two companies merged to form the Calumet and Hecla Mining Company. Between 1870 and 1900, C&H produced over 50 percent of the



Map of the Keweenaw Penninsula, produced by the author.

total Michigan copper output.⁶ By the late nineteenth century C&H, like the district as a whole, faced increased competition from western producers and declining copper content in its mines.⁷ To survive, C&H purchased shares of other mines, and, by 1909, owned controlling interests in all of the mining companies in Calumet Township except for the Wolverine Mining Company.⁸

The underground workforce of C&H and all of its subsidiaries had a distinct hierarchy. A head mining captain, also called a branch mining captain, oversaw each section or branch of the mine. Under him was a shaft captain, one for each shaft for a specific shift, and these shaft captains were in charge of the shift bosses, timber bosses, and trammer bosses. Underneath all of the captains and bosses were the miners, timbermen, general laborers, trammers, pumpmen, trackmen, and drill boys. A trammer boss, for example,

supervised all of the trammers on three or more levels of the mine.⁹ The 1910 and 1920 censuses listed "foreman" and "assistant foreman" as occupations. The exact position of these men in the mine hierarchy is unclear, however it is likely that they fit between the position of captain and boss.¹⁰

Of all the positions in the mine hierarchy, that of miner changed the most due to increases in work speed and mechanization. Prior to air-powered drills, miners typically worked in three-man teams: one held a drill steel while the other two alternated blows with eight-pound sledge hammers.¹¹ In the early 1880s, the first air-powered drill to gain wide acceptance and use underground was brought into the district.¹² This approximately three-hundred-pound drill required two men to set it up, and though officially its name was the Rand drill, it was appropriately dubbed the "two-man drill."¹³ In the

Drilling a drift in the Calumet and Hecla Conglomerate Mine, c. 1928. (Michigan Technological University (MTU) Archives, Mining Engineering Photograph Collection.)

early 1910s, the “one-man drill” appeared in the mines. The water Leyner was the most common one-man drill. It weighed 150 pounds, and pressurized water flowed through the hollow drill bit to dampen the dust it generated.¹⁴ The one-man drill increased the output per miner—thus increasing his earnings as well—and by December 1913, C&H and its subsidiaries used approximately four hundred of these new drills.¹⁵

The absolute numbers of workers in other positions in the mines fluctuated between 1870 and 1920, but their duties changed relatively little compared to those of the miner. Timbermen continued to erect timber props to support the mine’s roof. Laborers moved equipment, set up compressed air lines, sorted rock, and cleaned out stopes, among other assignments.¹⁶ Trammers filled cars with blasted rock from the face of the lode, and pushed the cars along the drifts to the mine shaft. For mining companies like C&H, the cost of using electric motors to haul tramcars remained prohibitive, thus trammers continued to be employed in substantial numbers.¹⁷

The introduction of pneumatic drills and other means to boost productivity were not always well received by workers. Despite the higher wages made using a one-man drill, miners complained that the drill was dangerous because a partner was not always present to help set it up or to go for aid in case of an accident. Additionally, the copper companies raised the height of the tramcars, increasing the trammer’s load from three to almost four tons, and companies also increased the number of underground bosses to spur production. This emphasis on production and speed led workers to complain



that the increased pace posed higher risks. For example, some miners complained they were no longer given time to pull down the loose rock above their work areas. In July 1913, the grumbling became a district-wide strike that lasted until 12 April 1914, at the end of which the workers had gained few concessions for their struggle.¹⁸

The Changing Face of Labor

As the mining industry changed, so too did the ethnic composition of its underground workforce. Contemporary accounts broadly describe the successive waves of immigrants and their place in the mine’s hierarchy. A 1911 Immigration Commission report stated:

Immigration to the Michigan copper range started in 1844 with the arrival of the Cornishmen, who preceded other foreign races in the successful operations of Lake Superior copper mines. The Cornishmen, having been miners before their immigration, carried on their work successfully and in many cases made large fortunes. Their descendants are now living in the region and are as thoroughly Americanized as the native American. The Cornishmen were followed by the Finns, who also have made great progress in the district. They for the most part occupy laboring positions, however, and have not been so successful as were the early Cornishmen. The other races, the Magyars, Scandinavians, North Italians, and Poles, which have been in the community only a few years, are working merely as laboring men and are making little progress beyond that position in life.¹⁹

An observer of the district, Charles T. Rice, made similar remarks in 1912:

It is odd, however, that there has been considerable of an exodus [*sic*] of the Irish, and to a less[er] extent of the Cornish element to [w]estern camps, and as a result there has been a steady increase in the number of foreign employees on the pay rolls of the companies. This condition is hard to account for. Most of the machine men are Cornish, with Irish, Americans, Italians and Finns in the order named, making up the balance of the drillers and timberman. The trammers are generally Finns and Croatians, but of course there is really no division of the labor according to nationality. The Cornish miners are no longer in power in this district to the extent that they were formerly, when most of the mine

captains were Cornish.²⁰

In general, contemporary accounts depict the early arrival of the Cornish and the Irish. If they stayed in the district, these immigrants held onto the better mining jobs or became captains in the mine. The literature also indicates that many Cornish and, in particular, the Irish, left the district for western mines and were replaced by Finns, Croatians, Italians, and Poles. Though Rice noted that "there is really no division of the labor according to nationality," his report does seem to indicate that certain ethnicities predominantly occupied certain positions.²¹

A Quantitative Portrait

Although contemporary accounts do suggest general trends, the manuscript censuses allow the ethnic makeup of the underground workforce to be examined in great detail. C&H did keep records on the nationality of their employees, and seven summary tables created prior to 1928 still exist. However, the tables cover a limited time—more than half are from the 1913-14 strike period—and the tables do not classify employees by underground occupation.²²

The censuses show that between 1870 and 1900 the size of the underground workforce of Calumet Township expanded rapidly; but by 1910 its growth had leveled off, and by 1920 the workforce was half of its 1870-size (Figure 1). The number of miners mirrored this general trend, but other positions did not. The number of laborers dropped precipitously between 1900 and 1910, but in contrast, until 1910, the number of trammers, timbermen, and the combined group of captains, foremen, and bosses, continued to increase.²³

Captains, Foremen, and Bosses

At the top of the mine hierarchy, a relatively small number of captains, foremen, and bosses oversaw the entire underground workforce. Captain was the most British-

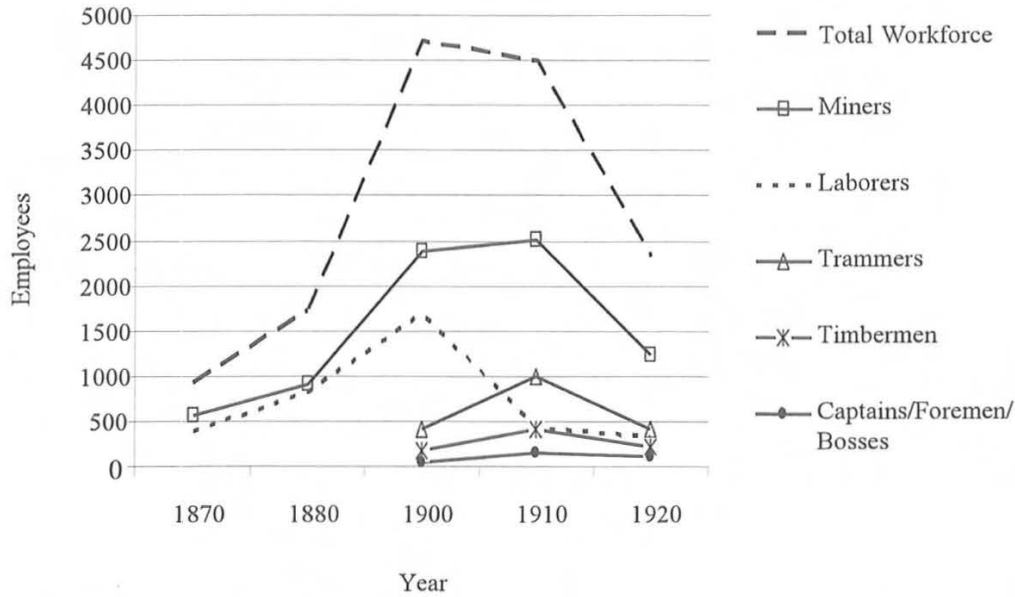


Figure 1: Estimated number of workers for each major position in the underground workforce of Calumet Township, 1870-1920 (U.S. manuscript censuses). These are estimated numbers because the numbers of miners, laborers, timbermen, and trammers for 1900, 1910, and 1920 were multiplied by a factor of three to account for differences in the sampling methods.

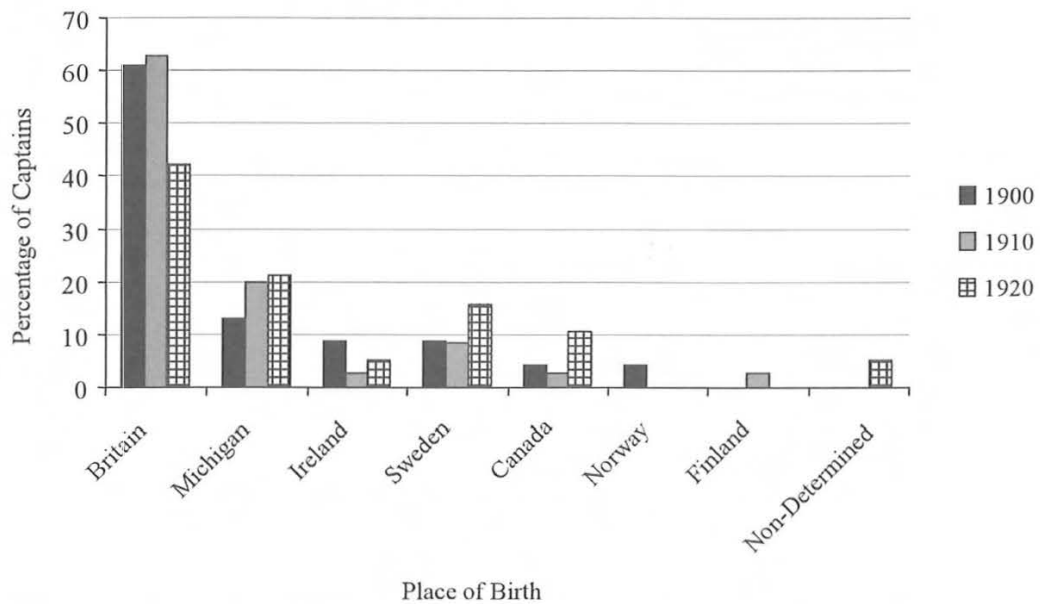


Figure 2: Place of birth of Calumet Township captains, 1900-1920 (U.S. manuscript censuses; 1900, n=23; 1910, n=35; 1920, n=19).

dominated position in the mines. The census enumerators did not list the job occupation of "captain" before the turn of the century, but in 1900 and 1910, British immigrants held over 60 percent of the small number of captain positions underground (Figure 2). By 1920, Michigan-born captains accounted for slightly more than 20 percent of the total number of underground captains. Fifty percent of these Michigan-born captains were of British descent, though their absolute number was quite small (Table 1). In 1910, there was a single Finnish captain; by the 1920 census, he was no longer present in the same capacity.

British immigrants occupied the position of foreman or assistant foreman in substantial numbers as well. Census enumerators failed to report any foremen for the 1870, 1880, and 1900 censuses, but in the 1910 and 1920 censuses, British and Michigan-born employees were the largest groups holding the foreman position (Figure 3). Of the Michigan-born foremen, most were of British parentage. Despite these numbers,

British immigrants filled approximately 15 percent of the foreman positions in 1920, a relatively small percentage compared to their over-40 percent occupancy of the captain position. In contrast to the captains, foremen also occasionally came from places such as Italy, Slovenia, and Croatia.

Of all the managing positions, that of boss was the most ethnically diverse group. In 1900, Italian immigrants occupied the position of boss to the same extent as British immigrants. In 1910, Italians held the largest number of positions as boss, and there were nineteen Slovenian bosses as well (Figure 4). But by 1920, the number of bosses had decreased slightly, and British and Michigan-born employees made up the majority of bosses. Many of these Michigan-born bosses were of British parentage.²⁴

Miners

In the nineteenth century, western European immigrants dominated the position of miner.²⁵ In 1870, miners from western



*Tramming in the Calumet and Hecla mines.
(MTU Archives, The Calumet and Hecla Photograph Collection.)*

	Michigan-born Captains		Michigan-born Foremen/Assistant Foremen		Michigan-born Bosses	
Father's Place of Birth	1910	1920	1910	1920	1910	1920
Britain	71.4%	50.0%	41.7%	53.3%	33.3%	25.0%
Germany	28.6%	--	16.7%	13.3%	33.3%	10.0%
Ireland	--	25.0%	--	6.6%	--	10.0%
Poland	--	25.0%	--	6.6%	16.6%	--
Canada	--	--	25.0%	--	--	5.0%
France	--	--	8.3%	--	--	5.0%
Michigan	--	--	8.3%	--	--	10.0%
Norway	--	--	--	6.6%	16.6%	5.0%
Slovenia	--	--	--	6.6%	--	5.0%
Italy	--	--	--	--	--	5.0%
Finland	--	--	--	--	--	5.0%
Sweden	--	--	--	--	--	5.0%
Other U.S.	--	--	--	6.6%	--	5.0%
Non-Determined	--	--	--	--	--	5.0%

Table 1: Father's place of birth of Michigan-born captains, foremen/assistant foremen, and bosses of Calumet Township, 1910-1920 (U.S. manuscript censuses; captains 1910, n=7, 1920, n=4; foremen/assistant foremen 1910, n=12, 1920, n=15; bosses 1910, n=6, 1920, n=20).

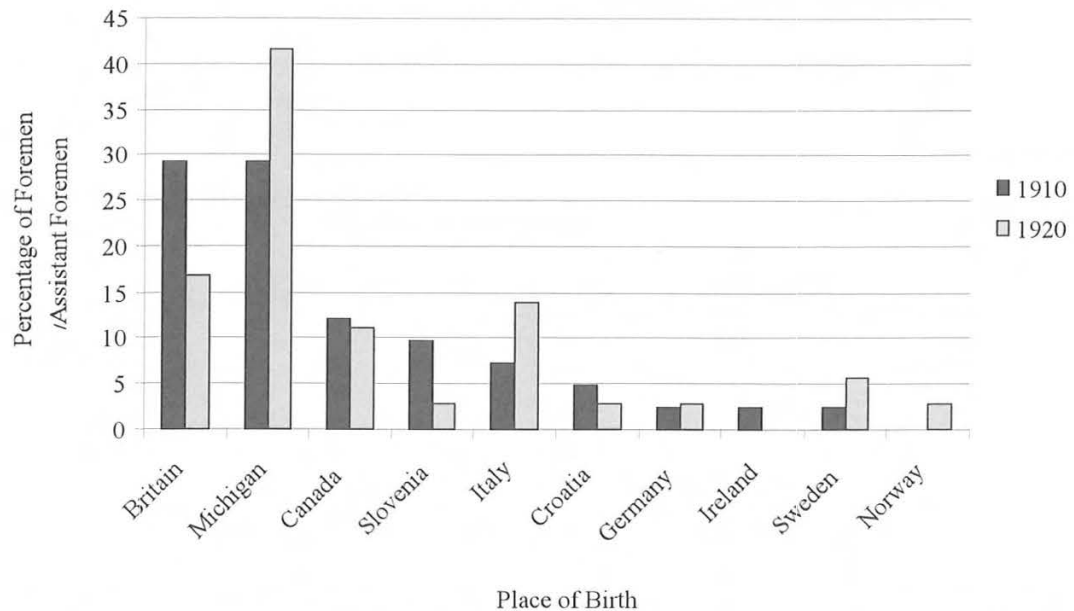


Figure 3: Place of birth of Calumet Township foremen/assistant foremen, 1910-1920 (U.S. Manuscript Censuses; 1910, n=41; 1920, n=36).

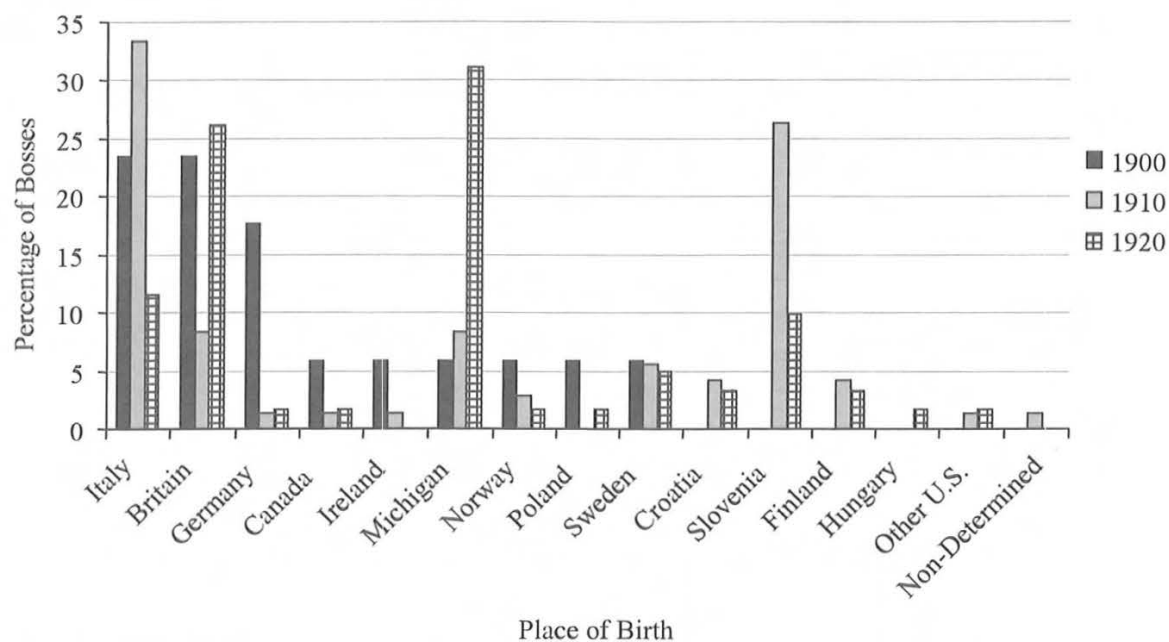


Figure 4: Place of birth of Calumet Township bosses, 1900-1920 (U.S. manuscript censuses; 1900, n=17; 1910, n=72; 1920, n=61).

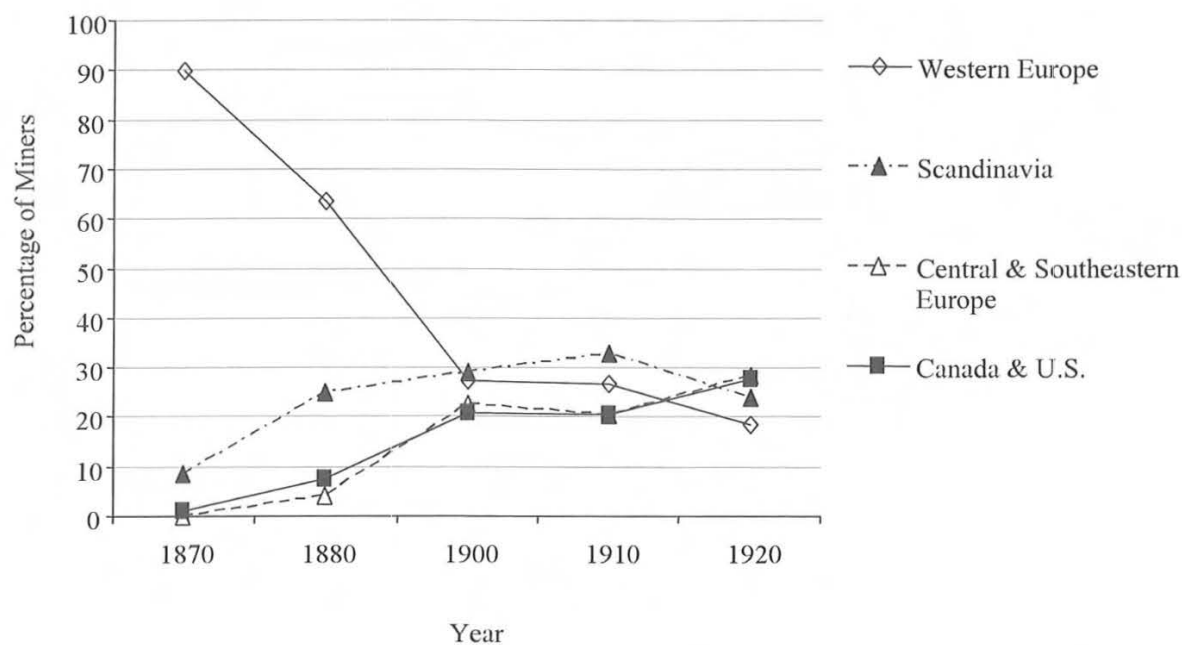


Figure 5: Region of birth of Calumet Township miners, 1870-1920 (U.S. manuscript censuses; 1870, n=552; 1880, n=909; 1900, n=795; 1910, n=836; 1920, n=414).

Europe made up over 90 percent of the total number of Calumet Township miners (Figure 5), but by the turn of the century the percentage of western Europeans had declined sharply. In 1920, western Europeans were the smallest regional group among Calumet Township miners. Despite this, the percentage of western European miners declined more slowly in the first decades of the twentieth century, and, in 1920, western Europeans still occupied almost 20 percent of mining positions.

Among western European miners, Irish immigrants either left the mines or left the district, whereas British immigrants continued to occupy the position of miner into the twentieth century. Although over 25 percent of the mining workforce in 1870, Irish miners rapidly declined in both percentage terms and absolute numbers (Figure 6; Table 2). By 1900, the Irish were one of the smallest ethnic groups in the mines. The percentage of British miners dropped sharply between 1870 and 1900, but leveled out at over 20 percent for the subsequent two decades. The absolute number of British miners increased from 1870 to 1910. However, by 1920, while the total mining force had declined by only half, the number of British miners had declined by over 65 percent. Despite this decline, the British remained—outside of Michigan-born miners—the single largest group occupying the position of miner in 1920.

Starting in the 1880s, many non-western Europeans and Michigan-born workers moved into the ranks of miners. Norwegians and Swedes worked as miners in relatively modest numbers as early as 1870, but they did not join the underground workforce to the same extent as the Finns arriving a decade later. From 1880 to 1910, the number of Finnish miners increased at a rate slightly faster than that of the entire workforce, but after 1910, Finns declined from approximately 23 percent of miners in 1910 to 15 percent in 1920.

By 1900, many central and southeastern Europeans were employed as miners. In

1900, census enumerators did not list places such as Croatia and Slovenia, instead registering these persons as Austrian, due to their inclusion in the Austro-Hungarian Empire. This practice resulted in a spike in the 1900 census of the number of “Austrians” in the workforce. In 1910 and 1920, enumerators recorded Croatians and Slovenians separately from Austrians. In 1920, the percentage of Croatians increased, though this was not the case with the Slovenians. Despite these in-roads by central and southeastern Europeans, the British and Finns remained the largest ethnic groups in the position of miner.

By 1920, Michigan-born workers filled almost 25 percent of the total mining positions. Most of these miners were of British and Finnish descent (Figure 7). These miners may have been sons of the earliest British and Finnish miners in the district, but fewer of these miners entered the mines than the number of British and Finnish miners who left.

Laborers, Timbermen, and Trammers

Western European immigrants did not dominate the positions of laborer, timberman, and trapper to the same extent as they did that of miner. Western Europeans occupied over 55 percent of laborer positions in 1870, but this percentage was relatively small compared to their 90-percent occupation of the position of miner (Figure 8). These western Europeans were primarily Irish and German (Figure 9). The percentage of western Europeans plummeted between 1870 and 1900. After 1900, western Europeans occupied less than 10 percent of laborer positions.

Instead, other nationalities and ethnic groups worked as laborers. In the 1870s and 1880s, many Canadians worked alongside the Irish and German laborers. The absolute numbers of Canadian laborers increased between 1870 and 1900, as did the number of German and Irish laborers between 1870 and 1880 (Table 3). However, Canadian and

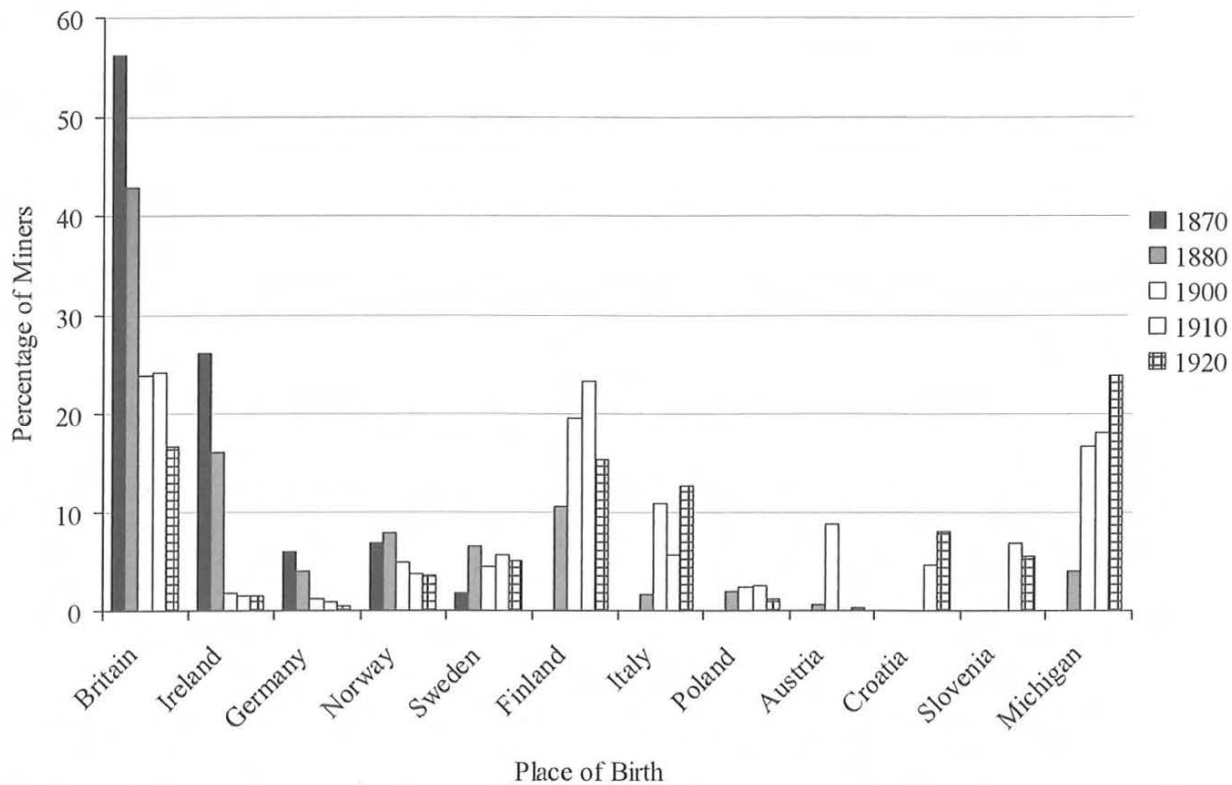


Figure 6: Place of birth of Calumet Township miners, 1870-1920 (U.S. manuscript censuses; 1870, n=552; 1880, n=909; 1900, n=795; 1910, n=836; 1920, n=414). Due to space constraints, this graph (and the graph for laborers) does not show all the places of birth—some places of birth with less than 5% of total miners or laborers are not shown.

Year	British	Irish	Finnish	Italian	Slovenian
1870	310	144	0	0	0
1880	389	146	95	15	0
1900	570	42	468	258	0
1910	606	36	582	141	171
1920	207	18	189	156	69

Table 2: Estimated number of miners of various ethnic groups in Calumet Township, 1870-1920 (U.S. manuscript censuses). See Note 4.

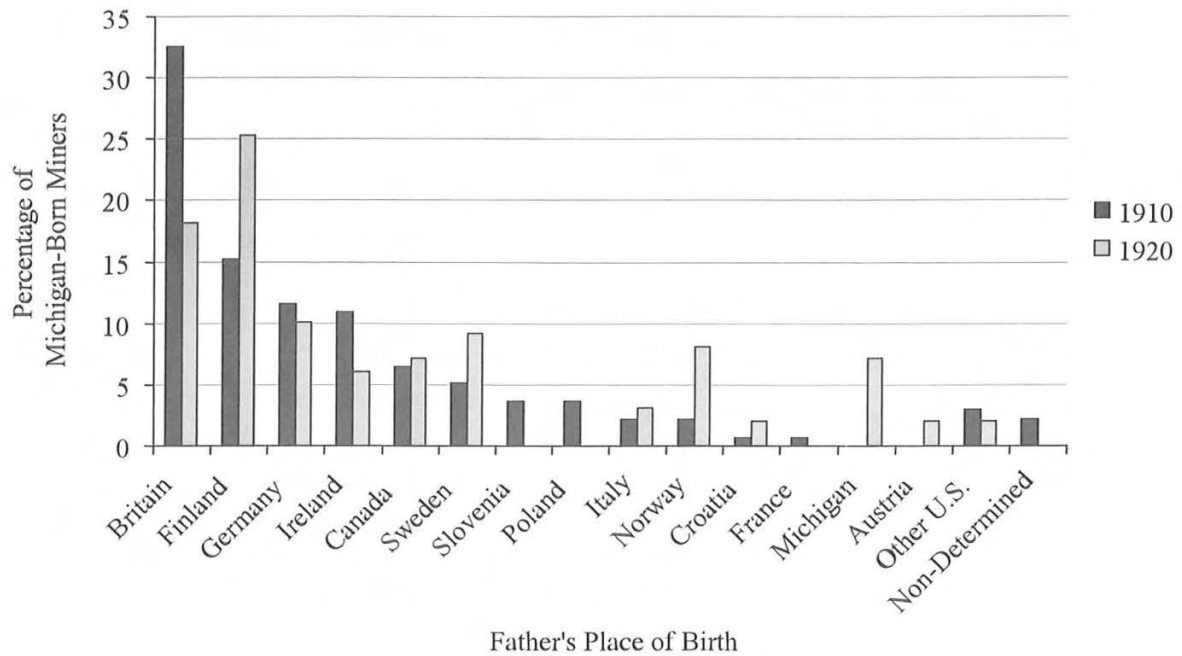


Figure 7: Father's place of birth of Michigan-born Calumet Township miners, 1910-1920 (U.S. manuscript census; 1910, n=138; 1920, n=99).

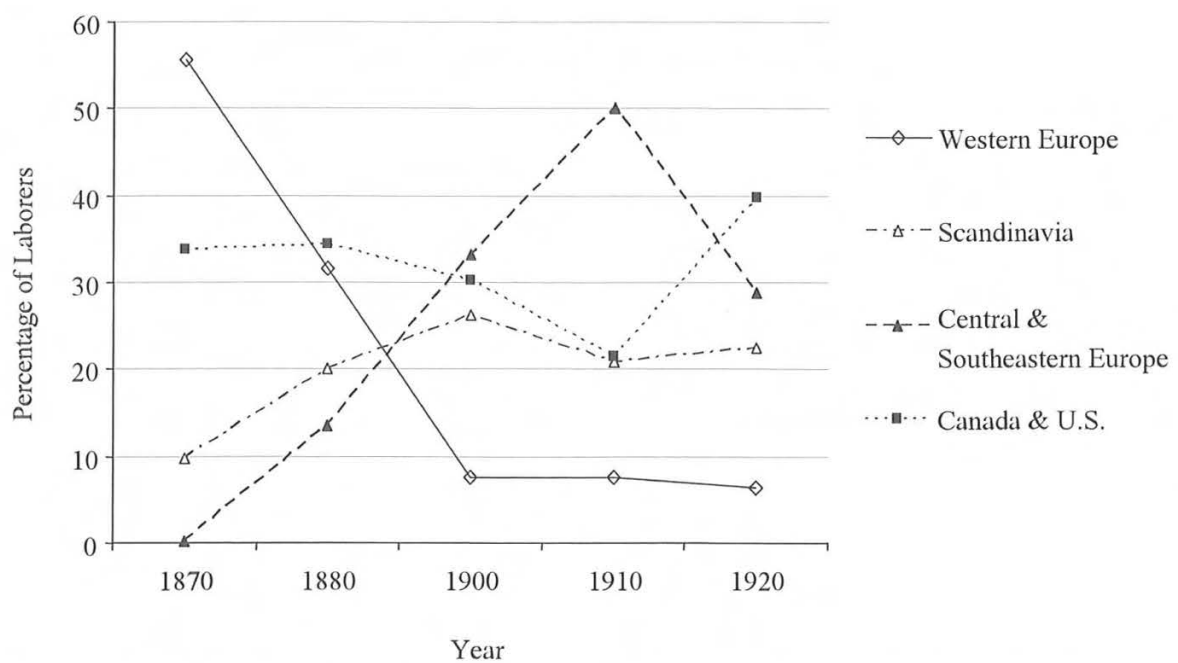


Figure 8: Region of birth of Calumet Township laborers, 1870-1920 (U.S. manuscript census; 1870, n=383; 1880, n=824; 1900, n=564; 1910, n=144; 1920, n=111).

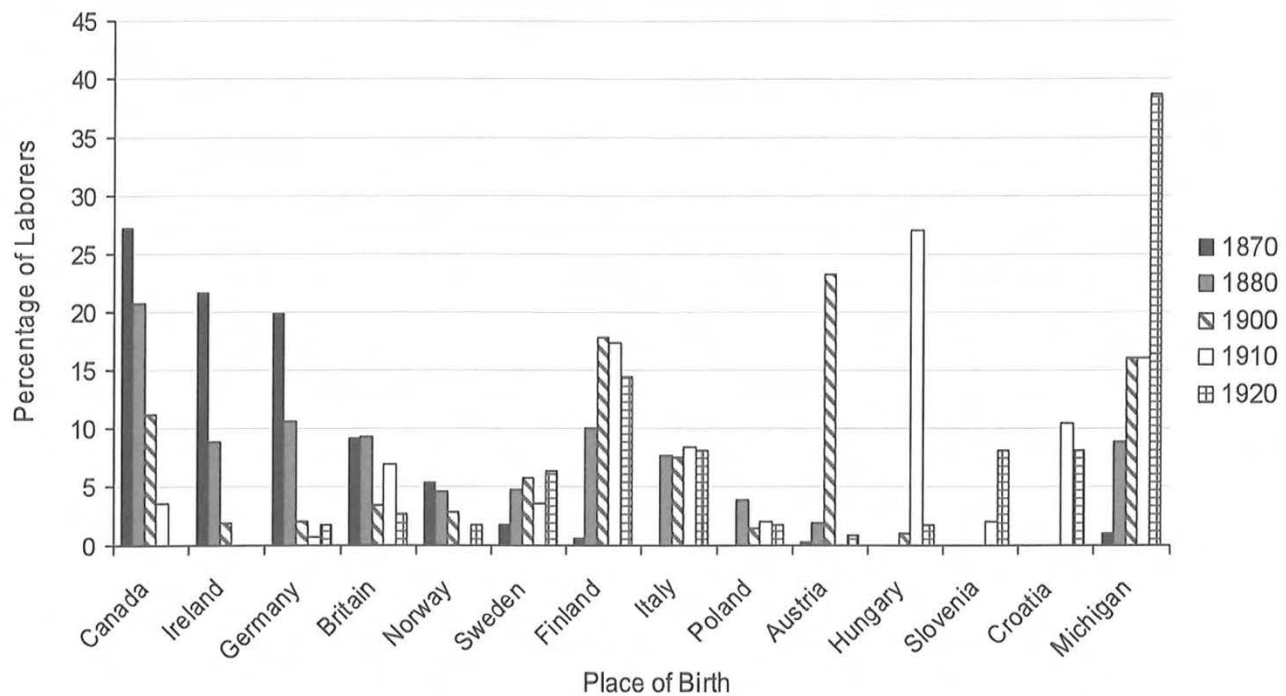


Figure 9: Place of birth of Calumet Township laborers, 1870-1920 (U.S. manuscript censuses). See Figure 8 for n values.

Year	Canada	Germany	Finland	Italy	Slovenia
1870	104	76	0	0	0
1880	171	87	82	63	0
1900	189	36	300	126	0
1910	15	3	75	36	9
1920	0	6	48	27	27

Table 3: Estimated number of laborers of various ethnic groups for Calumet Township, 1870-1920 (U.S. manuscript censuses). See Note 4.

western European laborers were almost completely replaced by 1910, primarily by Finns and Italians. "Austrians" were also prevalent in the position of laborer by 1900. These Croatians and Slovenians continued to increase in numbers between 1900 and 1910.

By the 1910 census, 50 percent of laborers were from central and southeastern Europe, but this percentage dropped sharply in 1920. Despite this decline, immigrants from central and southeastern Europe clearly occupied the position of laborer in greater percentages than they occupied the position of miner. By 1910 and 1920, Michigan-born workers increasingly occupied the position of laborer at substantially larger percentages than they were found in the position of miner. Many of these Michigan-born laborers were of Finnish descent (Table 4).

Of all the occupations surveyed in this study, the positions of timberman and trammer were those most dominated by non-western Europeans. Most likely, larger percentages of western Europeans worked as timbermen and trammers prior to 1900, but census enumerators did not record these positions until the turn of the century. By 1900, western Europeans held the position of timbermen in only small numbers and were virtually absent from the ranks of the trammers (Figures 10 & 11).

The tramming workforce underwent more fluctuations than did the timbermen. Notably, both positions experienced a sharp decrease in the number of Croatians, and to a lesser extent Slovenians, between 1910 and 1920. More Michigan-born employees worked as timbermen than trammers—indeed, in 1920, Michigan-born workers accounted for less than 20 percent of the tramming workforce. As was the case for laborers and miners, many Michigan-born timbermen and trammers in 1920 were of Finnish descent.

Discussion

Census records show that the under-

ground workforce of Calumet Township between 1870 and 1920 was a bifurcated workforce: the lower echelons of the mine hierarchy underwent tremendous fluctuations in ethnic composition relative to the upper echelons. This was especially true for the position of trammer. With the introduction of the one-man drill and the subsequent reduction in the number of miners, advancement out of the trammer position became very difficult.²⁶ This factor, combined with the extreme hardship of the work, probably led to the high turnover rate. Tramming required little skill, so companies could continually fill these positions with the most recently arrived immigrants, typically the most unskilled. From the beginning of the twentieth century on, different ethnic groups emerged each decade to dominate the tramming position.

Labor strife also contributed to turnover in the lower echelons of the mines. C&H management came to blame many non-western Europeans, particularly the Croatians and Finns, for the 1913-14 strike. During the strike, James MacNaughton, the C&H president, wrote: "The [s]outhern European like the Hungarian and Croatian is quick tempered [and] easily led, especially in the wrong direction." During the strike, C&H moved quickly to remove Croatians from their workforce. Seven months into the strike, only twenty Croatians remained in the company's employment. The 1920 census data confirm this trend: the percentage of Croatian miners increased slightly, but the percentage of Croatian timbermen and trammers dropped markedly.²⁷

The case of the Finns is considerably more complex. Finns began to emigrate to the Keweenaw in the 1870s. The majority of these Finns came from principally agrarian regions in central and northern Finland, such as the central Bothnias, Rauma, and Åland.²⁸ Contrary to some contemporary accounts, such as the 1911 Immigration Report cited previously, these Finns did not primarily occupy laboring positions. According to the census data from 1900, Finns occupied 20

	Michigan-born Laborers		Michigan-born Timbermen		Michigan-born Trammers
Father's Place of Birth	1910	1920	1910	1920	1920
Britain	21.7%	7.0%	16.7%	14.3%	5.6%
Finland	21.7%	28.0%	5.6%	28.6%	50.0%
Canada	13.0%	4.7%	5.6%	3.8%	--
Italy	13.0%	9.3%	11.1%	7.1%	11.1%
Ireland	8.7%	2.3%	5.6%	3.6%	5.6%
Norway	8.7%	4.7%	11.1%	3.6%	11.1%
Poland	4.3%	4.7%	16.7%	7.1%	--
Slovenia	4.3%	2.3%	5.6%	3.6%	--
Sweden	4.3%	11.6%	11.1%	--	5.6%
Germany	--	9.3%	5.6%	10.7%	--
Michigan	--	7.0%	--	--	--
Croatia	--	2.3%	--	17.9%	11.1%
Luxembourg	--	2.3%	--	--	--
Russia	--	2.3%	--	--	--
France	--	--	5.6	--	--
Other U.S.	--	2.3%	--	--	--

Table 4: Father's place of birth of Michigan-born laborers, timbermen, and trammers of Calumet Township, 1910-1920 (U.S. manuscript censuses; laborers 1910, n=23, 1920, n=43; timbermen 1910, n=18, 1920, n=28; trammers 1920, n=18)).

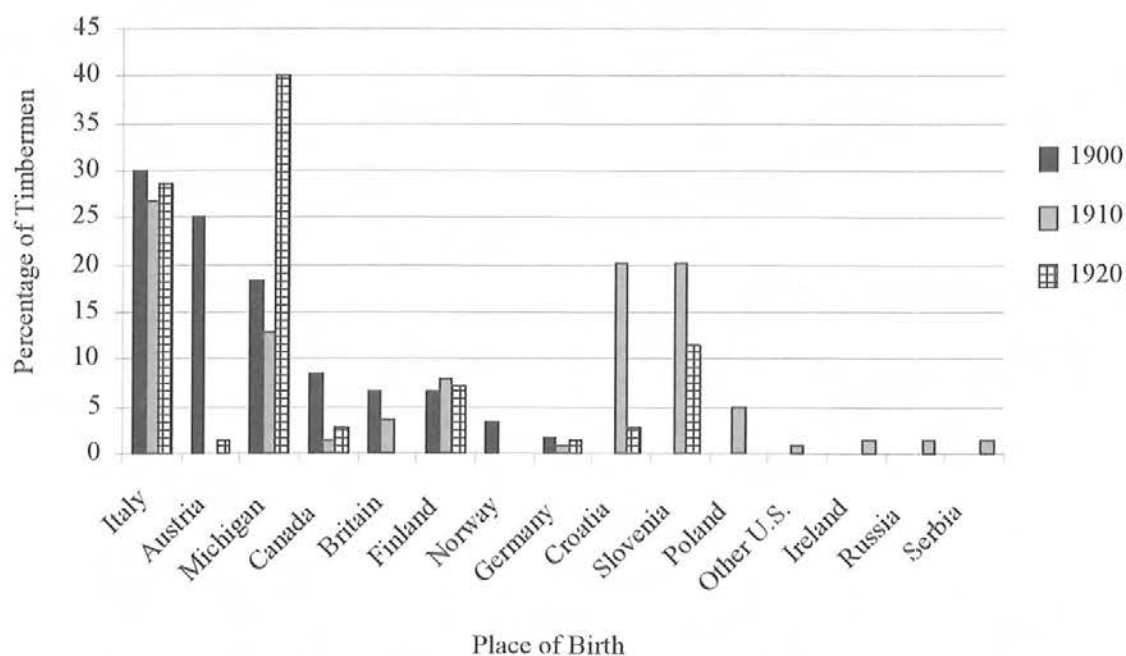


Figure 10: Place of birth of Calumet Township timbermen, 1900-1920 (U.S. manuscript censuses; 1900, n=60; 1910, n=139; 1920, n=70).

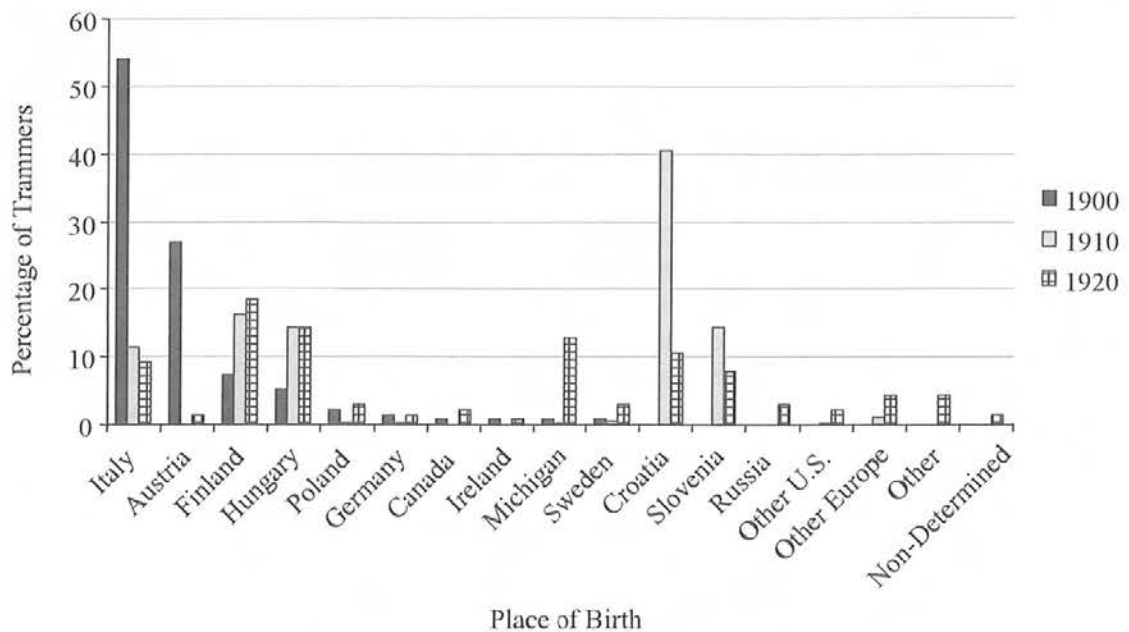


Figure 11: Place of birth of Calumet Township trammers, 1900-1920 (U.S. manuscript censuses; 1900, n=137; 1910, n=332; 1920, n=140).

percent of mining positions, while occupying only slightly over 15 percent of laboring positions and a little over 5 percent of timbering or tramping positions. However, Finns were not often bosses and certainly not foremen or captains (except for one Finn in 1910)—there was a ceiling for Finns. Finns were not in the uppermost positions of the mine hierarchy, but neither were they confined to the lowest positions.

Despite their prevalence in the workforce, by 1912 C&H managers no longer wanted to hire Finns, perceiving them to be rabble-rousers. MacNaughton wrote during the strike that “the Finn to a great extent is a Socialist.” Curiously, unlike the case of the Croatians, census records show Finns in substantial percentages in the post-strike workforce. This seems incongruous with management’s documented animosity toward the Finns, but generational differences within the Finnish community may account for this apparent contradiction. Al Gedicks argues that early Finnish immigrants from agrarian areas did not profess the socialist ideologies of later Finns, who came mostly

from cities. He believes that the Russification policies of Czar Nicholas II produced a younger Finnish generation considerably more radical than their predecessors. The role of Finns in Michigan’s copper mines and the numbers of Finns in the post-strike workforce deserve further study.²⁹

The contrast between Irish and British-born miners is striking. The Irish did leave the mines, but, contrary to Charles Rice’s assertions in 1912, the Cornish by that time had not left the district in substantial numbers, or if they did, they were replaced by more Cornishmen. British immigrants holding mining positions increased in absolute numbers until 1910, and until then these immigrants held over 20 percent of the mining jobs in Calumet Township. However, by 1920 the number of British miners decreased by over 65 percent, while the total number of all miners decreased by only half. Whether these Cornish migrated from the district or simply became too old to work is impossible to ascertain from these data.

The 1913-14 strike, which destabilized the lower echelons of the mining hierarchy,

probably contributed to the retention of British-born bosses, foremen, and captains. British-born workers demonstrated their loyalty to the company during the strike. On 23 February 1914, in the middle of the strike, more British immigrants worked for C&H than prior to the labor dispute.³⁰ After the strike, C&H reemphasized company loyalty; in 1916, C&H awarded medals to workers who had been employed by the company for twenty or more years.³¹ The census data show an increase in British-born bosses from approximately 7 percent to over 25 percent between 1910 and 1920. The percentage of British foremen increased as well, though the percentage of British captains declined slightly.

The period from 1870 to 1920 saw the heyday and the beginning of the slow decline for Michigan's copper district. As the district as a whole changed, so too did the ethnic composition of the workforce, but some positions underwent more eth-

nic change than others. British immigrants worked in management and mining positions for decades, while Finnish immigrants consistently held many mining positions. In contrast, the ethnic composition of the more menial positions shifted rapidly with each successive wave of immigration to the Keweenaw. ■

Stephen LeDuc is a doctoral student in forestry at Michigan State University studying the legacy of land history, particularly fire suppression. He received his Master's degree from Pennsylvania State University, writing his thesis on labor-capital relations in the Calumet mines during the late nineteenth and early twentieth centuries. This study was funded in part by the Friends of the Van Pelt Library. The author wishes to thank Erik Nordberg, the Michigan Tech University Archive Staff, and Deryck Holdsworth for their assistance with this article.

Notes:

¹ These estimates are based on William B. Gates, Jr., *Michigan Copper and Boston Dollars: An Economic History of the Michigan Copper Industry* (Cambridge: Harvard University Press, 1951), 197-200.

² Ronald C. Brown, *Hard-Rock Miners: The Intermountain West, 1860-1920* (College Station: Texas A&M University Press, 1979), 8-9. Philip J. Mellinger, *Race and Labor in Western Copper: The Fights for Equality, 1896-1918* (Tucson: University of Arizona Press, 1995), 6-19. For readings on specific ethnic groups in mining districts see: David M. Emmons, *The Butte Irish* (Urbana: University of Illinois Press, 1989); Gunther W. Peck, "Crisis in the Family: Padrones and Radicals in Utah, 1908-1912," in Dan Georgakas and Charles C. Moskos (eds.), *New Directions in Greek-American Studies* (New York: Pella Press, 1991); and Armando Solórzano and Jorge Iber, "Digging the Richest Hole on Earth: The Hispanic Miners of Utah, 1912-1945," *Perspectives in Mexican American Studies* 7 (2000): 1-27.

³ Duane Smith's "The San Juaner: A Computerized Portrait" (*Colorado Magazine* 52 (1975): 137-52)

did provide a quantitative examination of the San Juan mining district in Colorado. However, it was limited temporally—considering the period between 1880 and 1885—and thus missed the subsequent decades of intense immigration. His study examined the occupations of people in the mining communities at large, which is beyond the scope of this paper.

⁴ Unfortunately, the 1890 manuscript census was destroyed.

⁵ Gates, *Michigan Copper and Boston Dollars*, 195.

⁶ Gates, *Michigan Copper and Boston Dollars*, 217, 230.

⁷ James MacNaughton, "History of the Calumet and Hecla since 1900," *Mining Congress Journal* 7 (1931): 474.

⁸ C&H also controlled seven of the eight mining companies immediately adjacent to Calumet Township, whose employees may have lived inside the boundaries of the Township. Thus, by 1909, if a person lived in Calumet Township and worked underground, they most likely worked under C&H management. Information on mine ownership compiled by Erik Nordberg, Michigan

- Technological University archivist, from U.S. Geological Survey Records, issues of the Copper Handbook, and published annual reports of Michigan copper mining companies.
- ⁹ U.S. House of Representatives, Committee on Mines and Mining, "Conditions in the Copper Mines of Michigan" (hearings before the subcommittee pursuant to House Resolution 387, Sixty-third Congress, second session, 1914), 1393-4.
 - ¹⁰ The number of employees in each position decreased moving up the mine hierarchy. Since the number of foremen was lower than that of the bosses but higher than that of the captains, it seems likely foremen fit between these two occupations.
 - ¹¹ Larry Lankton, *Cradle to Grave: Life, Work, and Death at the Lake Superior Copper Mines* (Oxford: Oxford University Press, 1991), 31. This book provides the best description and analysis of the Michigan copper district to date.
 - ¹² See Larry Lankton's, "The Machine Under the Garden: Rock Drills Arrive at the Lake Superior Copper Mines, 1868-1883" (*Technology and Culture* 24 (1983): 1-37) for discussion of the early drills used on the Keweenaw. The first drill used in the district was the Burleigh drill, introduced in the 1860s, but it was abandoned by local operators due to its weight and clumsiness of operation.
 - ¹³ U.S. House, "Conditions in Copper Mines," 1410.
 - ¹⁴ U.S. Commissioner of Labor Statistics, "Report of the Commissioner of Labor Statistics in Regard to Strike of Mine Workers in the Michigan Copper District," (Bulletin No. 139, U.S. Department of Labor, Bureau of Labor Statistics, 1914), 28-30.
 - ¹⁵ Commissioner of Labor Statistics, "Report of the Commissioner," 28-30. James MacNaughton to J. S. Douglas, 8 Dec. 1913, Box 050, Folder 076, C&H Collection, Michigan Technological University Archives [hereafter C&HC].
 - ¹⁶ "Cleaning out stopes" and "picking rock" were the most prevalent job descriptions after "mining" and "tramming" in the Quincy Mining Company Time Book for 1907 (MTU Archives, Quincy Collection). The Quincy mine operated in nearby Hancock, Michigan; no such detailed time books exist for C&H.
 - ¹⁷ U.S. House, "Conditions in Copper Mines," 1423.
 - ¹⁸ U.S. House, "Conditions in Copper Mines," 110, 494-5. Lankton, *Cradle to Grave*, 103.
 - ¹⁹ U.S. Immigration Commission, "Immigrants in Industries, Part 17: Copper Mining and Smelting" (Washington, D.C.: U.S.G.P.O., 1911), 81.
 - ²⁰ Claude T. Rice, "Mining Copper at Lake Superior, III," *Engineering and Mining Journal* 92 (1912): 217.
 - ²¹ See Commissioner of Labor Statistics, "Report of the Commissioner," 26, for a contemporary account regarding immigrant groups and tramming.
 - ²² Box 211 Folder 036, Box 350 Folder 007, C&HC. In addition to the tables, cards on individual employees exist that provide a place of birth, but these cards have not yet been entered into a useable database.
 - ²³ The methods used for sampling from the censuses are as follows: Every individual miner and laborer was sampled in the smaller-sized 1870 and 1880 censuses. For the much larger 1900, 1910, and 1920 censuses, the place of birth for every third miner and for every third laborer was sampled. Every captain, boss, or foreman was recorded. In the 1910 and 1920 censuses, an increasing percentage of the labor force consisted of Michigan-born workers, therefore the father's place of birth for every Michigan-born worker was also noted for those decades.
- The 1900, 1910, and 1920 censuses differentiated between underground workers more than the previous censuses. Enumerators of the 1870 and 1880 censuses used the descriptors of "miner" or "laborer." The 1900, 1910, and 1920 censuses used the descriptors "miner," "laborer," "timberman," and "trammer." Most likely, the occupations of timberman and trammer had been subsumed under the category of laborer prior to 1900. For the 1900, 1910, and 1920 censuses, the place of birth of every third timbermen and trammer was sampled.
- The 1900 census further divided laborers as "laborer," "day laborer," "labor (rockhouse)," "labor (mine)," "railroad (laborer)," etc. To focus on underground laborers, only the place of birth of workers designated "laborers," "day laborers," and "laborers (mine)" were sampled. Laborers and day laborers were large groups and the assumption was made that the majority of these persons worked in the mines.
- In the 1910 and 1920 censuses, the enumerators frequently divided laborers into those who worked at the "copper mine" or at the "mining co." Since miners in the vast majority of enumerating districts were listed as working at the "copper mine", it was assumed that laborers working at the "copper mine" were likewise working underground—therefore, these individuals were

sampled, to the exclusion of the others. Only in a couple districts were miners listed as working at the "mining co." In these cases all of the laborers were listed as working at the "mining co.," and thus they were sampled. The captains, foremen, and bosses were sampled using the same distinctions.

In almost all cases, the most specific place of birth listed in the census—whether a country or a region—was noted. For example, even though in 1910 Croatia and Slovenia remained part of the Austro-Hungarian Empire, the census listed individuals as "Aus Croatsians" or "Aus Slovenians." For this study, these places of birth were entered as "Croatia" and "Slovenia," respectively. Several exceptions were made to this rule. In the 1920 census, enumerators alternated between "Carniola JS," "Carniola Au," "Slovenia," "Aus Slovenia," or "JugoSlavia" as a place of birth for workers, all of whom spoke "Slovene." In all of these cases, the place of birth was entered as Slovenia. Scotland and England were consolidated into the category of Britain, though Ireland was retained as a separate entity. For the 1870 and 1880 censuses, multiple archbishoprics, duchies, principalities, etc., such as Baden, Bavaria, Hanover, Saxony, and Wurttemberg, were combined into the category of Germany.

²⁴ The category of British likely includes immigrants of English, Scottish, Welsh and Cornish descent. As noted above, the census takers sometimes delineated between England and Scotland but did not often record Wales or Cornwall as an immigrant's place of origin. A survey by the

author of miners' surnames in the 1910 census found that most of these British miners were indeed Cornish. G. Pawley White, *A Handbook of Cornish Surnames* (Helston: Helston Printers, 1981).

²⁵ For the purposes of this article, western Europe includes Germany, France, the Netherlands, Belgium, Luxembourg, Ireland, Scotland, and England.

²⁶ Commissioner of Labor Statistics, "Report of the Commissioner," 26.

²⁷ James MacNaughton to Quincy A. Shaw, 12 Oct. 1913, Box 350, Folder 002, C&HC. C&H nationality tables for 14 July 1913 and 23 Feb. 1914, Box 350, Folder 007, C&HC.

²⁸ Reino Kero, "The Background of Finnish Emigration," in Ralph J. Jalkanen (ed.), *The Finns of North America: A Social Symposium* (Hancock, MI: Michigan State Press for Suomi College, 1969), 55. Al Gedicks, "Ethnicity, Class Solidarity, and Labor Radicalism among Finnish Immigrants in Michigan Copper Country," *Politics and Society* 7 (1977): 129.

²⁹ James MacNaughton to Commissioner of Immigration Wm. Williams, Ellis Island, New York, 20 June 1912, C&HC. James MacNaughton to Quincy A. Shaw, 12 Oct. 1913, Box 350, Folder 002, C&HC. Gedicks, "Ethnicity, Class Solidarity, and Labor Radicalism," 129.

³⁰ C&H nationality tables for 14 July 1913 and 23 Feb. 1914.

³¹ William E. Smith (ed.), *Calumet & Hecla Semi-Centennial Edition* (Calumet, MI: Keweenaw Printing Company, 1916), 39.