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INTEMPERATE MEN: ALCOHOL AND AUTONOMY WITHIN THE LUMBER CAMPS OF MICHIGAN'S UPPER PENINSULA

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INTEMPERATE MEN: ALCOHOL AND AUTONOMY WITHIN THE LUMBER
CAMPS OF MICHIGAN'S UPPER PENINSULA

By

Tyler D. Allen

A THESIS

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

In Industrial Archaeology

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2019

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This thesis has been approved in partial fulfillment of the requirements for the Degree of
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Abstract

In industrial settings of the nineteenth and early twentieth centuries, capital often instilled discipline through control of social behaviors. Among those, alcohol consumption was most often targeted due to its effects on worker productivity. Although many industrial settings of this time enforced sobriety policies, the Cleveland Cliffs Iron Company (CCI) never enforced sobriety within their lumber camps. CCI took a hands-off approach to managing their lumber camps, which allotted their workers a great deal of autonomy. These lumber camps provide the opportunity to explore how workers used alcohol within an industrial setting when given autonomy. Looking at bottle remains and the context of feature areas they were recovered from, I examined how alcohol consumption related to variables such as ethnicity, class, and residency amongst workers. From this, I explore how these variables influenced workers use of alcohol in a setting where they had the autonomy to do so freely.

1 Introduction

We had a great deal of trouble from a saloon adjacent to our property. We instituted a suit against them for Sunday selling and running a house of ill-fame. They were convicted and fined \$100.00 and cost. This ended the saloon. The saloon at Limestone was also closed up though our attacking his bondsman. We have found this a very effective weapon. In our fight against the saloons.

CCI Annual Report 1904:17

It is often emphasized that industrial capitalism depends on a disciplined labor force, instilled by controlling social behaviors (Gutman 1973; Nassaney and Abel 2000; Thompson 1967). Alcohol consumption was one of the social behaviors most often targeted by capital, often leading to alcohol being banned outright (Rosenzweig 1983; Veit and Schopp 1999). Regardless of bans, historical archaeologists have generated plenty of evidence of alcohol consumption within these circumstances (Bond 1989; Franzen 1995; Hardwick 2008; Stencel 2000; Veit and Schopp 1999). Whenever alcohol is found within a worker context in industrial settings, it is often thought workers were concealing their habit to avoid detection by the overseeing company (Bond 1989; Hardwick 2008; Veit and Schopp 1999). Companies often claimed to assert sobriety policies to hold workers to a higher moral standard. Although in reality, these bans were issued to maintain control over workers, ensuring workers were both productive when being paid by the hour and preventing intoxicated workers from damaging machinery (Eller 1982; Rosenzweig 1983; Wallace 1986).

The logging industry of the late nineteenth and early twentieth centuries were not exempt from these themes of social control and enforced sobriety policies. Historians have emphasized alcohol was strictly forbidden within the logging camp setting (Franzen 1995; Karamanski 1989; Wells 1978). Despite efforts of capital to maintain control, many alcohol-related artifacts have been recovered through archaeological excavations in dry lumber camps (Franzen 1995; Hardwick 2008; Stencel 2000). The presence of alcohol artifacts is attributed to defiant loggers bringing back alcohol from their trips into town and discreetly consuming it in camp. With the consequence of being fired because of imbibing, workers were thought to have hidden empty alcohol bottles within privies and under floorboards to avoid detection (Hardwick 2008). There are also high numbers of alcoholic patent medicines found in archaeological lumber camps assemblages, suggesting workers used these medicines as another way to discreetly consume alcohol within company property (Franzen 1995).

The act of consuming alcohol in industrial settings is typically framed around the concept of labor's resistance to capital. This concept plays on the importance of a simple dualism, where capital dominates and labor resists. This perspective makes it difficult to ask other questions that would add nuance to our understanding of the relationship between capital and labor. Most importantly, for the context of my research, this framing makes it difficult to ask questions about how workers utilized alcohol when not assuming their usage patterns were dictated by capital's control of labor.

The excerpt from Cleveland Cliffs Iron Company (CCI) lumber department 1904 annual report that begins this chapter highlights company attempts to control access to alcohol near their camps and relates to their difficulties to secure adequate and reliable labor sources (CCI Annual Report 1904). Similar statements are found throughout CCI annual reports. Even though alcohol consumption related issues are apparent in CCI lumber operations, they never chose to enforce a sobriety policy within their cordwood operations. CCI even had chronic labor shortages inhibiting production within the beginning years of their cordwood operations (CCI Annual Reports 1882-1905; CCI Annual Reports 1908-1923). However, to address shortages issues and reduce the cost of operation for harvesting cordwood, CCI implemented a hands-off management style. Workers were paid per cord of lumber produced and given autonomy in lumber camps. CCI invested relatively little to establish lumber camps, which gave workers the ability to establish their own households and operate boarding houses (CCI Annual Report 1901). The way the lumber camps had developed gave little jurisdiction to CCI over the camps. Some workers with families chose to establish boarding houses, where the family would live with a number of single male boarders, while other boarding houses were inhabited primarily by single male boarders. In addition to the unusual industrial camp environment for this time period, there is no clear indication alcohol was banned at these camps. The relaxed stance CCI took in managing lumber operations and housing makes CCI's Coalwood Lumber District an ideal place to explore worker usage of alcohol when not bound to the idea that alcohol usage was a form of resistance to capital.

Examining CCI lumber camps can give insight on several codependent variables that contribute to alcohol consumption, such as chronic labor shortages, varying worker housing and organization, ethnic differences, Finnish temperance, and socialist societies, and the presence of families within these camps, in a setting where the workers were given autonomy. CCI's decision not to enforce a sobriety policy within their camps, also allowed workers to be in control of their own production and day to day lives while consuming alcohol freely (CCI Annual Reports 1982-1905; CCI Annual Reports 1908-1923).

By determining the relationship codependent variables and autonomy have with alcohol consumption, a better understanding can be developed on how alcohol affected a worker's daily lifestyle within a lumber camp setting and what circumstances contributed to CCI tolerance of alcohol within the camps. This research explores these circumstances through: (1) understanding worker use of alcohol given the context of CCI's business model by examining varying trends in ethnicity, class, and residency; (2) determining how workers' alcohol use influenced CCI management in lumber camps, and (3) identifying why CCI did not choose to enact a sobriety policy if 'intemperate men' were such a problem at the time. Exploring alcohol influence on social behaviors in CCI camps and the role it plays in this industrial context, I hypothesize workers usage of alcohol did not affect CCI's profit margin because CCI only paid workers for what they produced. If choppers did not produce cordwood because they were intemperate, they would not be paid. With CCI's role in the lumber camps minimized, I hypothesize that

there will be more variety in alcohol assemblage of the Coalwood camps and that the alcohol assemblage will be more reflective of ethnicity, housing situations, and/or the presence of families at these camps. This data will be used to address questions such as how differences in ethnicity (Finnish vs Slovenian camps) and housing status (typical male camp vs boarding house) impact alcohol consumption. In addition, this thesis explores questions related to whether there is any relationship between alcohol and medicine bottles, and what role alcohol played in leisure vs. work time for laborers. Together, these data can then be used to analyze and understand the role alcohol played in the relationship between capital and labor at the CCI lumber camps.

This thesis is based on archaeological data collected from CCI's Coalwood District lumber camps in 2014 by the Western Michigan University archaeological field school and revisited again in 2016 by the Michigan Technological University field school. These excavations focused on the Coalwood, Roscoe, and Zerbal lumber camps. Rich artifact assemblages were collected from the Coalwood Site's store, overseer house and office, a boarding house, and three worker houses; the three boarding houses from the Roscoe Site; and the boarding house at the Zerbal Site. All of three of the camps were operated by CCI and operated between 1900 and 1912 (Wurst 2016; see also CCI Annual Reports 1982-1905; CCI Annual Reports 1908-1923). Analyses are supported by a large assemblage of unearthed archaeological alcohol-related artifacts from CCI lumber camps. My methodological approach was based on excavations of feature context areas associated with households. I analyzed bottle data from a series of different houses from

the three camp sites to examine the frequencies and counts of alcohol bottles, the types of alcohol bottles recovered, and what other artifacts suggested about the context of the feature area alcohol bottles were recovered from.

In Chapter 2, I present the historic context of the research. I review the shift into industrial capitalism and the changing role of alcohol within this context. I follow with the historical context of logging in Michigan's Upper Peninsula, CCI's involvement in logging, and the context in which the Coalwood District developed. I review the roles of ethnicity, gender, class, and alcohol consumption within an industrial setting, and how these social relations were reflected in CCI's management style and policy (or lack thereof) on sobriety. My goal in this section is to provide the contextual information needed to better understand the complexity of alcohol usage within the camps and show how interrelated many of these variables are. In Chapter 3 I present the data recovered from the sites and address questions pertaining to the role of alcohol within the camps and the relationship between alcohol consumption, labor, and capital. In the final section, Chapter 4, I discuss the importance of this study and expand on the findings of this study. Here I draw on the archaeological and contextual information to better understand how workers utilized alcohol when uninhibited by capital. Additionally, I review CCI's tolerance of alcohol and question our understanding of when it was beneficial for capital to enforce social disciplines and when it was not. I argue that these data complicate our understandings of industrial alcohol consumption by workers. By reducing the role of alcohol in the relationship between capital and labor to a simple dualism of resistance and

dominance, one runs the risk of oversimplifying a more complex relationship dependent on a number of variables.

2 Alcohol and Worker Autonomy in the Coalwood District

Historians and archaeologists alike have investigated the relationship between alcohol and worker autonomy and between capital and labor. However, the relationship existing between industrial capitalism and alcohol consumption has been continuously developing for over a century before CCI established the lumber camps in the Coalwood District (Mandelbaum 1965; Rosenzweig 1983; Stewart 2007). The evolution and comprehension of this relationship is essential to determine what circumstances led to workers being able to openly consume alcohol within CCI's lumber camps of the Coalwood District.

2.1 Capital, Labor, and Alcohol

Life and labor have always been closely linked together. In the preindustrial American economy, there was a more localized cottage industry distributed throughout rural settings as the means of survival (Bythell 1983; Thompson 1967). During this time, the working-class would generally divide up their time between work and leisure, enjoying a great deal of autonomy. As industrialization and mechanization took hold, this older way of life became obsolete. The autonomy enjoyed was replaced by the onset of industrialization, where the workers worked during the company's time as opposed to their own, forced to trade their labor for wages (Thompson 1967). This transition has been considered one of the greatest social changes to occur throughout American history (Nassaney and Abel 2000). As it has been described, "a profound tension existed between

the older American preindustrial social structure and modernizing intuitions that accompanied the development of industrial capitalism,” (Gutman 1973:540).

2.1.1 Changing the Means of Production

The means of production predating industrial capitalism, otherwise known as the cottage industry, often focused on an individual’s production and household. The cottage industry was characterized by a decentralization of the production process, where individuals had ownership over their production (Bythell 1983:18). People would possess their own tools and raw material necessary for production, being paid and surviving based on what they produced individualistically (Mokyr 2001). Goods produced still went into the capitalist market, but the source of production was primarily located within the individuals’ home, giving workers independence and flexibility with their time (Bythell 1983; Mokyr 2001). This system supported independent craftsmen, farmers, and workers who chose how they spent their labor (Thomas 1967). Having autonomy, control over schedules, and setting personal production goals encouraged workers to produce in order to earn their livelihood. However, with advancements in technology and growing demand for goods, the social relations of production changed dramatically (Bythell 1983; Rosenzweig 1983).

That change came in the form of the factory system, otherwise known as industrial capitalism. In this system, production was centralized in one location. Additionally, advances in technology in the form of mechanization and organization of labor made production more efficient (Bythell 1983; Rosenzweig 1983). This system was

characterized by large capital investments in production, which subsequently alienated those previously working within the cottage industry. This made the production of goods and commodities centralized in the hands of capital. The success of industrial capitalism was enough to drive independent operators into abandoning their practice and working within industrial factories, thus resulting in the means of production being centralized in the hands of industrial capitalists (Weber 1961).

2.1.2 The Demand for Discipline

Within industrial capitalism, competition is often exhibited between capitalists to produce goods or resources at the lowest price. To maintain optimal production, capitalists believed they needed to uphold a disciplined and efficient workforce (Orser 1996). The vast majority of workers from rural areas were accustomed to the cottage industry, making the concept of working on an industrial company's time, as opposed to their own, unfamiliar (Thomas 1967). Early industrial factories and capitalist endeavors were generally located around urban areas or in more remote areas for the extraction of resources. The workers who were drawn to these jobs were still preindustrial by nature (Gutman 1973). Forms of discipline did exist within the localized cottage industry, such as farmers overseeing their children or an apprentice working under a craftsman, and this form of discipline worked well in preindustrial settings. Within the industrial setting capital needed to instill discipline in workers who were accustomed to task-oriented jobs, making their pace of work more suitable for industrial production (Nassaney and Abel 2000:256). To do this, the industrial capitalist systems discouraged any activities

obstructive to profit and production (Bythell 1983; Nassaney and Abel 2000; Thomas 1967).

The importance industrial capitalists placed on using discipline to ensure production resulted in numerous strategies to control their workforce. For example, companies often required workers to operate or work in unison with machines, which operated at the companies' set pace (Pollard 1963). In these cases, skilled workers were reduced to facilitators of operation, ultimately leading to an unskilled workforce. Another strategy was to enforce close supervision by the company's management, ensuring procedures were followed and work was done within a timely manner. Discipline was also enforced through structured environments, with factories intentionally being built to surveil workers' behavior and deter untoward and undesired worker activities (Shackel 2004; Wainwright 2005).

Capitalist discipline methods were obvious within the workplace, but much of the discipline was carried out through controlling social behaviors outside the workplace (Fleming 2004); the struggle to instill discipline within the workforce extended beyond the workplace and into public spaces and even worker households. Capital often provided housing for workers during this time as another way to control workers' social lives (Nassaney and Abel 2000:262). In extractive industries where the work site was isolated, companies would often construct towns where they owned worker houses and controlled all of the facilities necessary to a worker's livelihood. The structured environment of these company towns and camps were used to deter activities companies deemed

nefarious (Shackel 2004). For example, the Pullman Site in Chicago, a rail car factory town, was built to “facilitate corporate surveillance and control of the workers outside the workplace by managers and owners,” (Baxter 2012:653). Another example of corporate control is evident at the Boott Mills Site, in Lowell, Massachusetts, where boarding houses were designed to serve the interests of the factory by creating an environment with an “emphasis on 24-hour control over the workforce,” (Beaudry 1989:20).

With capital’s control extending into the living spaces of workers, policies were easily enacted to alter the social behaviors of workers to furthered capitalist interests of optimizing production at the lowest cost possible. For workers, abiding by these policies was considered a term of their employment and housing. If fired, it often meant the worker lost their home as well as a job. Given the financial restrictions of workers, limited housing and living arrangement options, workers had few options other than to abide by these policies or seek employment and housing elsewhere.

2.1.3 Alcohol in Industry

Capital policies enacted to control the workforce generally were used to uphold a higher moral standard, prohibiting activities such as gambling, fighting, and speaking out against the company (Eller 1982; Wallace 1986). The one activity most often targeted by capital was the consumption of alcohol because of the direct relationship drinking has with worker productivity (Franzen 1995; Rosenzweig 1983; Veit and Schopp 1999). Alcohol was identified as a cause for a number of related nefarious activities, that all threatening company production.

Saloons were often banned on company grounds, not only due to workers' being able to consume alcohol, but also the workers ability to socialize and voice their discontent within the saloon setting. This degree of control was often exhibited in company towns such as the Pullman community and in the town of Morgan Park, located near Duluth, Minnesota (Alanen 2007; Baxter 2012). These communities were characterized by the company's need to establish housing for workers within a relatively remote location, utilizing the built environment to supervise their actives.

Although evidence supports alcohol being banned in these early twentieth-century industrial settings (Alanen 2007; Baxter 2012), a long history of alcohol consumption within the workplace exists, dating back to the preindustrial era. Per capita liquor/whiskey consumption reached its historic peak in the United States during 1830, at 3.9 gallons (Blocker 2006; 228). After this point, per capita liquor/whiskey consumption dropped, coinciding with the rise of industrial capitalism (Blocker 2006; 228). Although rates declined, alcohol consumption was still considered a common practiced within the industrialized workplace (Rosenzweig 1983). Alcohol was even considered as a part of a worker's daily wages in the early part of the nineteenth century. Skilled craftsmen would drink while they worked within the armories and workshops, while workers in the more labor-intensive lines of employment would be offered drinking breaks to help cope with the hardships of a day's work. Alcohol consumption was common both in the workplace and at home, with the highest rates of alcohol consumption occurring within more labor-intensive lines of work (Gusfield 1973; Rosenzweig 1983). As capital began to utilize

mechanization to increase production, the practice of alcohol consumption in the workplace was eliminated. Companies argued that intoxicated workers running the equipment would lead to damaged machines, affecting the profit margin and productivity. Mechanization also gave more power to capital, allowing companies to remove skilled positions, easily populating their industries with unskilled labor and ensuring stricter sobriety policies were followed within the workplace (Green 2015; Rosenzweig 1983; Shackel 2004).

Capital was also able to utilize the growing temperance movement to enforce sobriety both within and outside of the workplace. During the second half of the nineteenth century, working-class drinking culture shifted to the saloon, which became communal hubs and ethnic social centers (Rosenzweig 1983). With the saloons rise to prominence within working-class communities, the saloon became a target for temperance minded reformers. These temperance groups ideology was based on middle class and Protestant values and viewed the saloon as a threat to their values. Temperance groups were able to paint alcohol consumption in a negative light and demonize the saloon as a cultural institution (Blocker 2006:231). The temperance movement saw great success, as per capita alcohol consumption had dropped to an average of 1.6 gallons between 1906 and 1914 (Blocker 2006:232). Temperance organizations finally had alcohol banned with the enactment of the temporary Wartime Prohibition act, but the eighteenth amendment was later ratified and the United States went dry on January 17, 1920 (Blocker 2006: 232).

Ideals supporting the temperance movement were based on middle class notions of moral virtue and holding one's self to a higher standard to improve their position within society (Moloney 1998; Stewart 2007; Taillon 2002). Industrial capitalists were able to utilize these ideals as another way to justify sobriety policies for their workers. Historian, Roy Rosenzweig, notes an account of a factory owner who stated, "the work would be frequently broken up by the intemperance of the men. Now we have no trouble of that kind," (Rosenzweig 1983: 38). This factory owner is referring to the change over a roughly twenty-year period, in which alcohol became banned at the workplace (Rosenzweig 1983).

As technological advances made mechanization ever more applicable, the need for discipline workforce grew in industrial capital. The practice of banning alcohol began in the workplace, extended into the personal lives of the workers, and by the end of the nineteenth century, it had become a common practice. Despite the legal, social, and economic focus on abstinence of alcohol, archaeologists have found evidence that workers still consumed alcohol within industrial settings. All of these processes are evident in the case of the lumber industry.

2.2 Industry and Logging

2.2.1 Early Industrialization and Logging in America

Logging in America history is closely tied with settlement and industrial growth. Early settlers would harvest timber for constructing homes and heating houses. Outside of

home sustainability, logging efforts were generally geared toward clearing land for farming (Cox 2010). Later, organized logging industries developed to supply lumber for industrial purposes (Cox 2010). Timber was soon the main material used in manufacturing, from furniture to producing railroad ties for westward expansion (Karamanski 1989). As logging grew in America, the northeast soon became the top lumber producer.

With industrialization, large amounts of lumber were required to produce goods in mass. This resulted in quick depletion of the northeastern forest timber stands, driving the lumber industry to expand west. Areas previously untouched by logging were starting to be exploited by the lumber industry (Franzen 92; Rohe 1986). Expansion led to lumber operations being introduced in the Great Lakes region, including Wisconsin, Michigan and Minnesota, toward the beginning of the nineteenth century.

Early logging in Michigan's Upper Peninsula (UP) began in the 1830s but increased once pine wood resources in Michigan's Lower Peninsula were depleted (Franzen 1992). At this time, pine was highly sought after because of its relatively low cost to extract and was used for the production of numerous goods (Howe 2015). This early period of logging in the Upper Peninsula was known as the 'Pine Era', lasting from the 1830s to the late nineteenth century (Karamanski, 1989). Besides the type of wood harvested, this era was also known for how loggers used waterways to cheaply transport harvested lumber. This method of logging was associated with the state of Maine camps style, a relatively small "all-purpose" structure (Rohe 1986:18). Typically, this structure

was constructed of logs, housing between 12 and 15 wood cutters. The key characteristic of these camps was the location, generally being found within a close proximity to water ways to transport logs to a mill downstream (Rohe 1986:18).

The growing demand for lumber resulted in transitional camps, a new type of camp with the potential to house more workers, leading to more timber harvested. These camps were able to house between 30 and 50 workers, but some of the later camps were noted to have accommodated up to 100 men (Rohe 1986). Transitional camps became popular in the 1860s, replacing the state of Maine camps. Although the new style of logging camps still relied on streams and rivers to transport logs, a division of facilities based on function were added to the structure. This included several separate buildings for housing, cooking, a blacksmith's shop, and stables. The new camps were still constructed of logs, but now had more insulation and provided better accommodations for the workers.

As pine stands near water sources began to dwindle, investors began to move logging operations further west (Karasmanski 1989). Many small logging operations that thrived in the Pine Era faced decreases in revenue because of the inaccessibility to pine timber stands and the increasing costs of transporting lumber to mill sites. To harvest the remaining timber stands in the UP, a great capital investment was needed to improve methods of log transportation. As the new demands in logging industries grew, a new era of logging emerged in the late nineteenth century known as the Rail Era (Karamanski 1989).

Defined by the use of rail systems for log transportation, capital was invested in rail lines to harvest timber stands not located within close proximity to water ways during the Rail Era. The UP logging industry faced a loss of profit because the relative cost of extraction was greater than the market value of the logs. Noting the importance of lumber in mining and smelting operations, regional mining companies began to absorb the logging industry. Eventually, these mining companies would come to own vast tracts of northern hardwood forest, using this as the main resource to produce railroad ties, charcoal, and mine supports (Howe 2015; Karamanski 1989).

Shifts in company power dynamics were not the only changes being experienced in this new age of logging. The Rail Era introduced a new brand of lumber camps. These camps consisted of moveable, framed tar paper shacks. In a camp site there would be bunk houses, a cook's camp, dining halls, stables, blacksmith shops, and separate offices and housing arrangements for management. With this new structure, lumber camps were able to support more men and were easy to relocate when timber stands were depleted (Rohe 1986:26).

Although there were many changes experienced during the Rail Era, the process of harvesting timber remained the same until the 1940s. Traditional logging methods were in place until the 1940s, where loggers would use cross cut saws to fell timber and use axes to buck the downed timber into logs (Rajala 1993). Once timber was downed and bucked, it would then be transported to a timber yard, or landing, where it awaited transportation to the mill, or in CCI's case, their charcoal furnaces. Transporting the

timber from the forest to the staging area was no simple task. Timber was transported down skid roads by teamsters, who utilized teams of horses and oxen. During the summer months ‘big wheels’ were used to drag the timber to staging areas. The ‘big wheels’, as their name indicates, had two large wheels connected by an axle to which the timber was attached and dragged. During the winter months, teamsters would drench the skid roads, turning them into ice paths, and used sleighs to transport the timber (Karamanski 1989).

Little changed in regards to how the timber was felled and bucked during the first half of the twentieth century, with traditional logging methods still in place. Although, in the 1920s, trucks, and tractors were introduced into the logging industry and revolutionized the process of transporting timber. The teamsters that once hauled the timber to the landing area were no longer needed, being replaced by tractors that were more efficient than the numerous horses and men that were needed before hand. Additionally, with the introduction of trucks to haul timber to the mill, railroad spurs were no longer needed. The log trucks were much more versatile and did not require the costly investment in rail lines (Karamanski 1989). However, the end of traditional logging methods came with the introduction of the chainsaw in the 1940s. Armed with the chainsaw, a single logger could do the same amount of work that would have previously required a whole crew (Rajala 1993).

In terms of mechanization, the logging industry was late to the table with traditional logging methods being employed until well into the twentieth century. However, once mechanization took hold of the logging industry, capital was able to

drastically reduce and deskill their workforce. For the logger, the introduction of mechanization undermined the skilled work that traditional logging methods required. The result of mechanization was a reduction in both the skill required to perform the job and the number of loggers that capital needed to employ (Rajala 1993).

2.3 Archaeology of Alcohol in the Camps

A common conceptualization of workers in the logging industry during these eras focuses on camps strictly enforcing sobriety and eliminating workers' alcohol consumption. Even with accounts indicating strict bans on alcohol consumption, loggers gained the stereotyped reputation of being hardworking and hard drinking men, based on widespread patterns of binge drinking when they were not toiling in the woods (Lillard 1947; Karamanski 1989; Wells 1978). Even though sobriety was enforced in the camps, workers would venture to nearby towns to binge drink their earnings away (Franzen 1995; Karamanski 1989; Wells 1978). Accounts, such as in Lewis C. Reimann's (1953) book, *The Incredible Seney*, supports this idea. Reimann emphasized the binge drinking pattern of loggers, describing the town of Seney as "a rough, lawless town of 3000 people even in its quieter moments, it became a place of riot, drinking and "loving" when the horde of 3000 more descended upon it at the spring breakup of the fifteen or more lumber camps in the surrounding woods" (Reimann 1953:1). He states the loggers were "wild for whiskey," which they could certainly find at one of the town's 21 saloons which catered to the loggers (Reimann 1953: 1). Acting as the largest clientele group, saloons would take the loggers' time check as credit to buy drinks (Engberg 1949). In oral history

testimonies, Roy D. Bell, a resident of Munising in the early twentieth century, recalled there were 28 saloons within the town that loggers frequented (Bell 1974). Other oral histories, like those of Frank Debelak (1991) and Robert Lustick (1994), recalled loggers following a binge drinking pattern, but would also bring alcohol back to the camps with them. Their accounts indicated alcohol was commonly consumed in the camps and sobriety policies were not necessarily uniform across the lumber industry.

Despite varied sobriety policies from camp to camp, archaeologists have often found alcohol related artifacts in excess within lumber camp settings. Craig Stencel (2000) excavated numerous alcohol bottles from the Goodman Lumber Co. Camp E, located in northern Wisconsin. He concluded that the camp management may have permitted alcohol consumption by their workers. Another study by Rick Morris (1994) came to a similar conclusion due to the high number of beer and whisky bottles recovered from the camp located in Arizona. It should be noted, that high amounts of alcohol bottles are not always evidence of alcohol being permitted within the lumber camp setting.

Openly allowing alcohol within the lumber camps has often been associated with smaller owner-operator logging operations, while the larger lumber capitalist would often be stricter in outright bans on alcohol (Praetzellis 1993). Alcohol has often been used to gauge the power relationship between labor and capital (Duster 1981). The larger companies had more power over their workers and were able to enact policies of sobriety,

whereas the smaller operations would tolerate drinking as long as it was during the logger's free time (Morris 1994; Stencel 2000).

In situations where management enacted strict policies of sobriety, there was plenty of evidence suggesting workers continuing to consume alcohol as a form of resistance to the authority of capital. Nathaniel Hardwick found historic documentation and oral history evidence of management enforcing strict sobriety policies, resulting in workers being fired at the Underhill logging camp located in Grand Island Michigan (2008). A number of whiskey bottles were recovered in contexts that suggested workers were intentionally hiding bottles, attributing these results to workers "challenging the social power that Underhill maintained over the loggers," (Hardwick 2008: 173). William Rich and James Roscoe also found similar evidence at the logging and railroad town of Falk located in Humboldt County California, where workers were discreetly discarding alcohol bottles underneath floorboards when management had strict sobriety policies (Rich and Roscoe 2009).

These acts of resistance have often been interpreted as workers contesting the power relationship between labor and management (Skibo and Schiffer 2008). The generalization of power lying within the hand of capital while the workers resist is commonly seen when discussing alcohol consumption in the UP logging industry. However, this power relationships may have been more flexible than previously depicted. Openly allowing alcohol within lumber camps has often been associated with smaller-owner logging operations, while larger lumber capitalists would often have strict alcohol

bans (Praetzellis 1993). Smaller operations would tolerate drinking as long as it was during the logger's free time, whereas the larger companies had more power and resources to control their workers and were able to enact policies of sobriety (Morris 1994; Stencel 2000). Although, even within the context of these larger lumbering operations, there is still evidence that workers were able to circumvent the alcohol bans by utilizing other substances, in particular, medicines with high alcohol content.

2.3.1 Misleading Medicines

Another vice encouraging alcohol consumption found in lumber camps were the use of patent medicines. Patent medicines were often advertised as a cure-all for a number of ailments, including "rheumatism, cholera morbus, dysentery, diarrhea, asthma, chills, ague, and all internal pains" (Bureau of Chemistry 1917:560). However, investigations spurred by the Pure Food and Drug Act in 1906 found these imposter tonics contained upwards of 80% high-proofed alcohol and had no legitimacy to its medical claims (Parsons 1891:102). Patent medicines were found to be composed of vegetable and herb extracts, combined with high-proofed alcohol and trace amounts of other nefarious ingredients, such as morphine, opium, and cocaine (Bureau of Chemistry 1917:560; Horn 2009:253; Parsons 1891:102). The claimed medical properties of these patent medicines were rarely if ever, proven by medical science, but were commonly used by workers at the time due to the lack of available health care (Horn 2009:271). One such patent medicine, Hinkley's Bone Liniment, was advertised primarily to loggers in the Great Lakes region (Figure 2.1). Although many of Hinkley's Bone Liniment claims

were false, the combination of opioids and alcohol made it potent with one account stating that “woodsmen claimed a bottle of it glowed at night” (Morey 2006:6)

Figure 2.1 Image of Hinkley's Bone Liniment advertisement in the local papers (Newspapers.com 1899).

Regardless of the true nature of patent medicines, they were still commonly used by workers as a means to discreetly consume alcohol in the workplace. John Franzen's (1995) study of alcohol in UP lumber camps entertains the idea that patent medicines were used as a source for alcohol in settings where it was not allowed. His findings show

higher amounts of patent medicines at camps where there are lower amounts of alcohol bottles; while in camps with high amounts of alcohol, there were lower amounts of patent medicines. This led Franzen to conclude that patent medicines and alcohol could be used interchangeably, as both substances have the primary active ingredient (Franzen 1995). Other studies arrived at similar conclusions, where alcohol could function as a substitute for patent medicines (Skibo and Schiffer 2008; Whelan and Pearson 1999). However, a look at the comparative cost between liquor and patent medicines reveals that liquor was significantly cheaper than patent medicines and therefore more affordable for underpaid workers of the logging industry. In terms of worker pay, the wages of loggers for CCI ranged between 60 cents and 1.20 per the cord of lumber produced between 1894 and 1915 (Wurst 2016). While most patent medicines could be purchased in bottles ranging in size from 6 ounces to a quart and cost between 25 cents to a dollar, whiskey could be bought on average for 25 to 50 cents for a gallon depending on the quality (Bond 1989: 138; Williams 1980). The price discrepancy and willingness of workers to pay for either of these substances could be “indicative of worker’s ill health and their desire to ‘try anything’ to feel relief” (Bond 1989:138). This evidence indicates that although patent medicines and alcohol could be used interchangeably for their medicinal benefits, alcohol was far more affordable. Franzen’s (1995) claim of functional equivalency minimizes these real cost differences.

Although patent medicine’s claims to miraculous cures were unfounded, using these alcoholic based formulas were also a form of healthcare (Horn 2009:271). The life

of a logger was often fraught with hardships. Loggers needed to consume large amounts of food high in caloric value and fiber to fuel their bodies for a day's work. This type of diet often brought on constipation, for which the patent medicines could alleviate (Colin 1979). The high amounts of alcohol also served as a pain reliever for a brief period of time (Franzen 1995; Howe 2015). The marginal benefits of the patent medicines and their functionality within the daily life of the logger allowed them to be sold in camp stores even if alcohol was banned (CCI Annual Report 1910; Franzen 1995; Horn 2009).

2.3.2 Functionally Alcoholic

The presence of alcohol within lumber camps cannot entirely be attributed to the self-medication of the ills and aches that accompany the life of a logger. The various forms of alcohol have held different cultural meanings that are dependent on a number of factors such as race, ethnicity, class, and gender. Furthermore, studies have shown that alcohol consumption also serves as a political act that defines an individual's inclusion within a group or culture and reflects their values and traditions. The type of alcohol and the context in which it was drunk is also vital to understand the meaning associated with its consumption (Morris 1998). The contexts and types of alcohol these workers consumed reflect their identity and values, and provide an insight into how alcohol functioned within the daily life of the lumberjack (Mandelbaum 1965).

With alcohol being banned from the workplace during the nineteenth century, the use of alcohol became a division between work and leisure time (Rosenzweig 1983). Since drinking was no longer a part of the laborers workday, the use of alcohol was

strictly relegated to non-work contexts. For workers, the consumption of alcohol was used a cue to shift from work to leisure time (Gusfield 1987). Due to this the use of alcohol was regarded as a symbol of leisure time for workers and created a barrier between work life and leisure time (Gusfield 1987; Mandelbaum 1965; Rosenzweig 1983).

Although some scholars emphasize that alcohol was always banned in the lumber camps, archaeological evidence for it is commonly present. Furthermore, alcohol served different functions within the daily lives of the loggers, whether it be pain relief or a symbolic division between work and leisure time. All of this evidence suggests that simple uniform rules, whether alcohol was always banned or never banned, do not exist. This realization opens the door for a more detailed, nuanced understanding of the conditions that resulted in worker's use of alcohol. CCI is a good context to investigate this since the company records indicate an ambivalent relationship to alcohol.

2.4 Cleveland Cliffs Iron Company

The Cleveland Cliffs Iron Company was among the first to exploit the abundant iron ore deposits in Michigan's Upper Peninsula. CCI's policies of innovation, mechanization, and forward integration lead to them becoming among the most profitable iron mining company in the Upper Peninsula. Their attempts to cut costs lead to them being involved in a number of industries, including logging, in an effort to internalize the whole process of mining and refining iron ore. CCI was also at odds with other large capitalist corporations of the time, due to their lack of a policy forbidding alcohol consumption by

their workers. The following section reviews the growth of CCI into a multi-faceted corporation until the beginning of the twentieth century, and the developments that lead to their stance on alcohol.

2.4.1 CCI: A Capitalist Company

The Cleveland Iron Mining Company, which would later become CCI, was formed in 1850 by a group of business investors based in Cleveland Ohio. Their earliest endeavor was to purchase iron-bearing lands around Marquette, in what came to be known as the Marquette Iron District (Jopling 1921). As the company grew, they bought out their competitors, gradually growing to become one of the largest iron mining companies in the region (Reynolds and Dawson 2011).

Increasing demand for iron produced by the Cleveland Iron Mining Company throughout the 1880s resulted in the company buying out one of its larger competitors, the Iron Cliffs Company. The Cleveland Iron Mining Companies stockholders purchased the majority of the Iron Cliffs Companies stock, which resulted in a merger of the two companies. Both companies had been operating within close proximity of one another in the Marquette Iron District, and with the consolidation of the two companies in May 1891, the Cleveland Cliffs Iron Company (CCI) was formed (Jopling 1921).

Figure 2.2 Photo of logging camp, 1904. Source: Archives of Michigan

The merger between the Cleveland Iron Mining Company and the Iron Cliffs Company also resulted in CCI coming to possess the Pioneer Iron Company and subsequently their charcoal furnace. The Pioneer Iron Company had been a subsidiary of the Iron Cliffs Company, and their charcoal furnace in Negaunee Michigan was the only one located in the Upper Peninsula at the time (Jopling 1921). The acquisition of the Pioneer charcoal furnace allowed CCI to smelt their own iron. This process of forward integration was not new to CCI, who had made their mark by buying out less successful mining companies and minimizing the waste byproducts of their industry (Wurst 2017).

Charcoal produced iron had peaked in 1890 in the United States and was preferred over coal or coke produced iron for a number of purposes (Schallenger 1975).

CCI would later expand its charcoal furnace operations in Marquette, purchasing the newly constructed Excelsior furnace in 1894 (CCI Annual Reports 1894). These charcoal iron furnaces not only allowed them to smelt their own iron but also created a use for the vast stands of timber they had acquired in buying out other companies.

Another industry that CCI became involved in was transportation via the railroads. By 1900 CCI had control over the Munising railway and the Marquette and Southeastern railways, which they used to transport their products (Sawyer 1911). All of this forward integration by CCI was the result of a capitalist company attempting to cut costs through ownership of multiple aspects of the iron industry. CCI's eventual involvement in the logging industry was the result of this process and was directly related to their acquisition of the Pioneer and Excelsior furnaces in the early 1890s. To fuel these furnaces with charcoal, a steady supply of cordwood was needed.

2.4.2 CCI: Land and Lumber

Early on, the high demand for the wood required to operate the charcoal furnaces was met by CCI contracting out the work (CCI Annual Report 1893). Due to the nature of CCI's business strategy, this phase of production was soon internalized as CCI began to harvest their own cordwood. The Parsons lumber camp was the first constructed and operated by CCI when it was opened in 1896, but the company continued to have problems maintaining a steady supply of cordwood (CCI Annual Report 1894). The Parsons camp suffered due to labor shortages and difficulties transporting the harvested

lumber. CCI recognized that more cordwood would be needed in the future due to the opening of another charcoal iron furnace and chemical wood operations (CCI Annual Report 1896). The shortages of cordwood mounted and by 1899 CCI had deemed their charcoal situation “critical,” stating that in order to maintain a consistent supply of cordwood for their furnaces “that old methods must be improved” (CCI Annual Report 1899:27).

The Mathews camp was opened in 1899 to help alleviate these wood shortages and operated in the same manner as the Parsons camp. These camps were owned by CCI but operated by contractors. CCI summarized the operation of these camps stating that they were “turning the camp building over to a man who conducts a boarding house and the men and tools and supplies, we collecting only the board through our offices and have no equipment outside of the same” (CCI Annual Report 1899:32). The Mathews camp operation was plagued with the same problems as the Parsons camp, with bad roads and labor shortages inhibiting production.

Figure 2.3 Photo of CCI's Mathews lumber camp. Source: Archives of Michigan.

In 1901 CCI deemed the charcoal supply critical, which drove them to open up the cordwood camp of Coalwood, named after the Coalwood lumbering district it was centered in (CCI Annual Report 1901). In 1900, CCI had bought nearly 300,000 acres in Alger County Michigan, of which almost two-thirds were considered as “fine timber lands” (Sawyer 1911: 9). As a result of CCI's previous experiences with the Parsons camp, CCI began to place larger camps, like Coalwood, within the center of lumber districts in an attempt to harvest wood quickly, while simultaneously investing as little as possible in the establishment of camps and rail lines. The Coalwood District was located just south of the town of Munising, Michigan where the sandy soils proved to be more favorable for the transportation of lumber to rail spurs. The capital investment was kept to a minimum in establishing the Coalwood camp. CCI construct only two boarding houses, a camp office, and drilled a well. Individuals were allowed to construct boarding

houses and family houses, which eventually numbered up to 25, but each had to pay a fee to the company to access the well (CCI Annual Report 1901).

Figure 2.4 : Map of CCI's Coalwood Lumber District, showing the location lumbercamps. 1909.

CCI employed a hands-off management strategy at the Coalwood camp. This hands-off management style was intended to lower costs by limiting their capital investment for infrastructure and management in these camps to a bare minimum. This was achieved through providing only the bare essentials for the camps and paying the laborers per cord of lumber produced (CCI Annual Report 1901). CCI's goal was to keep their investment in the camps to a minimum while harvesting as much timber as possible for their charcoal furnaces. For the workers, CCI's hands off management style meant that there was little oversight by the company over life within the camps, granting them autonomy within their day to day lives.

Unlike industries where laborers were paid by the hour, the wages of CCI's cordwood cutters were dependent on how productive they were when they were working. Within this wage context, CCI could allot workers more freedom to work as they pleased due to their wages being dependent on how much they produced as opposed to how long they worked. This wage system contributed to CCI's choice to take a hands-off management approach with allotted individuals the autonomy to build houses for themselves or even operate boarding houses within the camp. Laborers would pay rent to the boarding house operator, which provided the workers a place to stay and meals. The boarding houses only paid a one dollar per month fee to CCI to access the well. CCI's only expense for worker accommodation was the drilling of the well (CCI Annual Report 1901).

CCI's idea in allowing a camp to develop this way was to keep their investment to the minimum, while also employing as many laborers as possible to harvest cordwood quickly. The Coalwood camp quickly swelled to a population of 250 by 1905. Given CCI's hands-off policy, this meant the company had little control over its workforce (CCI Annual Report 1905). This business model did keep CCI's investment to a minimal in construction of the logging camps and may have given workers a great deal of autonomy to make their own choices in comparison to other lumber companies (Wurst 2017).

2.4.3 CCI: Alcohol

Historic records from CCI show no indication that alcohol was ever outright banned within their camps. Although there was no official policy against alcohol, CCI did seem to tolerate it more so than openly allowing it. The CCI records indicate that they took measures to limit workers' access to alcohol and often blamed labor and production shortages on the intemperance of their workers. In 1902 CCI was in the midst of a labor shortage and placed the blame on saloons, stating that the saloons "run absolutely without restraint," and that "the bulk of the wages of our men are spent before they are earned." This was considered the cause of the labor shortage due to "the industrious men loath to go there for this reason" (CCI Annual Report 1902:13). Paradoxically, CCI could not afford to ban alcohol outright or they ran the risk of losing even more of their workers.

Even so, CCI did take measures to keep their workers sober. A boarding house was constructed at the Munising chemical plant in 1899 supplied with cards, checkers,

and backgammon to keep workers from venturing to the saloons. CCI conceded that this boarding house would, “simplify our labor problem and largely decrease drunkenness” (CCI Annual Report 1899:46). Later CCI took a more aggressive approach to shutting down a saloon at the Limestone camp in 1904 by threatening the bondsman (CCI Annual Report 1904). The following year CCI openly allowed the sale of whiskey and beer at the company stores in the Rumley District after the 1904 strike, to “calm labor unrest and attract more labor to the camps” (CCI Annual Report 1905:38). As Roy Rosenzweig (1983) mentions in his study of industrial labor, the availability of labor could influence how strictly sobriety was enforced. In CCI’s case, labor was scarce, meaning that tolerating alcohol could have been a strategy to retain a consistent workforce.

After CCI allowed the sale of alcohol within company stores, there appear to be no more incidents were they actively sought to keep it out of the camps. It is not entirely clear if this policy applied to the Coalwood District since the camp store was independently operated and CCI had little control over what was sold. A 1910 CCI camp store inventory from the Weston van indicates the sale of a variety of tobacco products but no alcohol was listed (Weston Van Inventory 1910).

The nature of the work may have also influenced CCI to refrain from issuing an outright ban of alcohol. Traditional methods of logging, with little mechanization, continued well into the twentieth century. Studies have indicated that the less mechanized an industry was, the more likely alcohol would be tolerated (Rosenzweig 1983). A simpler answer as to why CCI tolerated alcohol consumption may be that the workers

were paid per the cord of lumber produced. For the worker, this meant that if they indulged and their productivity suffered, they would also be missing out on wages. Even so, alcohol consumption was not tolerated on the job by the workers or company as Robert Lustick (1994: 61) recalls, saying “they’d send you off”.

CCI’s hands-off management style were used to retain a workforce by allotting their workers a great deal of autonomy, which included allowing the consumption of alcohol within the camps. Although CCI does blame many of its labor problems on alcohol the relationship between the two is a paradoxical one, where CCI both benefits from allowing it but is often quick to blame it for their shortcomings.

2.5 The People of the Coalwood District

CCI cordwood operations had difficulties with labor shortages, resulting in a decrease in cordwood production for their smelting operations (CCI Annual Reports 1892-1908). Lack of local laborers in the UP led CCI to recruit workers from Finland and Slovenia, creating ethnic diversity between camps. The values and traditions of the Finnish and Slovenian groups varied in a number of ways. CCI was able to use these cultural differences to their advantage by separating the Finnish and Slovenian groups into their own homogeneous lumber camps. This created an ethnic barrier that deterred unification of labor and further labor unrest after the 1904 strike (CCI Annual Reports 1905).

The people who came to the Coalwood District were not all single male workers, and some brought families with them as well (CCI Annual Reports 1892-1908; Debelak 1991). The combination of varying ethnic, gender, and family groups have surely impacted the archaeological findings present at the lumber camps. The following section will review information on the Finnish and Slovenian immigrants who came to the Coalwood District, as well as the role of women and children in the logging camps.

Figure 2.5 Only known photo of the Coalwood lumber camp. Source: Archives of Michigan.

2.5.1 Finns in the Forest

In 1902, CCI recruited Finnish immigrants through an employment agency, sending Henry Hillman to the “principal Finn Centers” (CCI Annual Report 1902:13). Finns were often recruited to work for CCI with the idea that there was an abundance of farmland they would eventually be able to purchase and work for themselves (Hoguland 1978). Much of the farmland these immigrants purchased had already been clear cut by lumbering companies. CCI was no exception to this, selling off their cut-over land as a way to gain profit off land with little value to the company (Reynolds 2006). This caused a population of farmers who were forced to supplement their income with work in the mines and lumber camps, and provided a source of food for their lumber camps which could be purchased cheaply (Reynolds 2006).

These tactics were successful in recruiting Finns because of the current economic and political turmoil present in Finland at the time. Finland’s economy in the early twentieth century was in shambles, making land ownership and opportunities scarce. While already struggling, Finns also had to contend with being an autonomous state of the Russian Empire from 1809 to 1917, which meant that there was a mandatory draft of Finnish men to fight in Russia’s battles (Alger County Historic Society 1982). With these factors at play, the prospect of working and owning land in America was an appealing one.

CCI’s recruitment tactics brought in a number of Finnish immigrants, but they would often leave the lumber camps soon after arrival for better employment

opportunities (Wurst 2017). Even so, the Coalwood camp came to be primarily inhabited by Finnish immigrants. The 1910 census, an official record of population and other demographics, reveals that the Coalwood camp consisted of primarily Finnish immigrants (1910 Census). The census data is supported by the presence of a sauna at the Coalwood site, which is indicative of Finnish habitation, as well as August Edwards Suomen Verenpudistus medicine bottles and Finnish and Swedish coins found at the site.

Of the cultural values that the Finnish immigrants brought over with them, the sauna is one of the most distinct, symbolizing the value that the Finnish culture places on hygiene and cleanliness. The sauna was often the first thing built when Finnish immigrants arrived at a new site. Within the lumber camps, which were notorious for poor hygienic conditions, the sauna was a source of cleanliness and a way for the Finnish immigrants to express cultural values. In addition to functioning as a source of hygiene, the saunas also functioned as a communal social setting (Kaups 1976; Lockwood 1977).

These Finnish immigrants often formed tight-knit communities primarily due to the high number of Finns in the area and the steep language barrier that they faced once they arrived in the United States (Alger County Historical Society 1982). These Finnish immigrant communities were often reliant upon one another to ease the burden of adapting to a new land away from their homes and families. One Finnish immigrant from Michigan wrote to his family stating, “There are so many boys here from Tyrva that you can’t get homesick at all” (Penti-Vidutis 1978:30).

In Finnish culture, alcohol consumption was acceptable in moderation, while drunkenness was often looked down upon. Many traditional institutions in Finland, such as schools, religious organizations, and the family unit often preached of the dangers of overindulgence of alcohol, resulting in many Finns coming to have a “warm regard for the principals of abstinence and a hearty dislike of intemperance” (Kolehmainen 1941:393). Temperance societies did emerge in Finland as early as 1930, although these were highly localized.

Often the young Finnish males who migrated to the United States fell into habits of intemperance and drinking in saloons. This was due in part to the lack of influence by traditional Finnish institutions. Additionally, young Finnish males sought companionship at local saloons operated and patronized by Finnish immigrants. To counter this trend, Finnish temperance societies began to emerge throughout the Great Lakes region in the late nineteenth century (Kolehmainen 1941). The temperance societies emerged as a primarily Finnish-American tradition to combat the trend of drunkenness amongst Finnish immigrants. These Finnish temperance societies served as a social and cultural institution, where Finnish immigrants could gather and socialize while maintaining their cultural identity (Kolehmainen 1941:394). Additionally, the temperance societies provided a community for Finnish immigrants by providing a number of activities and amenities. Their popularity grew rapidly during the early part of the twentieth century within the Great Lakes region, where they became a common institution amongst Finnish immigrant communities (Kolehmainen 1941).

The rhetoric of these temperance societies often emphasized abstaining from hard liquors, but there was often a gray area where less alcoholic drinks such as wine and beer were allowed. Some even went as far as to abstain from tobacco as well. Although temperance was defined differently depending on the region or temperance society, abstinence from hard liquor was often the focus (Kolehmainen 1941).

Finnish immigrants were also associated with Finnish socialist societies, which revolved primarily around labor issues and advocated the ideals of socialism, unionization, and communism (Kostiainen 2014). These institutions filled much the same void as the temperance societies, providing Finns with a social setting that reinforced cultural values and traditions. These groups were often able to organize labor in an effort to attain better wages and benefits, much like they did in instigating the 1904 loggers strike along the Munising rail line.

Leading up to the 1904 strike CCI's strategy was to keep labor prices low. If they were forced to, they would raise wages until a secured stockpile of wood had accumulated, then reduce the price paid per cord afterward (Wurst 2017). In 1904, CCI had reduced the workers' wages to 70 cents per cord, which was the lowest since 1896 (Wurst 2016). CCI mentioned the wage drop before the strike in their 1904 annual report and justified their wage reduction strategy by stating "this goes to show that during hard times and low prices, we get better averages out of our men" (CCI Annual Report 1904:3). The workers had different ideas, and this ultimately leads to the 1904 strike which began in February when all of the workers in the camps along the Munising

Railroad (including the Coalwood District) walked out and lasted into the spring. CCI blamed a decreased in production that year on worker meetings and the 1904 strike, stating that the workers were spending “more time than they should holding meetings,” and named Enoch Johnson, “a Finnish agitator and socialist” as one of the main instigators (CCI Annual Report 1905:33). The combination of a workforce consisting primarily of Finns, the high concentration of workers at a few locations, and the Finns predisposition towards socialist ideals were blamed for the strike. The strike did result in CCI increasing wages to an average of a dollar per cord by December of 1905 (Wurst 2016). To deter further strikes CCI began to disperse their lumber camp populations to auxiliary camps, which were less populated and more dispersed. They also began to recruit Slovenian immigrants to work for them as well to create an ethnic barrier between the two groups and deter future strikes (CCI Annual Report 1905).

2.5.2 Slovenians to Supplement Labor

The use of Slovenians to create a barrier deterring further strikes was just one of the reasons that CCI had recruited them. In Slovenia, similar economic conditions existed as those in Finland; work was scarce and it was difficult for the common people to make a living. The Slovenians were known to be skilled woodsmen, which lead them to work out of Slovenia for periods. The men would often travel to neighboring countries to work for a period while sending money back to their families who remained in Slovenia (Alger County Historic Society 1982; Bartol and Knaus 2018). The demand for skilled loggers in the United States led to the extended families of Frank Debelak and Robert Lustick

migrating to St. Mary's Pennsylvania in the early twentieth century (Debelak 1991; Lustick 1994). This family was then recruited by CCI to come work in the Coalwood District and arrived by train at the Coalwood camp on New Year's Eve 1906.

Frank Debelak (1991) recalls many of the details of his childhood in the Coalwood District lumber camps in an oral history interview conducted by the Hiawatha National Forest. Shortly after arriving in Coalwood, his family was sent to work at the Roscoe camp, which was an auxiliary camp to Coalwood. The Finnish and Slovenian workers were generally separated into their separate camps, which in combination with the language barrier between the two would keep the groups from collectively organizing another strike.

The Slovenians exhibited a number of cultural variations that made them distinct from the Finnish populations. The Slovenians never formed communal societies like those of the Finnish temperance societies. Additionally, there was a contrast in religious views as well, with the Finns tending to be Protestant while the Slovenian were primarily Catholic (Centinich 2003). One of the starkest contrasts was how each culture consumed alcohol. Where the Finns actively fought against intemperance in America, the Slovenians brought with them a strong tradition of alcohol consumption and drinking to celebrate a number of holidays and occasions (Franzen 1995).

The oral history of Frank Debelak (1991) recalls that some of the boarding house operators would even brew beer for the workers. In terms of how the two groups got

along, the Debelak (1991) and Lustick (1994) oral histories vary. Frank Debelak recalled how the Finnish workers helped his family when they first arrived in the Coalwood district, while Robert Lustick recalls it differently stating, “Oh they had some fights,” when asked about the relations between the two groups (Lustick 1994: 11). Although relations between the two groups seemed varied depending on who was asked, it appears that CCI’s utilization of different ethnic groups prevailed in deterring further strikes until the 1920 strike called by the Timberworker’s Union (CCI Annual Report 1920).

2.5.3 Family Tradition

In addition to the Slovenians and Finnish workers, both groups had individuals who had brought their families with them to the lumber camps of the Coalwood District. Although the lumber industry has often been stereotyped as a realm consisting of male laborers, families were often present and were often delegated unpaid work (Brashler 1991; Howe 2015). Workers with families on site in industrial settings such as Coalwood have long since proven to be beneficial in a number of ways. In CCI’s case, they believed that workers with families would be more reliable and less prone to strike. In terms of alcohol, it was thought that the family men would tend to remain home with their families as opposed to the single males who would venture into town and consume alcohol.

The families of the wage earner also provided a free source of labor for CCI, with unpaid family members performing necessary tasks such as sewing, cooking, and maintaining living conditions at homes and boarding houses (Collins 1990; Howe 2015). All of these tasks served to reproduce labor power with no expense to the company. With

CCI's minimum investment approach to their lumber camps, the family would have facilitated accommodations within the camp by maintaining the household for the wage earner or even operate a boarding house that would accommodate additional workers at no cost to CCI. Family operated boarding houses were present at both the Coalwood and Roscoe camps, as noted in the 1910 census records and the oral history of Frank Debelak (1910 Census; Debelak 1991).

CCI's affinity for family men is also clearly exhibited in their annual reports, which reinforces the ideals that these loggers with families were more productive and reliable. These workers with families would often construct their own houses at the camps due to CCI's hands off management style. During the strike of 1904, the Parsons and Mathews camps had already been reduced to primarily workers with their families on site. CCI commented that they were "a very superior lot of steady family men," and that "drunkenness is very unusual, they took no part in the strike movement" (CCI Annual Report 1905:27). After the strike, CCI reduced its workforce at the Coalwood camp to the workers "who had their families on location" (CCI Annual Report 1905:32). These men with families were also often the last to leave a site, even though their production decreased over time due to having to travel further distances to indifferent timber stands. This also meant that their wages were gradually decreasing due to being paid per the cord of lumber produced. It has been argued that the additional autonomy these workers were given by the company made up for the diminishing wages (Wurst 2017).

2.6 End of Coalwood District

After the 1904 strike, the population of Coalwood camp dipped slightly from 87 laborers to 56 but grew to 217 at its peak in 1908 (CCI Annual Report 1908). The average number of cords produced per worker also increased dramatically to an average of 47.3 cords of lumber produced per worker. CCI had attributed the increase in production to “the men being in good timber,” and that “the men employed were much superior to those formerly working” (CCI Annual Report 1909:11). Over the same time period, CCI had established the Zerbal camp in 1906 on the westernmost end of the Coalwood District (CCI Annual Report 1908). Although there is no information about the ethnicity of the people who worked at Zerbal, it’s believed that it operated on a seasonal basis and consisted of primarily single male boarders who inhabited the lone boarding house listed at the site (Annual Report 1908).

By 1909 CCI had nearly exhausted the timber stands within the Coalwood District, noting that the district had provided the Marquette cordwood furnace with two-thirds of the cordwood it had needed over the previous decade. This indicated that the Coalwood District was nearing the end of its usable life, and a new lumbering district would need to be established to take its place (CCI Annual Report 1909). The following year, in 1910, CCI closed down the Roscoe and Zerbal camps, and reduced the Coalwood camp to just the workers with families. Although the Coalwood camp had been reduced to just 24 workers with families in 1911 the average number of cords produced per worker went up to 49.2 that year (CCI Annual Report 1911).

The Coalwood District closed completely in 1913, with nearly all of the timber stands exhausted (CCI Annual Report 1912). After over a decade of experience in the lumbering industry, CCI decided to make changes to how they set up camps. The large camps centered within a lumbering district had proven that timber stands nearest to these camps would quickly be depleted, leaving randomly scattered stands of viable timber. CCI had alluded to changing their approach to lumbering in 1909, stating “from now on our practice must be to establish a large number of small camps in all directions” (CCI Annual Report 1909:25). CCI followed through with its plan to establish smaller camps, noting that it was more cost-efficient to establish a new camp as opposed to building a new railroad spur. Issues concerning labor shortages and production continued to plague CCI’s lumbering operations. By 1918 CCI decided that it needed to outsource the process of harvesting cordwood, stating that “our desire is to get out of the cordwood end of operations as soon as possible” (CCI Annual Report 1918:25).

Through CCI’s complex industrial network they were able to internalize the vast majority of the iron mining and smelting process by utilizing the land resources they had accumulated. Once cordwood became crucial for their smelting operations, lumber camps such as Coalwood were established with minimal investment. CCI’s “hands off” management strategy lead to the workers being granted a great deal of autonomy, which meant that alcohol was tolerated within the camp settings, creating a situation where sobriety did not need to be enforced to maintain high production. Although alcohol was blamed for many of CCI’s production shortcomings, there’s no evidence that they ever

implemented a sobriety policy within their lumber camps. In terms of workers, it was up to them to decide how much they would produce, and in turn, get paid. With the level of autonomy that these workers had, they would have been able to freely choose what, where, and how much alcohol they consumed.

3 Discussion of Case

3.1 Introduction

Over a century has passed since CCI's logging operations ceased in the Coalwood District. The remains of these early twentieth-century logging camps are characterized by earthen berms, depressions, and artifacts scattered across their boundaries. Early surveys and cultural resources management work in the Coalwood District was commissioned by the Forest Service in the 1980s, which performed the initial surveys of these various sites. The integrity of both the Coalwood and Roscoe sites were questioned because of extensive looting leading the Forest Service to adopt a policy where surface artifacts in danger of being looted were periodically collected (Franzen 1992).

In 2014, under the direction of LouAnn Wurst as part of the Western Michigan University field school, archaeological excavations began on the Coalwood Site focusing on Coalwood's northern quadrant (Wurst 2016). In 2016, excavations were again performed at the Coalwood Site as part of the Michigan Technological University field school. The 2016 field work excavated boarding houses at the Roscoe and Zerkal Sites, as well as a boarding house in Coalwood's southern quadrant. Over 70,000 artifacts in total were recovered between the 2014 and 2016 excavations, yielding a great deal of evidence to better study and understand the relationship between labor, capital and alcohol within the industrial setting of logging.

3.2 Methodology

To analyze the role alcohol played in the relationship between labor and capital, a comparison of the alcohol bottles recovered from Zerbai, Roscoe, and Coalwood lumber camps was required. The historical and contextual data indicates laborers in CCI's Coalwood District lumber camps had more autonomy than laborers of similar logging camps during the same era.

3.2.1 Field Methods

Excavations at each of the three sites were initiated by systematically mapping the site area into a grid using a theodolite. Further mapping included recording the locations and dimensions of determined features. The 2014 excavations focused on worker housing and non-worker contexts at Coalwood, while the 2016 excavations focused primarily on boarding houses and associated privies at Coalwood, Roscoe, and Zerbai. All excavated fill was screened through ¼ inch mesh screening to identify artifacts, which were then separated by type into individual bags, noting the province from which they came. Artifacts that too large to be removed from the field were recorded in the field.

3.2.2 Lab Methods

After the artifacts were recovered from the field, they were washed and re-bagged in preparation for cataloging and analysis. Cataloging recorded a number of values for each artifact such as type, group, and material. A minimum vessel count was determined by identifying cross mends, unique fragments, and utilizing base and rim fragments to

determine the minimum number of vessels present. Once a vessel was identified it was assigned a unique number, indicating it as a unique vessel.

For this study, bottles assigned vessel numbers are the primary source of archaeological evidence. Vessels were chosen because they represent a culturally significant unit of analysis, as compared to glass and ceramic fragments (Sussman 2000; Voss and Allen 2010). This analysis is limited to only glass bottles. The bottles used in the analysis were assigned a type code identifying them as beer, liquor, or wine, indicating alcohol-related vessels. It should be noted that many other glass bottles were not complete enough to allow functional identification. Obviously, many of the unidentified vessels could also be alcohol bottles, suggesting that alcohol usage could be underrepresented. Because of this, all the data patterns should be considered conservative estimates of alcohol use. This analysis also considered medicinal bottles because of their high alcohol content. It should be noted that even though a bottle was coded as a medicinal bottle it did not necessarily mean it was one of the patent medicines containing high amounts of alcohol.

3.2.3 Analysis

Analyses applied to the Coalwood, Roscoe, and Zerbal feature areas and sites consisted of percent composition, hierarchical clustering, and K-means clustering. Clustering analysis was applied to the data to view the grouping of the feature areas based on their alcohol assemblages. The clustering analysis works well with this data set

due to the high counts of certain types of alcohol and the prevalence of zero values for other types of alcohol at some of the feature areas.

The percent composition analysis was applied to focus on alcohol bottle type percentages in the associated feature areas. Relationships in this analysis were derived by doing a basic comparison between values, acknowledging if they were similar or varying in value.

Following percent composition, the hierarchical clustering analysis was applied, otherwise known as agglomerative clustering. In this analysis, each feature area is treated as its own cluster. The clusters are then compared against each other, pairing those most similar together. This process continues until all sites have been joined together, which can be visualized in the form of an evolutionary tree known as a dendrogram (Holland 2019; Clustering Analysis in R).

Hierarchical clustering results were validated by the K-mean clustering analysis. The K-means analysis is an unsupervised learning method. A predetermined number of clusters are set to be calculated. Random points are selected as the initial cluster centers, and each data set is assigned to its nearest cluster center. Clustering centers are then updated by calculating the mean values of all the data points within the clusters. The process is repeated until the central point of a group does not move anymore (Peeples 2011). The results for this analysis are demonstrated by feature areas/sites being assigned to a defined centroid representing the center of a cluster.

All data were transformed using the Wisconsin double standardization to account for variations in sample sizes between feature areas/sites. The Wisconsin double standardization first divides each alcohol type count by its column maximum and then by its row maximum, thus standardizing the counts of alcohol at a given feature areas against the other feature areas. This method of standardization enhances patterns in the data, can account for zeros, and for variations in the amount of data associated with a given feature (Chizinski 2016). Given the great deal of variation in total counts of alcohol bottles by type associated with the feature areas, this method of data transformation can be used to account for feature areas that may have had a greater population or been in use for a longer period of time.

The clustering analysis used in conjunction with contextual and historical data provides a way to look at the multiple variables that are present throughout the sites. The patterns between these variables and the alcohol assemblage will provide insight into how alcohol could have influenced the relationship between capital and labor. Ethnic differences are represented by the Slovenians at Roscoe and the Finns at Coalwood which may reflect different alcohol consumption patterns. The analysis of alcohol could also reveal if there is any indication of Finnish temperance at any of the camps as well. Another variable that can be analyzed is the variations between the boarding house and family house contexts. In essence, comparison of alcohol type percentages, combined with clustering methods allows assessment of which assemblages are most similar. These patterns of similarity and difference can then be linked to variables such as ethnicity,

class or household composition to understand workers use of alcohol. The analysis will focus on whether there are any discrepancies in alcohol consumption between the individual worker families houses compared to boarding houses operated by a family with primarily of single male boarders. By gaining a better understanding of how these various characteristics and circumstances affect alcohol consumption, we can then better understand when it was necessary for capital to enforce regulations such as sobriety.

3.3 Results: Summary of Sample

3.3.1 Coalwood

Excavations at Coalwood focused on the camp store (F21 area), camp office (F1 area), worker family contexts (F24/25 areas) and combination worker/family boarding house contexts (F8 and F43 area). The Figure 3.1 map shown below shows how these areas were spatially distributed throughout the camp, and where the separate feature areas are in regards to one another. The archaeological assemblages from each of these areas are discussed separately below.

Figure 3.1 Scaled map of the Coalwood Site, highlighting feature areas excavated.

3.3.1.1 *F1 Area*

The F1 structure is the southernmost dwelling in the northeast quadrant of the site, adjacent to the railroad. The CCI Furnace Department Report from 1901 states that they erected two boarding houses, a store and an office in addition to sinking a well (CCI Annual Report 1901). Since F1 is located directly behind the well, across from the F21 store and adjacent to the railroad, it is thought to represent the camp office. Rich domestic assemblages indicate that this structure also served as a household for a camp manager as well as functioning as an administrative building for the camp (CCI Annual Report 1901). The nature of this 'administration' is unclear given CCI's hands off management style. A total of ten units and features were excavated in this site area, which include samples from the F1A barrel cistern, F1D privy, F1E chicken coop, F1M midden area, and several yard units.

Figure 3.2 Scaled map of the F1 camp office area at the Coalwood Site.

Table 3.1 Distribution of alcohol and medicinal bottles at the F1 area at the Coalwood Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F1A		4	1	2	50%	10
F1D		1	3	5	19%	21
F1E	1	3	1	2	33%	15
F1F				1	0%	6
F1G	1	2	4		64%	11
F1M		4	1	5	28%	18
F1 Totals	2	14	10	15	32%	81

The F1A barrel cistern is characterized by a large pit feature located just outside of the southwest corner of the F1 structure. Due to the location and size of this feature, immediately off the corner of the house, it is believed to have been a barrel cistern used to collect rainwater. A 250cm (N-S) x 200cm (E-W) unit was laid out over this feature for excavation. Of the ten bottles collected from this feature, 50% were determined to be alcohol related. The four beer bottles made up the majority of the alcohol related bottles recovered, while one liquor bottle represents the rest of the alcohol recovered from this feature. Additionally, two medicinal bottles were recovered from this feature.

F1D represents a privy associated with the camp office, located to the southeast of the F1 structural depression. Unit N231 E244 was laid out over the F1D as a 3x3 meter unit, which was excavated to a depth of 83cm. A total of 21 bottles was recovered from this feature, with 19% of them identified as alcohol related. Of the 4 alcohol bottles recovered, 3 were identified as liquor and only one as beer. An additional five medicinal bottles were recovered from this feature, two of which were embossed medicinal bottles identified as Chamberlains Colic Cholera & Diarrhea Remedy, and the other as a sarsaparilla bottle.

F1E was identified as a chicken coop, located in the rear of the yard area of the F1 area. The high number of gullet stones and the fact that most of the unidentified artifacts are sheet metal and wire indicate that this feature functioned as a chicken coop. Alcohol related bottles comprise 33% of the 15 bottles that were recovered from F1E. Of the five alcohol related bottles, three were beer, with liquor and wine both being represented by

one bottle apiece. Additionally, there were two medicinal bottles recovered from this feature.

F1F was represented by a small depression at the eastern end of the F1 area and was determined to have been a horticultural planting area. Unit N239.5 E289 was laid out over the feature as a 2.5x2.5 meter unit, which was excavated to a depth of 70cm. This feature had a low artifact density, with only six bottles being recovered. Of the bottles recovered, none were alcohol related and only one was a medicinal bottle.

F1M represents a large surface midden area located to the south and southeast of the F1 structural depression. Four units (N221 E251, N221 E239, N222 E241, and N223 E241) were excavated within in this midden area to sample the F1M midden deposits. 18 bottles were recovered from these midden units, with 28% of them being alcohol related. The alcohol related bottles consisted of four beer and one liquor. Five of the bottles recovered were identified as medicinal, two of which were embossed and identified as Vermifuge and Hinkley's Bone Liniment. Additionally, there was a stoneware jug recovered from the F1M midden units.

F1G was located next to the northeast corner of the F1 structural depression, just outside of the earthen berm that defined the F1 structural depression. Unit N241 E235 was excavated here as a 1x1 meter unit, due to the high artifact density revealed by an STP that was placed there. In total 11 bottles were recovered, with 64% of them being alcohol related. Of the alcohol related bottles recovered four were identified as liquor, two beer, and one wine. Additionally there were no medicinal bottles recovered from this feature.

Of the bottles collected from the F1 area as a whole, F1A and F1G contained the highest percentage of alcohol related bottles. Both these features were located within close proximity to the F1 structural depression, and consisted of over 50% alcohol related bottles. The F1D privy contained the most bottles, with 21, but only 19% of those were alcohol related. F1M yielded the second most number of bottles with 18, and was made up of only 28% alcohol related bottles. F1D and F1M both contained five medicinal bottles apiece, which could explain the lower percentile of alcohol related bottles as compared to F1A and F1G. F1F located the furthest away from the F1 structure, and was the only feature within this feature area to be void of any alcohol related bottles. Beer was the most prevalent alcohol related bottle recovered from this feature area, represented by 14 bottles in total, with liquor being represented by ten recovered bottles. Within the camp office area, there seems to be a diversity in the percentage of alcohol bottles, the types of alcohol represented, and the locations where they were found.

3.3.1.2 F21 Area

The F21 structural depression is located at the southern end of the site's northern quadrant, adjacent to the railroad and across from the F1 camp office. Due to the size and proximity to the railroad, this structure is believed to have been the camp store. Additionally, the F21 camp store also functioned as a household for the store keeper, evidenced by the assemblage of domestic artifacts and the placement of the storekeeper and family in the 1910 census. A grid consisting of 15 STP was excavated over the F21

depression. The features excavated within the F21 area include units within the F21 structure depression, F21A rear stairs/entrance into the F21 cellar, and the F21B/C privy.

Figure 3.3 Scaled map of feature 21 store at the Coalwood Site.

Table 3.2 Distribution of alcohol and medicinal bottles at the F21 area at the Coalwood Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F21		2		2	9%	23
F21A		9	1	8	43%	23
F21B/C	1	1	2	3	24%	17
F21 Totals	1	12	3	13	25%	63

Several units were excavated in the front and middle of the F21 structural depression to determine if any intact deposits were located inside the cellar and to evaluate the nature of the soils and possible feature construction. 23 bottles were recovered from this area, of which only 9% were alcohol related. The two alcohol related bottles recovered were both beer. There were also two medicinal bottles recovered, one of which was embossed and identified as Hinkley's Bone Liniment.

F21A is represented by a 150cm (N-S) x 200cm (E-W) unit, placed over the rear of the F21 depression. Unit N228.5 E175 was placed over a shallow sloped area that suggested an entryway into the cellar depression, and excavated to a depth of 162cm. No structural evidence of stairs were found, but a sloping layer of tar paper suggests that the rear entry way may have been comprised of a ramp coved in tar paper. Of the 23 bottles recovered from the F21A, 43% were alcohol related. The nine beer bottles made up the majority of the alcohol bottles, with liquor consisting of only one bottle. Many of the alcohol bottles removed from this feature were intact, which may indicate that the store sold beer or that they were stockpiled here for return. Medicinal bottles accounted for eight of the bottles recovered, of which five were embossed. The embossed bottles consisted of two Hinkley's Bone Liniment, two Dr. SBH & Co., and one Moxie Nerve Tonic.

21B and 21C represent a looted privy located within the rear yard area of the F21 camp store. F21B designates the pit itself while 21C is the back dirt pile that was removed from the pit by the looters. Due to the nature of these features they are considered as together as a single privy assemblage. Between these two features 17

bottles were identified, with 24% being alcohol related. The alcohol bottles consisted of one wine, one beer, and two liquor. Additionally, there were three medicinal bottles recovered.

The F21 area alcohol related bottles consisted primarily of beer bottles which is represented by 12 from across the feature area as a whole. The majority of alcohol related bottles came from the stores rear cellar entrance. F21A also yielded the highest number of medicinal bottles. Considering the nature of F21A as a ramped entry into the camp stores cellar, it seems possible that the bottles recovered could be indicative of damaged shipments to the store. While slim, this may be evidence that alcohol was sold in the Coalwood store. The other features excavated both exhibited low counts of both alcohol and medicinal bottles while maintaining comparable total bottle counts.

3.3.1.3 F24/25 Area

F24 and F25 represent worker family households located in the northern quadrant of the Coalwood site. This feature area consists of two house cellar depressions and associated privies and outbuildings. Due to the close proximity of these two households, the associated outbuildings and privies could not clearly be linked to just one of the households. Due to this both F24 and F25 are considered the same feature area although two separate worker's houses are represented. Although due to drastic discrepancies between the bottles recovered from these feature areas, I do speculate on where to draw the boundary between the two households. Excavations in this feature area focused on the F24 and F25 structural depressions, and the F30A and F25B privy.

Figure 3.4 Scaled map of the feature 24/25 households of the Coalwood Site.

Table 3.3 Distribution of alcohol and medicinal bottles at the F24/25 area at the Coalwood Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F24	1	6	10	3	40%	42
F25	1			2	11%	9
F25B		5	2	2	50%	14
F30A				15	0%	26
F24/25 Totals	2	11	12	22	27%	91

The F24 structural depression is clearly defined by earthen berms forming a rectangular shape. Unit N301 E184 was a 1x1 meter unit placed in the center of this depression, with N301 E183 being placed to the west of the original unit creating a 1x2 meter unit. The additional unit was placed to explore the deep trash fill found inside this cellar. Of the 42 bottles recovered from F24, 40% were alcohol related. The alcohol related bottles consisted of ten liquor, six beer, and one wine bottle. There were also three medicinal bottles recovered.

The F25 structural depression is represented by a single unit place in the center of the feature. Unit N316 E182 was a shallow 1x1 meter unit, which yielded relatively little in terms of alcohol related bottles. Out of nine bottles recovered from this unit, only one alcohol related bottle was recovered, accounting for 11% of the bottles recovered from this unit. Additionally, two medicinal bottles were also recovered.

F25B is represented by a large pit feature located directly behind and to the southwest of the F25 structural depression. A 1.5x1.5 meter unit was laid out over the depression and excavated to a depth of 106cm. 14 bottles were recovered from F25B, with 50% of them being alcohol related. Beer was the most prevalent with five bottles recovered, and the rest of the alcohol related assemblage was represented by two liquor bottles. Two medicinal bottles were also recovered, one of which was embossed and identified as Sodergren Bros.

F30A is characterized by a large depression located directly west of the F25 structural depression. A 1.5x2 meter unit was placed over the feature area, and the

presence of rich organic soils indicate that this was a privy feature. Excavations yielded 26 bottles from this unit, with 15 medicine bottles. One of the medicine bottles was embossed and identified as Mrs. Winslow's Soothing Syrup. Additionally, no alcohol related bottles were recovered from this unit.

The F24/25 area as a whole had comparative numbers of both alcohol related bottles and medicinal bottles, with 26 and 22 respectively. F30A stands out from the other features within this feature area, due to the absence of alcohol related bottles and high number of medicinal bottles recovered from this feature. The 15 medicinal bottles from F30A accounts for the vast majority of the medicinal bottles recovered within the F24/25 area. Additionally, F25 also contained a relatively low amount of alcohol bottles, with a single wine bottle representing alcohol related bottles. F24 and F25B follow different trends, with F24 consisting of 40% alcohol bottles and F25B consisting of 50% alcohol bottles. The high frequency of alcohol related bottles at F24 and F25B compared to the single wine bottle recovered from F25 and F30A show a striking contrast in their alcohol assemblages. Additionally, F25 and F30A yielded a high frequency of medicinal bottles as compared to F24 and F25B. Due to this, it seems possible that we could use this evidence to separate the two family households, although their close proximity makes it nearly impossible to draw a definitive line between the two.

3.3.1.4 F8 Area

The F8 area represents a household located toward the north end of Coalwood's northeast quadrant. Excavations in this feature area included a shovel test pit grid and units in the F8 structural depression, F8A privy, and the F8M midden area.

Figure 3.5 Scaled map of feature 8 boarding house at the Coalwood Site.

Table 3.4 Distribution of alcohol and medicinal bottles at the F8 area at the Coalwood Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F8		2		1	29%	7
F8A		4		2	44%	9
F8M	3	4	4	28	22%	49
F8 Totals	3	10	4	31	26%	65

F8 was a 1x1 meter unit excavated in the structural depression representing the house's cellar. Unit N257 E217 was excavated to a depth of 124cm and had a relatively low artifact density. Only 8 bottles in total were recovered from the F8 unit. Of these bottles only 29% were alcohol related, which are represented by two beer bottles. The unit also only yielded one embossed medicinal bottle, identified as Mrs. Winslow's Soothing Syrup.

F8A was determined to be a disturbed privy feature located in the rear east yard behind the F8 cellar. Unit N351 E236.5 was laid out over the feature as a 2.5 (E-W) x 1.5 (N-S) meter unit, and excavated to a depth of 165cm. The unit was excavated in 4 levels but all of the artifacts from levels three and four are missing, as well as the glass recovered from level two. The nine bottles recovered from this unit all came from level one, and of the bottles collected alcohol related bottles make up 44% of the total percentage of bottles. This is a conservative number given the missing artifacts. Beer was the only type of alcohol bottle found, accounting for four of the nine bottles. Medicinal bottles also accounted for two of the bottles, with one being identified as a complete Sodergren Bros. bottle.

The F8M midden feature was located just north of the F8A privy in the rear yard of the F8 household. Three units (N354 E239, N356 E239, N357 E239), covering four square meters, were excavated in this area. In total 49 bottles were recovered, of which 22% were alcohol related. The alcohol bottles consisted of four beer, four liquor, and three wine. Additionally, there were 28 medicinal bottles recovered, with one embossed 5 Drops bottle.

The F8 area yielded a total of 21 alcohol bottles and 31 medicinal bottles. The F8M midden area represents the majority of the bottles recovered with 49, while F8 and F8A combined account for only 16 bottles. The F8M midden area also contained the most alcohol bottles with 11 but had the lowest percentage of alcohol as compared to the other two features. F8M also contained the vast majority of medicinal bottles that were recovered from the feature area, with 28 as compared to a combined three from F8 and F8A. The F8A privy had the highest percentage of alcohol bottles, although only the first level of excavations is represented in the data. Over the entire site beer was the most common alcohol bottle found, represented at each of the features. The three wine and four liquor bottles were only found at the F8M midden, which also had the most diversity of alcohol bottles.

3.3.1.5 F43 Area

The F43 area represents one of the large boarding house structures located in the southeast quadrant of the site. The associated privies seem to indicate both a family context and a single male worker context. Yard units were also excavated at various locations within the F43 area.

Figure 3.6 Scaled map of the feature 43 boarding house at the Coalwood Site.

Table 3.5 Distribution of alcohol and medicinal bottles at the F43 area at the Coalwood Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F50	3	9	5	14	33%	51
F50A	1	2	4	7	35%	20
F43	1	3	2	2	40%	15
Yard Area	1	4		12	25%	20
F43 Totals	6	18	11	35	33%	106

The F43 boarding house depression was excavated to determine if any structural elements of the boarding house were intact. Three units (N114 E243, N114 E242, N114 E241) were excavated to form a 1x3 m trench revealing a continuous wall profile. Excavations began on the earthen berm that defines the structure and progressed into the structural depression itself. Structural elements identified include a wooden floor, a layer of tar paper, and a sandstone ridge, that give insights into the construction of the boarding houses at the Coalwood Site. There were a total of 15 bottles recovered, and of these, 40% were alcohol related. Beer was the most common with 4 bottles, followed by liquor with two and one wine bottle. Two medicinal bottles were also recovered, one of which was embossed and identified as a Sodegren Bros. bottle.

The F50 privy was excavated in a looted area to the east of the F43 structural depression. This feature is represented by a large depression located at the east end of the looted zone and is associated with the F43 boarding house. Unit N109 E269 was laid out over the feature depression as a 1.5x1.5 meter unit. Analysis of the artifact assemblage suggests that this was a family privy, evident by the high number of decorative artifacts recovered. In total there were 51 bottles recovered from the F50 privy, with alcohol related bottles accounting for 33% of the total. The identified alcohol bottles include nine beer, five liquor, and three wine. There were also 14 medicinal bottles recovered, two of which were embossed and identified as Hinkley's Bone Liniment and Sodergeren Bros. bottles.

F50A represents another privy located in the looted area to the east of the F43 boarding house. Unit N120.5 E269.5 was laid out over a mound directly west of a looter

pit, and appears to be the back dirt removed from the privy fill. A 1.5x1.5 meter unit was laid over the feature and excavated to a depth of 41cm. In total 20 bottles were recovered from the feature, 35% of which were identified as alcohol. The alcohol bottles consist of four liquor, two beer, and one wine. There were also seven medicine bottles recovered, 3 of which were embossed and identified as two August Edwards bottles and one Samuel B. Hartman bottle.

In the F43 area seven yard units were excavated within the proximity of the F43 structural depression. N117 E237 was a 1x1 meter unit, located north of the F43 boarding house depression and was chosen because of its association with several stones that could be associated with the foundation of the F43 boarding house. The N118 E256 was a 1x1 m unit opened in the yard area associated with the F43 boarding house. The unit was then extended another meter to the east to include the N118 E257 unit, making the total size 1x2 m. Further to the east in the looter zone the N118 E264 unit was a 1x1 m unit. The N118 E264 unit was then expanded to the east to encompass the N118 E265 unit area, because of a deep deposit of artifacts and rich dark soils in the eastern wall. N118 E271 was a 1x1 meter unit located the furthest east of the yard units, beyond the area termed the looter zone. In total the yard units recovered 20 bottles, and of those 25% were identified as alcohol bottles. Beer bottles made up the majority of these alcohol bottles with four, with the rest of the alcohol bottles being represented by a single wine bottle. 12 medicinal bottles were also recovered, with four of them being embossed and all identified as August Edwards bottles.

The F43 area alcohol bottles are quite diverse with 18 beer, 11 liquor, and six wine bottles. The F43 structural depression yielded the highest percentage of alcohol bottles. Both the F50 and F50A privies yielded similar percentages of alcohol bottles, but the F50 privy had a greater diversity. Medicinal bottles were present throughout the site in high numbers with the exception of the F43 depression. Also, the identifiable medicinal bottles are made up primarily of six August Edwards bottles.

3.3.2 Roscoe

The Roscoe lumber camp was established in 1904 as an auxiliary camp to the Coalwood camp and was also used to disperse works following the 1904 strike. Remaining in operation from 1904 – 1910, the Roscoe camp was comprised of primarily Slovenians, compared to Coalwoods primarily Finnish camp (CCI Annual Reports 1982-1905) (CCI Annual Reports 1908-1923). Today the site is characterized by a number large structural depressions and plow furrows, covered by rows of planted pine trees. Archaeological excavations at this site focused on the F28 boarding houses structural depression and associated privies F14 and F13; the F17 privy that was associated with the F6 boarding house; and the F26 root cellar located just behind the F25 boarding houses structural depression.

Figure 3.7 Scaled map of the Roscoe Site.

3.3.2.1 F28 Area

F28 is the structural foundation of a boarding house located in the middle of a row of boarding houses adjacent to the road, and was the most extensively excavated area at the Roscoe site, with units placed within the boarding house structural depression itself and on a pair of associated privies (F13/14) located behind the boarding house.

Table 3.6 Distribution of alcohol and medicinal bottles at the F28 area at the Roscoe Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F13	1	5	2	1	53%	15
F14	3	4	3	6	43%	23
F28		7			70%	10
F28 Totals	4	16	5	7	52%	48

F28 is characterized by a rectangular large depression, measuring 15ft north-south and 18ft east-west. There are traces of berms evident on the western end of the feature. Two units were placed on the slope of the F28 boarding house cellar depression to determine if any structural elements were present. The first unit was located on top of a mounded furrow next to an aggressive slope leading into the feature depression, and the second continued into the F28 depression. Only ten bottles were recovered from these units, but 70% were alcohol represented by seven beer bottles. No medicinal bottles were found.

The 13 and 14 privies were located in the rear yard area, just north, of the F28 boarding house. The close proximity of these two privies and the high number of vessels that cross mend between the two, indicate either that they were both in use simultaneously or that they had both been disturbed by looters. A total of 38 bottles were recovered from both the privies. Alcohol bottles made up 47% of the bottles, with

four wine, nine beer, and five liquor. There were also seven medicinal bottles recovered as well. Three of the medicinal bottles were embossed; one was identified as Hinkley's Bone Liniment and two were Davis Vegetable Pain Killer bottles.

Roscoe's F28 area alcohol bottles were primarily beer, with 16 bottles. Liquor was the second most common alcohol which numbered five and wine was represented by four bottles. All of the wine, liquor, and medicine bottles came from the F13/14 privies. The assemblage from the F13/14 privies also indicated the presence of both women and children. This feature area can also be associated with the Slovenians who were brought to the area as labor in 1906. One artifact of note recovered from the F13 privy was a token "Good for 5¢ at the bar" with the name "A. Tecauk" engraved on the back side. The name was then cross-referenced with the list of Slovenians that Frank Debelak (1991) provided with his oral history and traced within the 1910 U.S. census, providing further evidence of the Slovenian association (1910 Census).

3.3.2.2 F26 Area

The F26 depression was located just off the F25 boarding house cellar, indicating an association between the two. The F25 boarding house was located just west of the F28 boarding house structural depression.

Table 3.7 Distribution of alcohol and medicinal bottles at the F26 area at the Roscoe Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F26		7	2	1	64%	14

F26 was characterized by a depression with spongy soil on the interior and animal burrows along its edges. Its size and close proximity to the F25 boarding house indicate that F26 was a root cellar. A total of 14 bottles were recovered from this feature, with 64% of the bottle assemblage consisting of alcohol. The alcohol bottles are represented by seven beer and two liquor bottles. A single medicinal bottle was also recovered from the F26 root cellar.

3.3.2.3 F17 Area

F17 was characterized by a small depression containing dark organic soils, indicative of a privy. The associated structure was the F6 boarding house depression, which was located to the east of the F28 boarding house.

Table 3.8 Distribution of alcohol and medicinal bottles at the F17 area at the Roscoe Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F17		5	1		100%	6

Excavations revealed that the F17 privy appears to have been sparsely used for refuse disposal. In general, the assemblage has a very low artifact diversity, with no ceramics or animal bone to indicate food preparation and consumption associated with this household. Tobacco tins and work related tools made up the majority of this artifact assemblage. Due to this, the assemblage seems to derive from primarily male boarders who may have gotten their meals elsewhere. Only six bottles were recovered from this feature, all of which was alcohol. The alcohol was primarily beer, represented by five bottles, but one liquor bottle was also present.

3.3.3 Zerbal

The Zerbal camp is located in the northwestern most end of the Coalwood District, a few miles west of the Coalwood camp. The Zerbal Site is characterized by an open field just off of a seasonal road in the Hiawatha National Forest. The camp organization most resembles a rail era camp with just a single boarding house and closely associated rail line (Rohe 1986). The CCI annual reports indicate that camp was in operation from 1906 to 1910, with a single 18x48 ft. boarding house as the only structure listed in the camp's inventory (CCI Annual Report 1908). An earthen berm outlines the former location of F1 boarding house, and a pair of privies are located to the east (F2) and southeast (F3) of the structure. A large depression just south of the F1 boarding house is indicative of a root cellar, and just beyond that lies the elevated remains of a railroad spur. Excavations at the Zerbal site included an STP grid over the entirety of the site, four 1x1 yard units around the F1 boarding house, and complete excavations of the F2 and F3 privies.

Figure 3.8 Scaled map of the Zerbal Site.

Table 3.9 Distribution of alcohol and medicinal bottles at the Zerbal Site. Showing the counts of the various bottle types and the percentage of the total bottle assemblage that is made up of alcohol bottles.

	#Wine	#Beer	#Liquor	#Medicine	%Alcohol	Total # Bottles
F2		4	1		100%	5
F3					0%	2
N130 E128		1			50%	2
N130 E149		1			25%	4

The Zerbal Site yielded only 13 bottles, of which 69% were alcohol. Beer was the most prevalent throughout the site with 7 bottles, while liquor represented the rest of the alcohol with two bottles. 50% of the alcohol bottles recovered came from the F2 privy,

while the F3 privy failed to yield any alcohol bottles. The F2 privy assemblage consisted primarily of faunal remains, but the alcohol present was represented by four beer and one liquor bottle. The rest of the alcohol came from the three yard units (N130 E128, N130 E149, and N132 E132) each with one beer bottle apiece and N132 E132 with a liquor bottle as well. No medicinal bottles were recovered.

The artifact assemblage from the Zermal camp indicates that it was a boarding house occupied by single male boarders. No evidence for family occupation was evident. The Zermal camp also appears to be the most structured of the camps excavated within the Coalwood district. The layout of the camp most resembles the rail era camps which were popular at the time, with a single boarding house located adjacent to a railroad spur. It appears that CCI only expected the camp to last for just a few years, and due to this chose to employ single males at this site as opposed to the family men of the Coalwood and Roscoe camps.

3.3.4 Comparison Summaries

3.3.4.1 *Comparison of Feature Areas*

The Coalwood District lumber camps have each provided a great deal of information on how alcohol fits into the day to day lives of the workers who resided there, and how various factors have influenced how alcohol was utilized. To garner a greater understanding of what all this data means, we must look at how the camps compare to one another. This section examines the patterns present within the camps by comparing the alcohol assemblages of the different feature areas.

3.3.4.2 *Percent Composition Analysis*

A percent composition analysis was conducted, comparing the percentages of different forms of alcohol based on the total alcohol assemblage from each feature area (Table 3.10). The first pattern that sticks out from this data is the similarities between feature areas from each of the sites. Although there are differences between the feature areas themselves, these differences do not seem to be related to site. Instead, three different groupings seem to emerge from this data.

Table 3.10 Results of Percent Composition analysis, comparing the distribution of alcohol and medicinal bottles at the Coalwood, Roscoe, and Zerbal Sites. Showing the percentage a given type of alcohol makes up of the total alcohol assemblage and the percentage of the total bottle assemblage that alcohol and medicinal bottles make up.

	%Wine	%Beer	%Liquor	%Alcohol of total	%Medicine	Total # Bottles
Coalwood						
F21	6%	75%	19%	25%	21%	63
F1	8%	54%	38%	32%	19%	81
F24/25	8%	44%	48%	27%	24%	91
F8	18%	59%	24%	26%	48%	65
F43	17%	51%	31%	33%	33%	106
Roscoe						
F28 Area	16%	64%	20%	52%	15%	48
F17	0%	83%	17%	100%	0%	6
F26	0%	78%	22%	64%	7%	14
Zerbal	0%	78%	22%	52%	0%	17

First of all, the Zerbal Site and the F17 and F26 areas of the Roscoe Site all have a high beer and low liquor percentages, and the complete absence of wine. All of these contexts have low total bottle counts with only F26 yielded any medicinal bottles. The second group of feature areas with a similar pattern are F43 and F8 of the Coalwood Site, and F28 of the Roscoe site. All three of these contexts have the high percentages of beer and the highest percentages of wine when compared to the alcohol assemblages of the other feature areas. The liquor percentages at these sites for the total bottle assemblages are also similar to one another. F8 and F43 of the Coalwood site do have significantly higher percentages of medicinal bottles as compared to the F28 area. Regardless, the alcohol bottles make up a much larger percentage of the total bottles recovered from the F28 area as opposed to the F8 and F43 areas.

The F1, F21, and F24/25 areas, all from the Coalwood Site, represent the third group with wine present, but in lower frequency than the previous grouping and similar percentages of medicinal bottles. However, these contexts vary more in terms of the composition of beer and liquor. The F21 alcohol assemblage was primarily beer bottles, while beer and liquor make up almost equal shares of the F1 and F24/25 assemblages.

3.3.4.3 *Hierarchical Clustering Analysis*

The Hierarchical Clustering analysis was used to evaluate the ‘reality’ of these three apparent grouping and to demonstrates the similarities of the feature areas based on clusters created from alcohol assemblages. The results of the clustering analysis separated the feature areas into two large clusters (Figure 3.9).

Figure 3.9: Results of the Hierarchical Clustering analysis.

The first cluster contained F21, F1, Zerbal, F26, and F17 areas, indicating the similarity among these areas in comparison to the others. The analysis also suggests a finer division of two smaller clusters, where F21 and F1 were in their own cluster and Zerbal, F26, and F17 were clustered together (Figure 3.9). This means that all of these

areas are more similar to each other than other site areas, but a finer level of distinction also exists within this cluster.

The second large cluster contained F28, F8, F43, and F24/F25. Like the other large cluster found in this analysis, this cluster was also made up of smaller clusters. The data divided sites F28, F8, and F43 into one cluster, while F24/F25 remained in their own cluster (Figure 3.9). The results of this clustering analysis reinforce the patterns noted in the percentage comparison presented above.

3.3.4.4 K-means Clustering

K-means analysis provides another tool to evaluate the similarities and differences among these feature areas. K-means calculates the data based on a range of clustering solutions. Graphing the sum squared error for each clustering solution provides a way of evaluating the most ‘natural’ clustering solution based on clear breaks in the slope of the graph. Figure 3.10 graph shows the sum squared error for each cluster of the data set. Figure 3.10 shows a clear break at the solution with four clusters, however, considering the percent composition and hierarchical clustering analysis presented above, it may be more beneficial to consider five clusters as a better fit for the data.

Figure 3.10: The sum squared error for each clustering solution.

Figure 3.11: K means clustering analysis results for five clusters.

The resulting groups of feature areas are shown in Figure 3.11. F28, F8, and F43 are tightly clustered, confirming the results of the other two analysis. This K-means analysis also grouped Zerbal, F17, and F26, the same patterned noted above.

Features F1, F21, and F24/25 are all separated into their own clusters, indicating they all have dissimilar alcohol assemblages compared to one another and to the other two clusters. In general, this analysis supports the observations presented by the percent composition and hierarchical clustering analysis, but highlights that F1 and F21 are not as similar as those other analyses suggested.

3.3.4.5 *The Characteristics of Each Cluster*

The analysis shows that there are defined groups of feature areas based on the similarities between their alcohol assemblages. This section will take a deeper look at what the characteristics of each of these clusters in terms of their alcohol assemblages.

Table 3.11: Table showing the characteristics of each clusters alcohol assemblage.

Group 1	F8, F28, F43	Characterized by largest presence of wine although beer most prevalent and liquor in lesser amount
Group 2	Zerbal, F17, F26	Characterized by no wine, mostly beer, and smaller presence of liquor
Group 3	F24-25	Characterized by some wine, but roughly equal amounts of beer and liquor
Group 4	F21	Characterized by some wine, but much more beer than liquor
Group 5	F1	Characterized by some wine, but more beer than liquor

The group 1 cluster is made up of features F8, F28, and F43. This group had the highest percentage of wine making up the alcohol assemblage as compared to the rest of the clusters. Additionally, beer was the most common type of alcohol while liquor was less common. Group 2 was made up of features F17, F26, and the Zerbal Site. No wine was recovered from these locations, and liquor was found in lower percentages. Beer was found in the highest percentages at the locations as compared to the other clusters and alcohol bottles made up the majority of their bottle assemblages. However, their overall counts of alcohol bottles and bottles in general were the lowest among the clusters. Group 3 was made up of the F24/25 area and had the highest percentage of liquor

compared to the other clusters. Beer was the second most common alcohol bottle found here, and wine was also present. Group 4 was made up of F21, which was represented primarily by beer. Liquor made up a significantly less amount of the alcohol assemblage and was also present. Group 5 consists of F1, where beer made up the largest percentage of its alcohol assemblage. Beer was closely followed by liquor, and there was wine present as well. With these data patterns clarified, I turn now to consider them in light of the social variables present at the site.

4 Discussion and Conclusion

4.1 Discussion

The results of the analysis show that alcohol was present within the camps and that there is an association between feature area and alcohol assemblage. However, to understand what these results mean in regards to worker usage of alcohol, we must consider the social variables present within the camps and how they influence alcohol assemblages within the camps. This chapter looks at the social variables that are evident within the camps, and how they influence the worker usage of alcohol. Clearly there are ethnic differences with the Finnish population at Coalwood and the Slovenian population at Roscoe. There are also class variables present, which stand to show how alcohol was used when comparing worker contexts to non-worker contexts. Then there are additionally a number of varying household types present within the camps that represent different groups of people.

Understanding how these social variables are associated with the grouping demonstrated in the analysis will be key to answering the questions posed by this research. Associations drawn by understanding the social variables and their relationship to the grouping of the alcohol assemblages can be revealing as to how workers utilized alcohol within the industrial lumber camp setting when not assuming they were doing so discreetly. Additionally, how the workers use of alcohol when they had the autonomy to do so influenced CCI's management of their lumber camps. Then ultimately, answer the

question that, despite CCI's frequent complaints of 'intemperate men' they never chose to enact a sobriety policy within their lumber camps.

4.1.1 Ethnicity

Given historical and contextual information, it is known the Coalwood Site attracted primarily Finnish immigrants, while the Roscoe camp had mainly a Slovenian population. While these two ethnicities differ in a multitude of ways, for the purposes of this discussion, the focus will be placed on the major difference these ethnicities exhibited in their alcohol consumption patterns. Finnish immigrants were known for their temperance societies and abstinence from alcohol, whereas Slovenian immigrants carried a notorious reputation of excessive alcohol consumption (Alger County Historic Society 1982; Bartol and Knaus 2018; Kolehmainen 1941; Kostiainen 2014). Although the dynamics between these ethnicities have been clearly documented throughout history, the results found from the feature areas/sites in this study shows ethnicity had only a minor impact on alcohol distribution

Table 4.1: Table showing the grouping of the clusters based on ethnicity.

Feature Area	Ethnicity	Group
F8 Coalwood	Finnish	Group 1
F43 Coalwood	Finnish	Group 1
F24-25 Coalwood	Finnish	Group 3
F21 Coalwood	Finnish	Group 4
F1 Coalwood	Finnish	Group 5
F28 Roscoe	Slovenian	Group 1
F26 Roscoe	Slovenian	Group 2
F17 Roscoe	Slovenian	Group 2
Zerbal	Unknown ethnicity	Group 2

The clustering analyses, summarized in Table 4.1, shows only a weak relationship between ethnicity and alcohol assemblages. Coalwood includes feature areas that represent groups 1, 3, 4, and 5, while the Slovenian contexts from Roscoe represent groups 1 and 2. This table does reveal that Group 2 is represented only by Roscoe features areas and Zerbal, a camp with unknown ethnic composition, indicating that ethnicity may play a role. However, since the largest groups overlap these ethnic affiliations, ethnicity alone cannot explain these patterns.

This data also indicates weak evidence for Finnish temperance behavior at Coalwood. Even though the influence and extent of the American Finnish temperance movement during the early twentieth century is clearly evident in the Great Lakes region (Kolehmainen 1941), alcohol bottles were recovered from every feature area. Although the statistical analyses did not show any evidence of temperance, a closer look at the Coalwood feature area F24/25 may show minimal evidence of Finnish temperance influences. Even though alcohol bottles were collected from the F24/25 single family

household, the locations of alcohol bottles recovered from these feature areas are disproportionately lower from the two other features within this feature area. F25B and F24 yielded all but one of the alcohol related bottles collected from this area, while F30A yielded no alcohol bottles and a single wine bottle was all that was recovered from F25 (Table 3.3). These two single family households were lumped together as a single feature given their context as single family households and the close proximity of their associated features. However, it may be possible to speculate F25B and F24 constituted as one household, while F30A and F25 were another (Figure 3.4). If this were the case, an argument could be made suggesting strong evidence of Finnish temperance being located at the F25 area.

To support Finnish temperance influences existing at the Coalwood District camps is dependent on the historical information. Using the name of the storekeeper at the Coalwood Site, it was possible to identify the storekeeper and the residents of the Coalwood Site in the 1910 census (Census 1910; Swanberg 1986). The list of residents was then cross compared with membership lists of local Finnish organizations in the nearby town of Munising. The individual, Hilja Posio, shows up as a resident who lived in the Coalwood Site in the 1910 census and was also listed as a member of a Finnish Socialist group located in Munising in 1917 (Census 1910; Finlandia Archives 1917). Although this is not related to alcohol usage or temperance, it could indicate evidence that Finnish labor radicalism was present at the Coalwood camp and contributed to the 1904 strike.

Overall, the alcohol assemblages between the Coalwood, Roscoe, and Zerbal sites were similar. The minor evidence of ethnicity influencing alcohol consumption was seen at Coalwood, but there were no strong correlations between ethnicity and alcohol. The similarities in the alcohol assemblages of the Finnish population at the Coalwood Site compared to the Slovenian population of the Roscoe Site, show the overall Finnish temperance influences were minimal within the camps. The lack of temperance at the Coalwood Site could be attributed to the high number of families there at the time. The rise of the American Finnish Temperance movement was attributed to the absence of the family unit and other traditional Finnish institutions that reinforced Finnish values (Pentti-Vidutis 1978:30). Although, due to the large Finnish population at the Coalwood Site and the prevalence of Finnish families, more traditional influences may have still been in place and prevented the temperance movement from having a greater effect on the Coalwood community.

4.1.2 Class

Worker contexts were the primary focus of excavations at the Coalwood District lumber camp sites. However, non-worker contexts at the Coalwood Site were also investigated; these consisted of the F1 camp office and the F21 camp store. The locations were selected because they were not associated with the loggers' direct housing arrangements, making these locations considered to be non-worker contexts. These non-worker contexts differ from worker housing and exhibit class differences when compared to worker contexts.

Table 4.2: Table showing the grouping of clusters based on class.

Feature Area	Class	Group
F1 Coalwood	Management	Group 5
F21 Coalwood	Middle Class/merchant	Group 4
F24/25 Coalwood	Worker	Group 3
F43 Coalwood	Worker	Group 1
F8 Coalwood	Worker	Group 1
F28 Roscoe	Worker	Group 1
F26 Roscoe	Worker	Group 2
F17 Roscoe	Worker	Group 2
Zerbal	Mixed	Group 2

In the K-means clustering analysis, F1 and F21 were clustered in groups by themselves, showing no grouping with the worker contexts or even with one another (Figure 3.11). The results of the hierarchal clustering grouped them as being most similar to one another, but this was due to their dissimilarity with the rest of the worker contexts (Figure 3.9). The clustering patterns exhibited in the analyses indicated non-worker contexts differed greatly from worker contexts in terms of alcohol assemblage.

However, the dissimilarities and different functions of these locations required a closer look to understand the impact class had on alcohol usage. At both feature areas, disposal patterns of alcohol bottles existed that differed from the worker housing contexts. Yet when observing the patterns at F21, the majority of the alcohol bottles were recovered from the F21A rear entrance area, which led to the camp stores cellar (Table 3.2). Most of the bottles were intact, indicating that the store may have sold alcohol. Additionally, the bottle stash at the F21A rear entrance may represent bottles returned for their bottle deposit. F1 had the highest concentrations of alcohol bottles recovered,

located closest to the camp office building (Table 3.1). The disposal pattern of alcohol bottles at the camp office appeared to freely throw out of the building as if it was ‘tossed out the back door’, suggesting that alcohol may have been consumed in the camp office.

Additionally, these two feature areas differed greatly in the alcohol assemblages. While F21 was comprised of 75% beer bottles, F1 showed a great deal of variety in its alcohol assemblage (Table 3.10). This could be attributed to the different functions of these two non-worker contexts. F1 served as an administrative building, hosting the camp office, which was used by the camp overseer. Serving in a managerial role would allow the individuals who resided in those locations during the workday to consume more expensive alcohols resulting in the discovery of various type of alcohol artifacts. However, it is just as likely that alcohol played a role in these administrative tasks, perhaps with drinks being shared as pay was dispersed, but it is impossible to separate out work-related or household consumption.

Both F1 and F21 displayed alcohol usage patterns that varied from worker contexts both statistically and contextually, indicating class impacted of alcohol usage at the Coalwood District camps. However, the sample size of non-worker contexts locations within the study is small in comparison to the worker context, making it seem more likely that these differences were dependent on the function and context of their associated feature.

4.1.3 Household Type

The Coalwood District is unique in that workers were able to construct their own households within the lumber camps. This resulted in a variety of household types, which functioned in different ways dependent on the individuals residing there. The results of the clustering analysis used in conjunction with the contextual information about each feature area, show that alcohol usage was reflective of household type. However, seeing as the clustering is dependent on household type, it is important to understand the function of a given household and how it was impacted by the groups of individuals residing there.

Table 4.3: Table showing the grouping of clusters based on household type.

Feature Area	Household Type	Group
F8 Coalwood	Family Boarding House	Group 1
F43 Coalwood	Family Boarding House	Group 1
F28 Roscoe	Boarding House	Group 1
F26 Roscoe	Boarding House	Group 2
F17 Roscoe	Male Boarding House	Group 2
Zerbal	Male Boarding House	Group 2
F24/25 Coalwood	Single Family Worker	Group 3
F21 Coalwood	Single Family/Store	Group 4
F1 Coalwood	Single Family/Office	Group 5

When applying the results to a historical context, feature areas F17, F26 and Zerbal were composed of typical male worker camps. Artifacts recovered from these feature areas were primarily food and work related. While most of the bottle assemblages

collected from these areas were alcohol related, the total bottle counts were considerably lower and lacked the variety that was found at the family boarding houses (Table 3.10). This can be attributed to the characterization of typical male camps as housing loggers who preferred to drink at local town bars (Lillard, 1947; Karamanski 1989; Wells 1978).

Comparatively, at locations F28, F43 and F8, areas containing family boarding houses display more variety for all alcohol types and higher total bottle counts. These feature areas are considered to family boarding houses because there was evidence indicating the presence of women and children within the household alongside male boarders. This includes jewelry fragments at F28, a sewing machine at F43, and school supplies at F8 (Smith 2016). Another feature area, F24/25, demonstrated the presence of women and children, was not grouped with the other family boarding house locations in the K-means analysis (Figure 3.11). However, the hierarchical clustering analysis shows F24/25 being similar to the group of family boarding houses locations (Figure 3.9). Even though the clustering analyses are in disagreement with each other on how similar the family household locations and F24/F25 are, contextual information and the variety shown in the alcohol assemblage indicate these areas were indeed similar. The results from the k-means may not take into consideration that single-family households may be more representative of how alcohol was utilized when it was just the family unit present as the hierarchical analyses do. In addition, the presence and number of male boarders at the family boarding houses could also contribute to the differences existing between the single-family households and the family boarding houses.

The relationship of household type with alcohol consumption was largely dependent on how CCI managed a particular camp. In locations where there was evidence of women and children was due to CCI's preference of having men bring their families and gave them autonomy to construct their own households. This allowed for the worker to have ownership of their home, creating a barrier between work and home life within the lumber camp setting. Numerous activities would have taken place at the home, including spending their leisure time, celebrations, and the consumption of alcohol. Comparatively, in the typical male camps, the household could be viewed as merely housing for workers. There was no separation between work and home life in these typical male camps, resulting in the workers spending their leisure time elsewhere. These dynamics of how leisure time was spent drove alcohol consumption at the CCI camps, attributing to the discrepancies found between the family contexts and the typical male camp contexts.

With the inhabitants of CCI's Coalwood District camps being able to freely consume alcohol as they pleased, these results are reflective of how different groups chose to utilize alcohol within the lumber camp setting when uninhibited by sobriety policies. What is shown is different alcohol consumption patterns associated with the lifestyle of those living within the various household types. While the single male workers of the typical male camps preferred to do their drinking elsewhere, the family men stayed at their home place with their families and subsequently their alcohol consumption was centered within the home.

4.1.4 Meds vs. Booze

In the variables discussed above, the relationship between those alcohol assemblages was based on beer, wine, and liquor bottles. However, many patent medicines of the early twentieth century were known to have contained high amounts of alcohol. The idea of highly alcoholic patent medicines being used interchangeably with alcohol was introduced by John Franzen. His work postulated the high alcohol content of the patent medicines provided alleviation of pains from its ability to create intoxicating effects in a discreet manner (Franzen 1995). Additionally, he included alcohol consumption was substituted for patent medicines when medicines were not available (Franzen 1995). This idea was considered when examining the results of the percent composition analysis.

All medicinal bottles were grouped together, regardless of whether they were patent medicines or not. Due to the medicinal bottles being cataloged this way, they were removed from the clustering analysis to reduce the overestimation of the impacts patent medicines had in the results. Additionally, the amount of alcohol contained within patent medicines varied greatly from brand to brand, and many of the medicinal bottles were identified by form alone. The inconsistency between brands and the catalog method for medicinal bottle artifacts would lead to high variance in the clustering analyses. However, the medicinal bottles were included in the percent composition analysis, showing medicinal bottles contributed to a much higher percentage of the bottles recovered from the feature areas of the Coalwood Site, regardless of context. For

instance, at the Coalwood Site, medicinal bottle counts had comparable overall percentages to total alcohol bottle counts (Table 3.10).

At the F8 family boarding house, there was a significantly higher percentage of medicinal bottles compared to alcohol bottles, with medicinal bottles making up 48% of the F8 bottle assemblage, making it possible that workers were replacing alcohol with patent medicines (Table 3.10). A similar pattern was also observed at the F30A privy of the F24/25 single family households, which yielded 15 medicinal bottles and no alcohol bottles. However, the F30A privy only contributed 26 of the F24/25 areas total 91 bottles, and the F24/25 feature area, as a whole, showed comparable percentages of both medicinal and alcohol bottles, with 24% and 27% respectively (Table 3.3; Table 3.10). In addition, both of these contexts had Mrs. Winslow's Soothing Syrup bottles, a medicine specifically targeted toward children. This suggests that in these family contexts, these bottles were more likely related to health than as an alcohol substitute. The marginal evidence found from these areas only constitutes a small portion of the total sample size, leading me to believe there is no strong evidence of alcohol and patent medicines being used interchangeably at the Coalwood District camps.

The lack of relationship between alcohol and patent medicines at the Coalwood District camps could be attributed to the relative cost of alcohol in comparison to patent medicines when paired with the income of the laborer working at the Coalwood District lumber camps. At the time, an average 8oz bottle of a patent medicine average cost was around one dollar, whereas a gallon of whiskey could be purchased for as little as 30

cents (Bond 1989:138; Williams 1980). In addition to the cost, with CCI allowing their workers to consume alcohol freely within the camps, there was no reason for workers to conceal their alcohol consumption by using highly alcoholic patent medicines. However, given the physical strain that lumber work had on the body, there is the possibility alcohol could have been used as a substitute for patent medicines. Given the comparative costs as alleviating physical pain, alcohol could have been used as a form of self-medication.

Although this study did not show a definite relationship between medicinal and alcohol bottles, it does show a relationship between medicinal bottles and ethnicity, and to a lesser extent medicinal bottles and household type. The percent composition analysis does show the Coalwood Site yielded significantly higher percentages of medicinal bottles as compared to the Roscoe and Zerbal Sites. This can be attributed to Coalwood Sites Finnish population and cultural emphasis on health and hygiene (Kaups 1976; Lockwood 1977). The only feature area outside of the Coalwood Site that yielded a significant percentage of medicinal bottles was F28 of Roscoe. Although this trend appears to be primarily the result of ethnic influences, F28 was grouped as a family boarding house based on its artifact and alcohol assemblage. This showed a correlation existed between the presence of families and medicinal bottles. The lowest percentages of medicinal bottles came from typical male camp contexts. However, it appears that ethnicity is the primary influencer of medicinal usage followed by household type, as shown by the much lower percentage of medicinal bottles at the F28 family boarding

house at the Roscoe Site compared to the F43 and F8 family boarding houses at the Coalwood Site.

4.1.5 CCI, Labor, and Alcohol

Given the ideals/conceptualization of industry at the time, CCI's relationship with alcohol appears contradictory. They recorded numerous complaints of intemperance amongst their workers and actively worked to shut down saloons in the vicinity of their camps. To find evidence of this one has to look no further than the account of the bondsman and the saloon, where CCI was having trouble with a saloon located near one of their camps. CCI was ultimately able to have the saloon shut down through attacking its bondsman, and issuing a suit against the saloon for "Sunday selling and running a house of ill fame" (CCI Annual Report 1904:17). This story highlights the contradictory relationship CCI had with alcohol usage amongst their workers. Although CCI states that "we have found this a very effective weapon in our fight against saloons," it seems clear that if they were that concerned about alcohol, they would have followed the lead of other lumber companies and banned alcohol in their camps as well. However, CCI's hands off management style meant that they tolerated alcohol usage in their camps and allotted the workers at Coalwood and Roscoe autonomy over their lives.

Thus far, this study has focused almost entirely on the alcohol and medical bottles in the Coalwood District camps. However, it must be emphasized that alcohol bottles were found in relatively small numbers at all three sites. Clearly, the workers in the

Coalwood District camps did not use alcohol in excess even when they were given the freedom to do so. CCI's emphasis on hiring family men may explain this. CCI believed that these family men would be more reliable, temperate workers, and the archaeological data supports this idea. It is revealing that the highest incidence of alcohol bottles occurred in single male boarding house contexts, indicating some grain of truth in common sense ideas of intemperate men. CCI's emphasis on hiring family men clearly benefited the company in these ways. However, it is important to emphasize that the workers also benefited from CCI's management strategy. Although they endured lower pay, they were able to construct their own households, live with their families, and control their production, all evidence that they had a level of autonomy over their day to day lives that is unusual for industrial capitalist production.

The results of this study also challenge some of the dominant narratives pertaining to worker alcohol usage. It is often emphasized that capital controlled alcohol consumption since workers would drink in excess if given the opportunity (Karamanski 1989; Rosenzweig 1983; Wells 1978). However, the results from the research on the Coalwood District camps show that these ideas are unfounded. Likewise, it is often emphasized that social control and sobriety were synonymous with industrial capitalism and that alcohol found within worker contexts is the result of workers resistance to capital. The Coalwood camps show that the simple dualism of capital vs. labor within these settings does not necessarily exist and that alcohol usage within industrial settings is not necessarily indicative of labors' resistance to capital.

This realization raises the question of the role that alcohol played in the lives of the workers. It is true that alcohol was found in low density at these three sites in the Coalwood District, but alcohol bottles were found within every context as well. Given the arrangement between CCI and their workers, it's safe to assume that alcohol was not used discreetly by workers as a way to resist social control. Since alcohol was found in low density but in every context, it seems plausible that its use is more likely associated with sociability and community than worker control. Frank Debelak (1991) recalls that communal events were very common at Roscoe and that people would travel to different camps for entertainment and socializing when they were not working. Debelak recalls these events consisted of dancing, music, and storytelling. Additionally, Matthew Durocher's (2018) study of musical instruments at the Coalwood Site show that reed plates were found in all of the feature areas with the exception of the F21 camp store. Durocher concludes that "the fact that instruments were found in many contexts and all the houses indicates that music was not restricted to special occasions or limited locations." (Durocher 2018:63). This suggests that music was a common part of the everyday lives for the people of Coalwood, linked to social and community activities. It is reasonable to assume that alcohol was also a part of these communal events, explaining why alcohol was found within every context at the Coalwood District camps.

4.2 Conclusion

Much of the archaeological research on alcohol in worker contexts focuses narrowly on control of worker behavior. With the transition from a more dispersed cottage industry into industrial capitalism, conditioning labor to work on company time was needed to optimize capitalist production. Instilling discipline was often achieved through social control, which for the workers meant an end to any behaviors that may cut into a company's profits. Historians and archaeologists alike have emphasized that social control and sobriety was uniformly enforced within industrial settings of the nineteenth and early twentieth centuries. However, despite sobriety policies, archaeological evidence for alcohol has often been found in worker contexts. The presence of alcohol in these settings is typically explained as labors resistance to capital, or within dominance vs. resistance models. Part of the danger is that this creates simple expectations that sobriety is always regulated and enforced, and that alcohol bottles found in worker contexts always relates to their resistance of these impositions.

Examination of lumber camps in the Coalwood District adds complexity to these understandings. Despite conceptualizations of industrial settings of the time, CCI did not enforce a sobriety policy for their timber workers, and gave them a great deal of autonomy in their lumber camps. CCI often complained of 'intemperate men' and did go to some lengths to limit the availability of alcohol in the vicinity of their camps. However, despite workers being able to freely consume alcohol as they pleased in the Coalwood lumber camps, it is evident that they did so in moderation. The low numbers of

alcohol bottles across the sites indicate this. This opens the door to think about how workers utilized alcohol in their day to day lives instead of assuming that it relates only to workers resistance to capital. My study shows that ethnicity and class only partially contributed to the alcohol patterning at the Coalwood camps, but that there is an association between alcohol assemblage and household type. The grouping of alcohol bottle assemblages was most reflective of the group of individuals that inhabited a particular household. The relationship between alcohol assemblage and household type demonstrates that alcohol played an important role in community life, sociability, and leisure time activities.

Finally, it is useful to reflect on why CCI never chose to enact a sobriety policy within the camps, despite their alleged issues with ‘intemperate men’ and the common practice of banning alcohol in industrial settings. For CCI, allowing alcohol in the camps may have been necessary due to labor shortages and their concern with attracting/keeping a reliable workforce. Not banning alcohol outright may have made these camps more attractive to potential workers. Since CCI paid workers by the cord, alcohol usage by workers did not affect their production. If they did not work, they did not get paid. By allotting workers autonomy over their lives, they may have more effectively retained workers. However, the workers also benefitted by CCI’s management style and lack of social control within the camps. Workers were able to live with their families, and had control over their production and their day to day lives in general. The ‘intemperate men’ of Coalwood knew that these liberties were dependent on their production while working,

so responsible usage of alcohol was key to maintaining the autonomy that attracted them and their families to Coalwood.

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