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*The Washburn-Crosby Company: Cadwallader Washburn's Vision for Minneapolis Flour
Milling*

Alex Schmidt

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Situated along the west bank of the Mississippi River in downtown Minneapolis, a handful of old buildings are all that remain of the industry that brought the city worldwide fame and recognition. In the nineteenth century, the vast wheat growing regions of Minnesota and the Dakotas as well as the water power provided by the massive drop in the river known as St. Anthony Falls attracted settlers and entrepreneurs to what is now Minneapolis. One of the most important of these entrepreneurs was Cadwallader Colden Washburn, a businessman and politician from Wisconsin. He was interested in the water power opportunities of the falls and owned the massive flour mills of the Washburn Crosby Company. This paper will demonstrate that over the course of his nearly three decades in Minneapolis, the flour mills operated by the Washburn Crosby company helped bring the city to the size and prestige it has today.

In this paper, I will first thoroughly discuss the current scholarly debate on Washburn and the flour mills of Minneapolis. Here, I distinguish the arguments of the authors of related works in this field of study from the current topic. I begin with the debate on the growth of Minneapolis as a city, then narrow the focus to the debate on Minneapolis flour milling, then finally to the discussion of Washburn. Next, I describe the relevant background to my argument. In this section, I detail the political, social, and economic conditions of the nineteenth century as well as the specific facts of Washburn's life and the history of Minneapolis flour milling. Finally, I establish the paper's central thesis using relevant primary sources such as the *Northwestern Miller* and Washburn's personal correspondence. I begin with a discussion of Washburn's influence on flour milling technology. Next, I explain his impact on the expansion of flour markets in Europe. Lastly, I demonstrate the importance of Washburn to the development of railroads in Minnesota and the transportation of flour. Ultimately, this project will demonstrate

that Washburn's work as the head of the Washburn Crosby Company profoundly influenced the growth and success of Minneapolis in the nineteenth century.

Many historians and scholars have written about Cadwallader Washburn and flour milling in nineteenth century Minnesota. While some have authored works that analyze the geographic and industrial conditions of flour milling in Minneapolis generally at this time, others have inspected this topic more narrowly. These scholars have looked at the history and impact of certain companies, like the Washburn Crosby Company or Pillsbury, on the growth of Minneapolis flour milling. For those that have written about the Washburn Crosby Company specifically, many argue that the various economic or technological developments powered the company's growth in the flour milling revolution. Not surprisingly, most make mention of Washburn's role as the company's founder. Few, however, have inspected the influence of Washburn, as the head of this company, on the rise of flour milling in Minneapolis. Those that have tend to place this influence in the context of Washburn's many business ventures throughout the region. What these works neglect, and what this project will focus on, is the multiplicity of Washburn's personal attributes and characteristics that impacted the growth of flour milling in Minneapolis.

A number of works on the topic of flour milling and nineteenth century Minneapolis examine the fundamental causes of the 'revolution' in the industry. The broad topic of flour milling history has been analyzed by two influential works; *The Development of the Flour Milling Industry in the United States* by Charles Kuhlmann focuses, as the title suggests, on the history of flour milling in the United States, while *Flour for Man's Bread: A History of Milling*

by John Storck and Walter Dorwin Teague looks at the technological history of flour milling. In *The Development of the Flour Milling Industry*, Kuhlmann approaches the American flour milling industry from a national perspective. Though he addresses the various important flour milling centers throughout the history of the country, he dedicates a significant section of the book to the industry in Minneapolis. Further, because the book takes such a wide approach to the flour milling industry, the focus naturally shifts among many factors and influences of the industry's national and localized successes. Thus, Kuhlmann begins the history with the milling centers of colonial America and traces the chronology of the industry as it evolves and migrates with the country's western expansion. Once the timeline reaches the era of Minneapolis' prominence, the book explores that particular industry much farther in depth from its beginnings, then through its zenith and finally to its relative decline.¹

The section on Minneapolis, which is of most importance to this project, presents evidence of the city's flour milling prominence. First, Kuhlmann posits that the nature of the wheat from which Minneapolis flour is derived produces a more desirable flour than that of other varieties in the country. He then argues that the various developments in flour milling technology were a major support for the growth of Minneapolis mills. Following this, he claims that the growth of large-scale production and, coincidentally, the concentration of mill ownership, "operated most powerfully to build up Minneapolis as a milling center."² Next, Kuhlmann discusses the ways in which the mills and mill owners worked to coordinate transportation, sources and markets for wheat, and capital in order to build the companies. Finally, he demonstrates that Minneapolis mills were instrumental in the pioneering of the British flour

¹ Charles B. Kuhlmann, *Development of the flour-milling industry in the United States: With Special Reference to the Industry in Minneapolis*, (The Riverside Press Cambridge, 1929), 1.

² Kuhlmann, *Development of the Flour Milling Industry*, 128.

export market. Ultimately, *Development of the Flour Milling Industry* outlines many arguments for the local industry's success and provides a solid history of Minneapolis' flour milling relative to that of the nation at the time.

In *Flour for Man's Bread*, Storck and Teague describe in incredible detail the entire history of grain milling. Beginning with the prehistoric methods of grinding grain by hand, the book traces the developments in man's ability to produce flour from grain up until the mid twentieth century. Despite this expansive range with which it deals, the book dedicates much of its space to the developments of milling in America and particularly in Minnesota.

In the sections on Minneapolis mills, *Flour for Man's Bread* provides an extensive and technical argument for the primacy of the city's flour milling capabilities. Storck and Teague claim that three main innovations in the milling process -- the 'new-process' of gradual reduction, a machine for separating the various elements of the wheat called the middlings purifier, and the roller mill -- drove the growth of Minneapolis mills. Though they credit that these were not separate and distinct phases in the industry's development, and that these were by no means purely American, the authors attribute the success of Minneapolis flour milling to the mills' ability to implement the new technology the most efficiently. Unlike flour mills elsewhere in the world, the Minneapolis mills had the right amount of proper leadership and a healthy dose of luck in creating a process that most efficiently utilized the innovations of the 1870s. Thus, as the book claims, the technological advancements of this era were implemented in Minneapolis flour mills so productively that they proved that the outdated millstones "were not suitable for use at any stage of large-scale, mechanized, quality manufacture."³

³ John Storck and Walter Dorwin Teague, *Flour for Man's Bread: A History of Milling*, (Geoffrey Cumberlege; London, 1952), 242.

Furthermore, a number of historians have looked at the position of Minneapolis as it relates to flour milling and other industries. Lucile Kane, Don Hofsommer, Robert M. Frame, and Charles B. Kuhlmann each have written about the Minneapolis milling district in the nineteenth century. In her book *The Falls of St. Anthony: The Waterfall that Built Minneapolis*, Lucile Kane argues that the city of Minneapolis was built on the water power provided by St. Anthony Falls. She focuses on the availability and influence of the Mississippi River's hydropower on the development of Minneapolis and its industries. Starting with the earliest European travelers to the region, this book provides a history of Minneapolis and its various companies, particularly in the late nineteenth and early twentieth centuries. Looking at the area around that falls on the whole, Kane does not focus heavily on any one company or any one industry. Indeed, *The Falls of St. Anthony* covers the history of multiple companies located on or near the falls including those in the lumbering, flour milling, and textile industries. Its overall focus though is on the development of the falls and the city's early pioneers' "faith that the water power would create a city."⁴

Kane argues that the growth and success of Minneapolis in the nineteenth century is largely a result of the unique industrial opportunity presented by the significant drop in elevation of the Mississippi River at St. Anthony Falls. She claims that the waterfall was one of the primary factors for the primacy of Minneapolis at the time because it provided the power needed to operate the saws, millstones, and waterwheels of the mills. In the course of illustrating this argument, the book further chronicles how the falls transformed from "a scene of natural beauty to a developed water-power site" as well as its "evolution from a source of direct water power to

⁴ Lucile M. Kane, *The Falls of St. Anthony: The Waterfall that Built a City*, (Minnesota Historical Society Press, 1987), 98

a hydroelectric site.”⁵ Indeed, the final chapters of her book are dedicated to the development of the site’s electric power generation, particularly in the Twentieth century. Overall, this book highlights St. Anthony Falls as an important factor to the rise of Minneapolis in the Nineteenth Century.

Further, Don Hofsommer in his article, *Railroads and the Minneapolis Milling District*, details the development of the railroads in Minneapolis and St. Paul. Claiming that “Minneapolis and its railroads grew up together,” he argues that the industrial growth of Minneapolis was primarily due to the introduction of the railroads to the city.⁶ Focusing mainly on the mills lining St. Anthony Falls’ west bank, Hofsommer describes the various influences of the railroads in Minneapolis. Not only did the many rail lines throughout Minnesota and the Midwest connect the Minneapolis mills with sources of lumber, flour, and other raw materials, they also linked these companies with the markets to which their final product would be distributed. Throughout the article, he compares Minneapolis with its neighbor, St. Paul, in terms of railroad capacity. A natural transportation hub for river travel on the Mississippi and a commercial center, St. Paul had consistently attracted more rail lines than had the more industrial Minneapolis. Though the mills in the latter city were growing before any real railroad connection reached them, they began reaching their primacy once rails had connected them to the rest of the region. Thus, Hofsommer concludes, “railroads were essential to the development of great cities” like Minneapolis.⁷

⁵ Ibid., xvii.

⁶ Don L. Hofsommer, ““Temples of Mammon and Hives of Industry”: Railroads and the Minneapolis Milling District,” *Minnesota History* 61, no. 6 (2009): 256.

⁷ *Railroads and the Minneapolis Milling District*, 257.

Additionally, in Robert M. Frame's dissertation entitled "The Progressive Millers: A Cultural And Intellectual Portrait Of The Flour Milling Industry," the author describes the Minneapolis flour milling industry from a cultural standpoint. In doing so, he focuses primarily on the "the cultural and intellectual attitudes of the self-styled "progressive millers" who dominated the industry" in Minneapolis during the progressive period.⁸ He defines 'progressive' in this context as the mindset of millers who embraced new technology and innovations in the milling process and constantly thought of the future of their practice. In contrast, the 'old-school' millers clung steadfastly to their increasingly outdated technology rather than change from the methods they already knew.

Frame argues in his work that it was this progressive mindset that led the mill owners to adapt to new technology and invest in the building of larger mills. Rather than adhere to the norms of producing solely for a local or regional market, Frame contends that the progressive millers began utilizing new inventions such as the middlings purifier and the roller mill to expand their production output and their overall market. Further, he claims that these millers believed that their business were more than just "mere mills," they were "flour manufactories" that were designed to produce as much flour, and profit, as was economically viable.⁹ The 'progressives' also exhibited their ideologies through other means. Frame cites trade journals and the architecture of the mill buildings themselves as examples of the millers' modern, economical, and corporate mindset. Overall, Frame argues that the progressive attitudes of the Minneapolis mill owners helped promote the construction of the large, high output mills that made the city famous.

⁸ Robert M. Frame, "The Progressive Millers: A Cultural And Intellectual Portrait Of The Flour Milling Industry, 1870-1930, Focusing On Minneapolis, Minnesota" (PhD diss., University of Minnesota, 1980): ix.

⁹ Ibid., xiii.

Finally, *The Influence of the Minneapolis Flour Mills* by Charles B. Kuhlmann is a short essay similar to his previously discussed book, *Development of the Flour Milling Industry*. In this essay, however, Kuhlmann reverses the cause and effect notions of the book and examines the Minneapolis flour mills as the cause of development in Minnesota, the Northwest region, and within the international flour milling industry. He argues that the growth and distinction of the city's flour mills was one of the primary factors in the expansion of the railroads throughout the surrounding region, that the mills led to changes in national wheat and grain marketing, that the mills brought numerous related industries to the city, and finally that the millers promoted the interests of the local farmers.¹⁰ The facts and histories about which Kuhlmann writes are similar to that of his longer book, but the thesis he presents here is that the flour mills were the cause of many developments in Minneapolis and the industry on the whole, perhaps to illustrate the symbiotic relationship between flour milling and other regional industries.

While each of these works has centered around the history of Minneapolis and its milling district, only a few of them have focused on the influence of particular companies on the growth of flour milling in the city. Kane, in discussing the industrial history of St. Anthony Falls, touches on the developments of the Washburn Crosby Company and Pillsbury in relation to the overall industry while Frame, in examining the millers' 'intellectual portrait,' looks at the influence of certain men and companies that exemplified the progressive mindset on the growth of the industry on the whole. However, other historians have taken a more narrow approach to the growth of flour milling in Minneapolis by looking specifically at the impact of the Washburn Crosby Company. A number of themes arise in each of these works: the improvement of milling

¹⁰ Charles B. Kuhlmann, "The influence of the Minneapolis Flour Mills upon the Economic Development of Minnesota and the Northwest," *Minnesota History* Vol. 6, No. 2 (June 1925): 141.

technology in relation to spring wheat, the expansion of flour markets overseas, and the development in advertising strategy.

In the academic discussion on the Washburn Crosby Company, two books have been written on the history of the company. *The Medal of Gold: A Story of Industrial Achievement* by William C. Edgar discusses the growth of the company only through the mid 1920s, while *Business Without Boundary: The Story of General Mills* by James Gray looks at the entire history of General Mills up through the 1950s. In *The Medal of Gold*, Edgar recounts the history of the Washburn Crosby Company until the 1920s, the time when the book was published. Edgar, having worked alongside the Minneapolis milling industry for many years as the head of the trade journal *Northwestern Miller*, writes the story of the company from a position that is friendly to not only the Washburn Crosby Company, but also to large milling interests in general. His overarching argument for the company's success in this book is not based on its "material accomplishments," but on "human character" and the principles of honor, ambition, sacrifice, and integrity.¹¹ Thus, his history emphasizes the exceptionality of the founders and successors of the company as the chief reason for its prominence.

The man to whom Edgar attributes the majority of the company's prominence is its founder, Cadwallader C. Washburn. Having been the primary builder of the company in its earliest days, Washburn's business acumen and moral character set the stage for the Company's future success where so many other companies had failed. Edgar also demonstrates the importance of these exceptional values to the other men associated with the company throughout its history. Building on the solid foundation that Washburn had built, these successors to the

¹¹ William Crowell Edgar, *The Medal of Gold: A Story of Industrial Achievement*, (Bellman Company, 1925), 364.

company's leadership further exemplified the values that had initially brought the company to the fore and thus continued the prominence of the Washburn Crosby Company. Overall, *The Medal of Gold* gives a detailed history of the company that focuses especially on the achievements of the remarkable men who guided it.

In *Business Without Boundary*, Gray discusses the history of General Mills. Starting with its inception as Washburn Crosby Company, Gray covers the major people and events associated with the company through its consolidation to General Mills in 1928 up until 1953. Though he dedicates to the history of the Washburn Crosby Company a significant section of the book, a majority of his time is spent on the developments of General Mills after its founding in 1928. Additionally, much like William C. Edgar in his book *The Medal of Gold*, Gray tells a story which is quite favorable to the company.

For the section dedicated to the Washburn Crosby Company era, Gray makes a couple arguments for the company's success. However, he contributes little that Edgar did not cover in his book. Indeed, much of the descriptions of events and people from these chapters appears to be taken directly from Edgar's book. Despite this, *Business Without Boundary* distinguishes itself from Edgar's book in some of its arguments. Gray argues that the company's success stemmed from its ability to stay ahead of its competitors yet remain conservative in its ambitions. That is to say it was a pioneer in its field but it did not risk overextending itself when further opportunities were presented. Overall, this book provides a succinct narrative of the company's history with emphasis on the early to mid-twentieth century.

Other than these two books on the company's history, a number of works have been written about one of the most defining, and enduring, brands of the Washburn Crosby Company:

Gold Medal Flour. The analysis of the marketing of this brand is covered in two separate articles; “Not “Merely an Advertisement”: Purity, Trust, and Flour, 1880–1930” by Lisa Parcell & Margot Lamme and ““To the Markets of the World”: Advertising in the Mill City, 1880-1930” by Kate Roberts & Barbara Caron. Whereas Edgar and Gray focused on the story of the company’s growth, the authors of these articles look more narrowly at the marketing and advertising of the company’s flagship brand. Both are similar in their general subject but each has a unique argument.

In “Not “Merely an Advertisement,”” Parcell and Lamme describe the methods of advertising of both the Washburn Crosby and Pillsbury companies and argue that these methods differed from many other food advertisements at the time. This work touches on a number of topics related to flour advertising. First, it places the messages in the advertisements in the context of the ‘pure food’ movement. Promoting the notion that food should have as few preservatives and additives as possible, this movement affected flour producers and consumers who wanted pure flour. Second, it discusses the educational value of the message of these companies’ advertisements with relation to their promotional value. Lastly, it touches on the concept of consumer trust in a particular brand rather than in the product as a whole. Though the authors claim to examine two companies, a vast majority of this article focuses on the advertisements of the Gold Medal brand of the Washburn Crosby Company.

The main argument of this work is that the Washburn Crosby Company and the Pillsbury Company “went beyond traditional national print advertising to integrate advertising with public relations and other promotional tactics that could be adapted quickly and precisely to meet

ever-changing cultural trends.”¹² The authors claim that these companies were not just trying to get the customers to buy the flour, they were attempting to cultivate a sense of trust and credibility among the consumers of flour. Examples of the promotional methods employed by the Washburn Crosby Company that the authors reference include the flour test kitchen, Betty Crocker, and cookbooks. Through advertisements targeted at homemakers and domestic servants, Parcell and Lamme claim that these companies aimed to create a relationship with its customers to ensure that they would remain loyal to their brand. Though this work does not relate to the rise of Minneapolis flour milling directly, it discusses the Washburn Crosby Company’s influence on advertising methods of companies not only in Minneapolis, but in the country as a whole.

In the article “To the Markets of the World,” Roberts and Caron discuss the history of Washburn Crosby and Pillsbury flour advertising. Similar in some ways to “Not Merely an Advertisement” by Parcell and Lamme, this article traces the developments of both companies’ advertising campaigns from 1880 to 1930. Highlighting the competitive nature of the two companies, Roberts and Caron describe how these campaigns shifted their focus from retailers and large suppliers to the household consumers by changing the illustrations and messages on their advertisements. Ultimately, this article provides a brief outline of the influence of Washburn Crosby Company and Pillsbury on advertising trends during this time.¹³

With the exception of Edgar’s book, these works treat the achievements of the Washburn Crosby Company almost as though the company accomplished them itself. *The Medal of Gold*,

¹² Lisa Mullikin Parcell and Margot Opdycke Lamme, “Not “Merely an Advertisement”: Purity, Trust, and Flour, 1880–1930,” *American Journalism* 29, no. 4 (2012): 114.

¹³ Kate Roberts and Barbara Caron. ““To the Markets of the World”: Advertising in the Mill City, 1880-1930,” *Minnesota History* 58, no. 5/6 (2003): 308-319.

unlike the other three works, touches on the influence of Washburn as the founder of the company and discusses its early history as the result of Washburn's actions. Though Edgar does discuss the qualities of Washburn that influenced the success of the company's early years, the main argument of the book is on the company itself rather than the founder. Many other historians, however, have written about Cadwallader Washburn's business accomplishments in flour milling. Though these scholars' works do not focus solely on his flour milling career, they still discuss the involvement of Washburn in the mills.

These historians tend to place the portion of Washburn's life in which he was involved in flour milling at the end of a chronological account of his career. None of these authors focus primarily on his mills, but instead include it in the discussion of his many business activities. A few of these scholars have analyzed the personal characteristics of Washburn, including those that influenced the development of the Washburn Crosby Company. Each of the four primary works on his life contributes to the complete biography of Washburn. Gaillard Hunt, in his book *Israel, Elihu and Cadwallader Washburn: A Chapter in American Biography*, focuses heavily on Washburn's political and military career, while Clare Leslie Marquette's *The Business Activities of C.C. Washburn* looks mostly at his business ventures. Kerck Kelsey's article, "C. C. Washburn: The Evolution of a Flour Baron," provides a short synopsis of Washburn's life while Karel Bicha's book *C. C. Washburn and the Upper Mississippi Valley* describes all his activities in depth. Together, these four works compose the bulk of the scholarly discussion on the qualities of the governor and miller.

In Hunt's book, *Israel, Elihu and Cadwallader Washburn*, the author discusses the lives of three of the brothers in the Washburn family. Relying heavily on the personal papers of each,

Hunt discusses the story of each of the three brothers' lives in detail, though he focuses primarily on the political life of each. To Cadwallader Washburn, the author devotes a smaller section than the other two brothers, though still around 100 pages in length. In this section, Hunt inserts numerous letters and speeches from Cadwallader which deal primarily with his early life, his military career, and his political career.

The central argument of the chapters on Cadwallader is that he was a man of good heart and compassion. Indeed, Hunt posits that “it is impossible to follow Washburn’s career far without seeing that there ran through it a strain of benevolence and appreciation for the higher things of life.”¹⁴ For this reason, a majority of the speeches and letters Hunt includes in this section deal with Cadwallader’s moral pursuits in the military, U.S. Congress, and as governor of Wisconsin. As follows, a rather minor account of his business affairs is given, with a handful of pages given to flour milling and none given to his lumbering, sawmills, or banking activities. One of the primary examples Hunt gives of Washburn’s benevolence is his attitudes towards slavery and the south during his time in the military and U.S. Congress. Despite his ardent anti-slavery position in U.S. Congress and his leadership against the Confederacy in the Civil War, his personal correspondence and speeches demonstrate his pity for and understanding of the deteriorated conditions of the south following the war. He understood that the average southern person had been punished enough by the brutality of the war. Hunt includes numerous documents that discuss these political attitudes to illustrate Washburn’s compassion and benevolence. Ultimately, this book provides a portrait of Washburn’s personal character, but offers little on his leadership in business.

¹⁴ Gaillard Hunt, ed., *Israel, Elihu and Cadwallader Washburn: A Chapter in American Biography*, (Ayer Publishing, 1971), 388.

Additionally, in his thesis, *The Business Activities of C.C. Washburn*, Marquette describes the various business and industrial activities engaged in by Cadwallader Washburn. Beginning with his work with land speculation, the author traces the succession of various industries in which Washburn was involved throughout his life including lead shot manufacturing, lumbering, banking, railroads, and flour milling. In the section on flour milling, Marquette attributes Washburn's success to his confidence in the expansion of demand for flour and in the exceptionality of the geographic dimensions of Minneapolis as a flour milling center. This confidence led to the construction of the large mills of the Washburn Crosby Company whose full industrial capabilities were not realized until after Washburn's death. Further, Washburn's work in expanding the transportation capabilities in and out of Minneapolis, particularly that of the railroads, and the expansion of flour sales into foreign markets helped the growth of his company and others in the region. Indeed, Marquette argues that "the firm prospered not because any were practical millers, but because they showed managerial acumen and the ability to choose men for the key positions."¹⁵ Due to these factors, Marquette concludes that "the success achieved by Washburn" with his flour mills "led others to try the same thing, and shortly market became flooded with flour" from Minneapolis.¹⁶ Ultimately, Marquette's argument is that Washburn's relentless efforts to make his mills the biggest and the best in fact led to exactly that outcome.

Furthermore, Kelsey's article, "C. C. Washburn: The Evolution of a Flour Baron," provides a brief biography of Washburn's life. Focusing on his business and political pursuits, this article starts with his first journey west from Maine and then proceeds to detail his

¹⁵C. L. Marquette, "The Business Activities of C.C. Washburn," (PhD diss., University of Wisconsin - Madison, 1940): 269.

¹⁶ Ibid., 315.

partnerships and time in civil service, both as a politician and a general. Kelsey's primary argument in this article for Washburn's success is that he "overcame huge challenges in order to expand his business" and to exceed in his other pursuits.¹⁷ Kelsey gives examples of instances in which Washburn bounced back after losing reelection campaigns and when some of his earlier business ventures floundered. With respect to his flour milling career, Kelsey treats it as a kind of end cap on Washburn's prosperous life. The largest challenge Washburn faced in this area, according to the article, is the explosion of the Washburn A mill in 1878. Ultimately, "The Evolution of a Flour Baron" provides a succinct account of Washburn's personal and business life.

Finally, In his book *C. C. Washburn and the Upper Mississippi Valley*, Karel Bicha describes the personal, political, and business life of Washburn. Beginning with his journey west from Maine, Bicha first details his business activities in land speculation and lead shot production, followed by his service in the Civil War and politics, and finally his interests in flour milling. Throughout the book, the author consistently characterizes Washburn as a "Yankee," a broad term illustrating the the typical attitudes and ideologies of New Englanders. Inherent in this characterization are Washburn's capitalist practices, which Bicha describes as "usually absent, never silent and always involved."¹⁸ Indeed, one of the author's overarching arguments in the book is how Washburn exemplified these behaviors in nearly all of his business activities.

In the section on the flour mills, Bicha argues that while some of Washburn's success stemmed from his astute business management, much of it resulted from "clearly fortuitous or serendipitous factors." He claims that the innovations and developments in the flour milling

¹⁷ Kerck Kelsey, "C.C. Washburn: The Evolution of a Flour Baron," *The Wisconsin Magazine of History*, Vol. 88, No. 4 (Summer 2005): 50.

¹⁸ Karel D. Bicha, *C.C. Washburn and the Upper Mississippi Valley*, (Garland Pub., 1995), 46.

industry which had been pioneered by the Washburn Crosby Company were mostly effected by people in the company who had been engaged by men other than Washburn. Furthermore, Bicha argues that Washburn was not necessarily “the audacious, risk loving capitalist” when it came to his flour mills. Rather, at times, he exhibited “timidity and reticence” when “acquiring and installing new technology” for the mills.¹⁹ Ultimately, the book’s argument on Washburn’s flour milling activities is that despite his managerial acumen, his conservative approach and distanced ownership limited his contributions to flour milling revolution in Minneapolis.

Overall, the historians who have written about flour milling in Minneapolis, the Washburn Crosby Company, and Cadwallader Washburn have provided a thorough examination of the factors that led to the rise of the company and of the city’s flour industry. The aspect that is missing from most of these works, save Edgar and Bicha, is the influence of Washburn’s attitudes, characteristics, and personality on the company and industry. Edgar’s book, which was written in the early twentieth century, does describe the aspects of Washburn as a person that drove him and the company to success. Bicha, who also analyzes Washburn’s character, ultimately concludes that his success in flour milling was “serendipitous” and not the result of any exceptional qualities. What each of these sources misses, however, is the visionary characteristics of Washburn. While he is indeed fortunate that he was surrounded by the right people at the right time, it was ultimately his vision of success for his company that led not only his mills, but also those of Minneapolis, to national and international prominence.

¹⁹ Ibid., 177.

The story of flour milling in Minneapolis, remarkable as it may be, is but a short segment in the history of humanity's relationship with grain. Long recognized as a source of nutrition, the seeds of wild grasses were consumed by early humans, often ground down with teeth. Gradually, as agriculture and the domestication of these wild grasses became more widespread, the processes that people used to gain access to the nutrients in grains also became more diverse. The tooth grinding method gave way to "stone tools" that were "better adapted to the purpose" of breaking apart the grain.²⁰ Eventually, as milling technology progressed, millers harnessed the power of flowing water in order to turn the stones that ground the grain. With the millstone, as this technology was common known, millers were able to break apart the grain easily and then separate the resulting byproducts by hand to create flour. Though slight modifications and improvements were made, this process remained essentially the same for many centuries.

The United States, when it came to be, was not exempt from the benefits of this milling technology. Its earliest colonies were home to many small grist mills, mills used for grinding many kinds of grain, that used these millstones to provide flour and other foodstuffs to their communities. These mills used a relatively simple method for their grinding. First, the wheat needed to be cleaned of all dirt and unwanted chaff. Next, it would be ground by running it through the millstone. The millstones, which were usually powered directly by the water source, normally consisted of a round, unmoving stone and an identical, spinning stone positioned just barely above it. On each stone's surface was etched a variety of grooves and ridges. When the unprocessed grain passed through the very narrow gap between the two stones, the grooves would break apart the grain seed and the byproducts would be discharged from the stone.²¹ The

²⁰ Storck and Teague, *Flour for Man's Bread*, 4.

²¹ Kuhlmann, *Development of the Flour-Milling Industry*, 93.

final step of this process was the bolting of the floury mixture, a process in which the byproducts were sent across a very fine cloth or screen. This procedure would allow the flour to pass through the fibers but would reject the husks, bran, and other unwanted material.²² This entire process proved satisfactory for most grist millers who produced a small amount flour for a local market, and served as the platform for the innovations in the coming decades.

One of the most major improvements in the traditional milling process was the invention of the ‘automatic mill’ in the middle American colonies by a man named Oliver Evans. Working in the late eighteenth century, Evans, who had never previously worked as a millwright, conceptualized and ultimately brought into being a mill that used its source of waterpower not only for turning the millstone, but also for “[performing] all the operations which were effected by manual labor.”²³ This new type of mill dispensed with the labor intensive methods of the traditional process and replaced them with mechanical operations that were powered by the same source of power which had traditionally turned the millstone. Though none of the automatic mill’s inventions, such as the elevator or conveyor belt, were new inventions, Evans was the first to apply them to flour milling. Initially hesitant to accept the new technology, the nearby millers eventually softened to the idea of the automatic mill and would indeed come to embrace it for its labor saving advantages. This new method, with its costly machinery, gave the advantage to bigger mills with large capital and ultimately allowed for the “gradual concentration of the industry” into a few massive mills.²⁴

In these early milling centers in the United States, the popular type of wheat grown was known as winter wheat. Planted in the fall of each year, this variety was popular for the amount

²² Ibid., 93.

²³ Storck and Teague, *Flour for Man’s Bread*, 161.

²⁴ Kuhlmann, *Development of the Flour-Milling Industry*, 100.

of flour and the whiteness of the flour it produced.²⁵ Winter wheat, however, was ill-suited for cold climates because early frosts would frequently kill the plant before it came to fruition.²⁶ When the population of the United States expanded into what is now the American Midwest, a region known for its colder climate and harsher winters, farmers substituted winter wheat with a hardier strain called spring wheat. This variety of wheat originated in Central Europe, migrated to Scotland and Canada, then eventually was brought to the Midwest where it offered an ideal option for wheat farmers in these harsher climates. Planted in the spring, this variety prospered in the summer months, but was considered inferior to winter wheat because of the hardness of the grain. Using the traditional milling methods, the brittle shell of spring wheat would shatter into extremely fine fragments which would mix with the flour and were impossible to sift out. Winter wheat, however, had a shell that would cleanly break off and would be easy to sift out. Because of these drawbacks, spring wheat flour, and the bread made from it, was considered to be of a lesser quality than the softer winter wheat flour.²⁷

Naturally, then, when colonial and early American farmers first started cultivating wheat, they grew winter wheat. Though it was grown primarily in the northern colonies and climates, wheat was also produced in the southern regions of the country to a lesser degree. There, the profits from tobacco farming drew many farmers away from wheat and the bulk of southern wheat was limited to Virginia and Maryland.²⁸ When the United States entered the early nineteenth century, the extent of these wheat producing areas had expanded, a development which then brought new cities to prominence in wheat and flour production, particularly

²⁵ Fieldhouse, *History of the Flour Milling Industry of Minneapolis*, 5.

²⁶ Ibid.

²⁷ Storck and Teague, *Flour for Man's Bread*, 205.

²⁸ Kuhlmann, *The Development of the Flour-Milling Industry*, 27.

Baltimore, Richmond, and Rochester. Baltimore millers were quick to implement new milling technologies and also had reliable exports to the West Indies. Richmond had access to water-power and a wide region of wheat farms while Rochester and upstate New York had access to transportation from the western territories and also to markets in New York City.²⁹ By the middle of the Nineteenth century, new milling centers such as St. Louis, Chicago, and Milwaukee grew in prominence as agricultural production expanded westward. These western milling regions, however, had less hospitable climates for winter wheat and thus necessitated the introduction of spring wheat.³⁰ By the end of the nineteenth century, however, a small settlement on the upper Mississippi River would come to eclipse all other flour milling centers in the country.

First discovered by Europeans in 1680 by Father Louis Hennepin, the large waterfall on the upper Mississippi River was already a well known landmark for the people living in the region.³¹ He ascribed the name St. Anthony to the falls, after his own protector. As the largest single drop on the length of the major river, St. Anthony Falls soon gained attention from other explorers and continued to serve as a landmark for travelers to the area. Over the course of the next two centuries, the ownership of the land on which the falls sat transferred through multiple treaties between France, Spain, and England. In 1803, the United States under Thomas Jefferson secured vast tracts of land west of the Mississippi River, including St. Anthony Falls, in the purchase of the Louisiana Territory from the French.³² As a result, the government ordered Zebulon Pike in 1805 to explore the upper tracts of the Mississippi River and secure permission

²⁹ Ibid., 71.

³⁰ Ibid., 73.

³¹ Kane, *The Falls of St. Anthony*, 1.

³² Ibid., 4.

from the Indians for the construction of posts in the territory. Upon his arrival, he secured an agreement from the representatives of the local populations for the cessation of the lands along the river in exchange for a payment.³³ This new tract of land provided the ideal location for the construction of a fort and by 1820, Colonel Josiah Snelling oversaw the completion of a military post bearing his name located seven miles downriver from the falls at the confluence of the Minnesota and Mississippi Rivers.

The first flour mill in Minnesota was built in 1823 at St. Anthony Falls. Known as the ‘Government Mill,’ this mill was built for milling lumber and grain by the soldiers from Fort Snelling, the military post headed by Colonel Snelling. The purpose in its construction was to address the “local market provided by the lumber industry” as well as for feeding the growing population.³⁴ Indeed, prior to the construction of this mill, the workers in logging camps and the settlers in the surrounding areas were relying on flour and feed from elsewhere in the territory which had to be milled using horse or wind powered milling devices.³⁵ Once the construction finished on the Government Mill in 1823, the flour and lumber from around the area began flowing in. The soldiers tasked with processing the grain, however, were not experienced millers and the flour they produced made “wretched, black, bitter-tasting bread.”³⁶ Indeed, the men stationed in Fort Snelling much preferred the white flour from St. Louis. Despite this, the Government Mill continued for 26 years under the operation of Fort Snelling as the sole flour mill in Minnesota.

³³ Ibid., 5.

³⁴ Kuhlmann, *The Influence of the Minneapolis Flour Mills*, 142.

³⁵ Rogers, *History of Flour Manufacture in Minnesota*, 37.

³⁶ Edgar, *The Medal of Gold*, 19.

The waterpower opportunities available at St. Anthony Falls did not go unrecognized by entrepreneurs for long. In 1837, Joseph Plympton, the commander of Fort Snelling, desired to clearly define the boundaries of the military reservation not only to evict squatters but also to claim desirable land on the east bank of the falls. In his land survey, he excluded the territory along the eastern bank of the river from the military reservation and reverted ownership to the Indians. At the same time, however, the Sioux and Chippewa in the area had negotiated a treaty extinguishing their title to much of the lands of eastern Minnesota. This meant that once the United States Senate ratified the treaty, the east bank of the falls would be open to settlement. Upon hearing the news of the treaty ratification, Plympton and other settlers rushed to the land to stake their claim. When his men arrived, however, a man named Franklin Steele had already built a crude cabin on the most desirable land, thus claiming it for himself.³⁷

Franklin Steele was to become the owner of much of the land on the east bank of the falls in a town which would soon be incorporated under the name St. Anthony. He quickly understood the industrial capabilities such as sawmilling and flour milling provided by the sudden drop in the Mississippi River. After his tenuous territorial battle for possession of the east bank land, Steele invited wealthy investors to partner with him to develop the waterpower. By 1848, Steele's crews finished construction on the first dam at the falls.³⁸ Stretching halfway across the river, the dam initially served as a way to control the flow of water and to collect logs rafted downstream from the vast forests of northern Minnesota. On the west side of the falls, development of milling lacked the direction and organization provided by Steele on the east side. In 1849, Robert Smith, a congressman from Illinois, began leasing the then deteriorating

³⁷ Kane, *The Falls of St. Anthony*, 13.

³⁸ *Ibid.*, 18.

Government Mill and in 1853 bought the mill outright from the government.³⁹ In 1855, the massive Fort Snelling Reservation on the west side gave in to the growing community of squatters living there. The new official owners of the westside mills and the nearby parcels of land consolidated into a partnership that same year.⁴⁰ By this time, the city of Minneapolis was incorporated and sawmilling held the rank of most important industry at the falls. Soon, however, the flour milling industry was to surpass the sawmills in prominence at the falls.

The first merchant grist mill at St. Anthony Falls was not constructed until 1851, when Richard Rogers built a small mill for the primary purpose of grinding corn.⁴¹ Three years later, John Eastman, John Rollins, and Rufus P. Upton built at the falls the Minnesota or Island Mill, the first merchant flour mill at the falls. Operating with five run of stones, that is five sets of millstones, this mill required more grain to operate than was tributary to the falls at that time. Indeed, grain had to be hauled from as far away as Iowa or Wisconsin.⁴² This mill was also the first to sell its flour in the eastern markets of the United States. Further, in the decade from 1850 to 1859, flour millers constructed numerous mills throughout Minnesota, most notably in Northfield, New Ulm, and Hastings. These mills were capable of producing similar, if not better, quality flour as the mills at St. Anthony Falls, but they lacked the pure quantity of waterpower that the St. Anthony Falls mills possessed.

Around the time that these first mills were constructed at the falls, the landowner partnerships on either side of the river sought control of the falls' waterpower. In 1856, both the St. Anthony and Minneapolis partnerships acquired charters from the Minnesota territorial

³⁹ Ibid., 33.

⁴⁰ Ibid., 37.

⁴¹ Rogers, *History of flour manufacture in Minnesota*, 39.

⁴² Ibid.

legislature to incorporate water power companies. The east side partnership became the Saint Anthony Falls Water Power Company and the west side partnership became the Minneapolis Mill Company, with Robert Smith as its president.⁴³ These companies, through their riparian rights to the water that flowed adjacent to their property, sought to maintain and improve the installations at the falls for the purpose of greater water power production. Working cooperatively, the two companies built sections of a new dam on their respective sides of the river, eventually meeting each other well upstream from the falls in 1858. At normal river flow, the new structure diverted all of the river water leaving the limestone under the cataract barren and dry.⁴⁴

Simply diverting the water, however, was insufficient to fully harness the capability of the water. In order to expand the area in which firms and mills could access the water, the Minneapolis Mill Company began work on a canal adjacent to the falls. Modelling its development after well established eastern water powers such as Lowell, Massachusetts, the canal would drain the millpond behind the dam and run parallel to the river until it emptied below the falls.⁴⁵ The company would lease to mills along the canal a certain number of millpowers, the unit of water necessary to power a mill at about 75 horsepower.⁴⁶ In essence, the company did not own the mills themselves, but it controlled the source of their power. Additionally, in 1869, the army corps of engineers built an apron over the falls to prevent them from naturally receding upriver after a catastrophic tunnel collapse.⁴⁷

⁴³ Kane, *The Falls of St. Anthony*, 42.

⁴⁴ Ibid., 43.

⁴⁵ Ibid., 53.

⁴⁶ Bicha, *C.C. Washburn and the Upper Mississippi Valley*, 143.

⁴⁷ Kane, *The falls of St. Anthony*, 71.

Overseeing the company in 1859 after the canal's construction was its president, Robert Smith, who had purchased the government mill some years before. Once the canal was completed, the shareholders and owners of the company were generally allowed free access to the millpowers where others would have to pay. Over the course of the next few years, the original shareholders in the company gradually relinquished their shares until the only members remaining were Smith and Dorilus Morrison. By 1865, only four men held the company's entire stock. Morrison, who owned a number of interests in the local sawmilling industry, had attracted to the company two of his cousins: William D. Washburn and his brother, a lumber magnate from Wisconsin, Cadwallader C. Washburn.⁴⁸

Like so many other pioneers in Wisconsin and Minnesota, Cadwallader Washburn, or C.C. Washburn, originated on the east coast. He was born on April 22, 1818, in Livermore, Maine to Israel and Martha Washburn as one of eleven children.⁴⁹ After working on the farm for much of his childhood, he worked as a store clerk and a school teacher when he turned eighteen. His urge to go west, however, soon directed him onto a steamboat traveling to Chicago. Without much of a plan or sense of direction to his travels, he ended up in Davenport in 1839 with only five dollars to his name.⁵⁰ Working for a surveyor's office and reading law in his spare time, he searched the area for sources of capital for his business ideas. Three years later, he settled in Mineral Point, Wisconsin, with the intention to set up a law practice. It appears that he succeeded because after two years he had entered into a legal partnership with Cyrus Woodman, another Maine emigrant and the proprietor of the New England Land Company. He also married

⁴⁸ Ibid., 50.

⁴⁹ Bicha, *C.C. Washburn and the Upper Mississippi Valley*, 4.

⁵⁰ Hunt, *Israel, Elihu and Cadwallader Washburn*, 310.

Jeannette Garr around this time, though her mental health was to deteriorate quickly in the coming years.⁵¹

Together, the partnership of Woodman and Washburn began operating primarily in the land agency business. Soldiers in the Mexican American War were paid in many instances with land rather than money, which, combined with the steady influx of settlers to the Wisconsin territory, provided a lucrative area in which the new partnership could practice. Often, these absent veteran landowners would sell the rights of their land to mining and lumber firms, a process in which the partnership played a large role. Not only is this how Washburn became interested in other business activities, but it also was the basis of his wealth.⁵² Later on during their partnership, Washburn and Woodman expanded into the lead-shot business incident to the booming lead mining industry in southwestern Wisconsin as well as into the banking business.⁵³ Though the lead venture ultimately failed, Washburn was earning more money and was quickly building himself a reputation in the region through his lumber business. In 1852, Washburn and Woodman acquired some acres of forested land in the Wisconsin River pinelands and the following year Washburn set out in earnest to develop a lumber monopoly in Wisconsin and Minnesota. It was this interest in a regional monopoly that first directed his interests towards the forests of the Rum River in Minnesota and ultimately towards the Falls of St. Anthony.⁵⁴

During these early business years and despite his general disdain for politicians, C.C. Washburn appeared to crave public office. In 1854, he accepted the newly formed Republican Party's nomination to a Wisconsin seat in the U.S. House of Representatives.⁵⁵ After his electoral

⁵¹ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 10.

⁵² Hunt, *Israel, Elihu and Cadwallader Washburn*, 316.

⁵³ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 36.

⁵⁴ *Ibid.*, 115.

⁵⁵ *Ibid.*, 53.

victory, he joined two of his brothers in Washington D.C. for the two year term as well as the subsequent two terms in 1856 and 1858. During his time in the House, he only gave one major speech on the then intensifying slavery crisis with regards to its relationship with the principles of the Republican party.⁵⁶ Following the expiration of his 1858 term in 1861, Washburn offered his service to the Union army in which he was commissioned as a colonel presiding over the second regiment of Wisconsin cavalry.⁵⁷ Participating mainly in the lower Mississippi River region of combat, Washburn left the army after the conclusion of the war as a major general.⁵⁸ He again took office as a Wisconsin Representative for two more terms in 1866 and 1868 after overwhelming electoral victories. Tiring of the public office, Washburn finished his political career as the governor of Wisconsin, a common ending to many political careers at the time.⁵⁹ Throughout his time in political and military office, he remained active in his private business affairs. Writing from his office in Washington or from his post in the south, Washburn maintained his business interests from afar in the lumber industry and, most importantly, in the flour mills of Minneapolis.

In 1865, the Minneapolis Mill Company, with its four man ownership of Smith, Morrison, and the two Washburns, changed its leadership. The aging Robert Smith relinquished his presidency of the company and later his shares in the company to C.C. Washburn.⁶⁰ In fact, Washburn had purchased Smith's premium land in 1855, which, combined with his new presidency, gave Washburn heightened power in the company. On the other side of the river, the St. Anthony Power company was experiencing difficulty with its operations. In addition to its

⁵⁶ Ibid., 55.

⁵⁷ Hunt, *Israel, Elihu and Cadwallader Washburn*, 333.

⁵⁸ Edgar, *The Medal of Gold*, 7.

⁵⁹ Bicha, *C.C. Washburn and the Upper Mississippi Valley*, 60.

⁶⁰ Kane, *The Falls of St. Anthony*, 51.

faltering economic and business strategies, the St. Anthony Company also struggled with building its own power canal due in part to the presence of a large cave under its properties. Indeed, by 1869, the center of manufacturing at St. Anthony Falls had shifted distinctly towards the west side and the growing city of Minneapolis.⁶¹

The late 1850s and 1860s were especially transformative decades for the United States and the new state of Minnesota. Prospects of gold and new farmlands induced many settlers to travel to the western territories and with them came the expansion of the railroads. In 1857, an economic panic swept the nation that was caused partially by the overexpansion of these railroad companies. For many, this panic only hurt on paper, but for midwesterners the depression was particularly acute.⁶² Simultaneously, the wheels of the American Civil War were being set in motion. In 1857, the Supreme Court decided *Scott v. Sandford*, a ruling which held that African Americans could not be American citizens and that the federal government could not regulate slavery in the western territories. The uncertainty caused by this decision partially led to the Panic of 1857 and also contributed to the secession of the southern states at the start of the Civil War.⁶³

After the secession, the absence of the southern democrats from the United States Congress allowed for the passage of the Homestead Act in 1862. This act opened up millions of acres of land for free settlement in the American west. Together with the 1863 Treaty of Old Crossing, an agreement resulting in the ceding of ten million acres of land in the Red River valley, thousands of immigrants were drawn to Minnesota and the Great Plains from New

⁶¹ Ibid., 57.

⁶² James Gray, *Business without Boundary: The Story of General Mills* (University of Minnesota Press, 1954), 9.

⁶³ Charles W. Calomiris and Larry Schweikart, "The Panic of 1857: Origins, Transmission, and Containment," *The Journal of Economic History* 51, no. 4 (1991): 816.

England and northern Europe for the opportunity to begin farming. This land was particularly well suited for the growing of wheat and from 1850 to 1868, wheat production had grown from 2,000 bushels to 15,000,000 bushels. In Minneapolis, the production of flour had grown from four mills producing 30,000 barrels of flour in 1860 to thirteen mills producing 250,000 barrels in 1869.⁶⁴ This growth in milling in Minneapolis caught the attention of local prominent businessmen, many of whom had built their fortune in the lumber industry. Many of these “pioneer lumbermen,” like Washburn, shifted their interest to the flour milling industry and with them came their “large supplies of capital” and “great business ability.”⁶⁵

In 1866, Washburn built the first of his many flour mills. He built this mill, called the ‘Washburn B’ mill or simply the “B Mill,” on his property in Minneapolis and funded it with his profits from the lumber industry.⁶⁶ With 12 run of stone and a production capacity of 600 barrels of flour per day, the six story B Mill was considered a ‘mammoth’ mill at the time of its construction. Indeed, because the new mill was bigger than most flour mills at that time, many of his critics referred to the B Mill as ‘Washburn’s Folly.’ Though he owned and controlled the operations of his mills, Washburn never lived in Minnesota. In fact, for the first few years of his flour milling career, he held office in Congress for two terms and then served as governor of Wisconsin. His business plan was to provide the capital for the construction of the flour mills, then lease the building and its equipment to actual flour milling companies.⁶⁷ After the first lessees failed to meet Washburn’s expectations, his brother William recommended a new manager, an experienced miller named George Christian. Christian proved to be an excellent fit

⁶⁴ Gray, *Business without Boundary*, 11.

⁶⁵ Kuhlmann, *The Influence of the Minneapolis Flour Mills*, 142.

⁶⁶ Bicha, *C.C. Washburn and the Upper Mississippi Valley*, 145.

⁶⁷ Ibid.

for the mill and by 1872, the B Mill was making an annual profit of \$150,000, or nearly \$3,000,000 today.⁶⁸

A major factor behind the success of Christian and the B Mill during this time was the improvement in the milling process known as the 'New Process.' This process did not change the fundamental way in which wheat had been ground in the previous generations. Rather, the New Process was a combination of new milling techniques and technology that improved upon the customary millstone grinding process. In the old milling method, millers sought to grind as fine as possible and to make as much flour as they could with one grinding.⁶⁹ In doing so, the uncrushed parts of the wheat, known as the 'middlings,' were separated from the flour and discarded. This method of grinding worked well for the winter wheat grown in warmer climates of the country because its soft husk was easily removed. Due to the relative hardness of the spring wheat grown in the midwest, the husk of the grain was pulverised in the traditional grinding process, leaving the resulting flour discolored and generally inferior to that of softer wheats. Where spring wheat beat winter wheat, however, was in the higher nutritive qualities and bread making abilities locked away in the middlings.⁷⁰

Naturally, then, the millers at the Washburn B addressed the issue of extracting the premium flour from the middlings. American millers had already turned to flour mills in Hungary and eastern Europe for technological inspiration. The hard wheat of Minnesota originated in this region of continental Europe and thus the problems of its milling had already been encountered by millers there.⁷¹ Christian attracted to the B Mill a man named Edmund La

⁶⁸ Ibid., 148.

⁶⁹ Edgar, *Medal of Gold*, 39.

⁷⁰ Ibid., 41.

⁷¹ Richard Perren, "Structural Change and Market Growth in the Food Industry: Flour Milling in Britain, Europe, and America, 1850-1914," *The Economic History Review* 43, no. 3 (1990): 430.

Croix, one of the experimenters who had worked on a middlings purifier at a mill near Faribault, Minnesota.⁷² Over the course of ten months, La Croix built an improved middlings purifier in the B Mill. This machine used a fan to blow away the lighter husks that were mixed in with the rest of the stock after grinding and then to subsequently bolt the remaining product to separate out the middlings. The middlings would then be reground to produce the desired flour. Unfortunately, La Croix failed to patent his new machine and a legal battle soon arose between him and another engineer who had worked on the purifier. Once the new process of milling and the middlings purifier had been implemented, it quickly became apparent that spring wheat flour was superior to winter wheat flour and the price differential between the two flours “underwent a rapid inversion.”⁷³

With the success of the B Mill, Washburn looked to improve his productivity in the Minneapolis flour milling industry. Using mostly the profits from this first mill, Washburn built an even larger mill in 1874 which he called the A Mill. Equipped with nearly 40 run of stone, the new mill had a capacity of almost 2,000 barrels per day. The new mills being built in Minneapolis, both by Washburn and others, were designed to command the attention of the public. People were “in awe” not only of the number of mills clustered around the falls, but also of the sheer size and production capabilities of buildings like the A Mill.⁷⁴ Initially, Washburn turned to George Christian to operate the new mill, but after a year Christian retired and Washburn then engaged Christian’s two brothers to operate the mill. Operating the B Mill still was Washburn. After a short lived partnership with a man named Christopher Hazard, Washburn partnered with the husband of William Washburn’s sister-in-law, John Crosby. In addition to

⁷² Marquette, *Business Activities*, 252.

⁷³ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 150.

⁷⁴ Frame, *The Progressive Millers*, 95.

Crosby, Washburn also brought on as a managing partner William Dunwoody, a miller from Philadelphia, and his brother William.⁷⁵ Less than a year into their new partnership, tragedy struck the A Mill. On the night of May 2, 1878, flour dust produced by the purifying machines ignited in the A Mill and the subsequent explosion completely destroyed the entire building.⁷⁶ After a particularly nasty fight with the insurance companies, Washburn managed to have all the costs of the accident covered, including compensation for the dead workers' families.⁷⁷

With an opportunity to start from the beginning again, Washburn paced out the dimensions of an even larger A Mill on the remnants of the previous building. He also dictated the construction of an experimental expansion to the unscarred B Mill, which would later be known as the "C" Mill. To oversee the construction of the new mills and to move the company towards the elimination of millstones, Washburn engaged the services of two engineers: William D. Gray, a Scottish engineer with some experience with the A Mill and William de la Barre, an Austrian engineer. As to prevent another disaster from striking his mills again, Washburn patented within ten months an apparatus for the collecting and sequestering of airborne flour dust.⁷⁸ In 1879, once all the new mills were operational, the partnership of Washburn, Crosby, and Dunwoody reorganized under the firm name Washburn Crosby Company.⁷⁹

Washburn also had a new vision for his flour mills. After a visit to European mills, he became interested in the roller mill. Rather than sending the grain through a pair of millstones, the roller mill crushed the grain between two closely spaced rollers. Washburn sent de la Barre to Europe to further investigate this new technology while Gray assisted with the construction of

⁷⁵ Edgar, *The Medal of Gold*, 59.

⁷⁶ Kelsey, *Evolution of a Flour Baron*, 50.

⁷⁷ Edgar, *The Medal of Gold*, 91.

⁷⁸ Bicha, *C.C. Washburn and the Upper Mississippi Valley*, 157.

⁷⁹ Edgar, *The Medal of Gold*, 95.

the new mills.⁸⁰ The experimental C Mill was fully equipped with the new rollers and, after its overwhelming success, rollers were installed in each of the other mills. The patent flour produced by his new mills was of such a high quality that it won gold, silver, bronze medals at the international millers exposition in Cincinnati in 1880.⁸¹ Soon after this achievement, the Washburn Crosby Company began selling its now iconic brand “Gold Medal Flour.” By the time the new mills were fully constructed and functioning, Washburn had already set his sights on the growth and expansion of his company.

In 1877, a year before the catastrophic A Mill explosion, Washburn began his partnership with both Crosby and Dunwoody. He employed Dunwoody mainly to broaden the company’s foreign flour market. That year, Washburn dispatched Dunwoody with flour samples to England, a large wheat and flour importing nation, to secure contracts from English buyers. A Scottish man himself, Dunwoody was better equipped to secure these contracts than George Christian, whom Washburn had sent three years earlier.⁸² However, Dunwoody initially faced the same opposition that Christian had experienced. British millers opposed the importation of American flour not only because it threatened their own mills, but also because they were unaccustomed to the whiteness of the new process flour.⁸³ Nevertheless, Dunwoody secured contracts with British importers and, as British millers found themselves unable to compete with Minneapolis flour, the export market grew dramatically. The next year, exports from Minneapolis reached nearly 110,000 barrels of flour and within five years twenty percent of all American exported flour originated in Minneapolis.⁸⁴

⁸⁰ Gray, *Business without boundary*, 22.

⁸¹ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 165.

⁸² *Ibid.*, 166.

⁸³ Edgar, *The Medal of Gold*, 69.

⁸⁴ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 167.

The final leg of Washburn's milling career was involved in the construction of new railroads in Minnesota. Initially, the mills in Minnesota relied on steamboat transportation on the Mississippi River to transport their product.⁸⁵ As the milling center in Minneapolis grew rapidly in the 1870s, the need grew for a railroad system that not only transported wheat from the wheat fields to the mills, but also from the mills to the eastern markets.⁸⁶ Most of the wheat tributary to the Minneapolis mills originated in southern and western Minnesota as well as from the 'bonanza' farms of Montana and the Dakotas. Further, the mills had three primary options for shipping their flour to eastern markets. They could send it down the Mississippi River to the Gulf of Mexico, via the 'Lakehead' at Duluth and Superior on Lake Superior, or via rail through Chicago.⁸⁷ To accomplish the construction of these rail lines, Washburn needed to overcome a number of obstacles, including the extension to Minneapolis of railroads terminating in St. Paul and maneuvering around the 'Chicago Pool.'

Washburn never had much of an interest in the railroad business other than for securing favorable rates for the products from his other business interests. As the cities of Minneapolis and St. Paul grew together in the mid nineteenth century, the rail lines tended towards the latter city in part because of the influence of commercial interests there and in part because it was the natural head of steamboat traffic on the Mississippi River. Further, the rail lines connecting the region to Chicago, the main artery of rail and water transportation to the eastern markets, were controlled by a group of investors known as the 'Chicago Pool.'⁸⁸ Owning both the Chicago and Northwestern and the Milwaukee Road rail lines, the Chicago Pool effectively cut off further rail

⁸⁵ Larson, *The Wheat Market and the Farmer*, 57.

⁸⁶ Kuhlmann, *The Influence of the Minneapolis Flour Mills*, 144.

⁸⁷ Bicha, C.C. *Washburn and the Upper Mississippi Valley*, 168.

⁸⁸ Ibid.

options for the Minneapolis mills. These mills, including those of the Washburn Crosby Company, naturally desired to be at the hub of the region's railroads but were instead relegated to the task of working around the existing transportation powers. To accomplish his need for affordable and friendly transportation options, Washburn began investing as early as 1869 in the Minnesota railroad industry.⁸⁹

His first accomplishment in this sector was the construction of a spur line between Minneapolis and the existing railroad connecting St. Paul and Duluth. Linking north of St. Paul in a town named White Bear Lake, this short line marked the beginning of the Minneapolis and Duluth road and further provided the Minneapolis mills access to Lake Superior and the rest of the Great Lakes.⁹⁰ Though it succeeded in bypassing the Chicago Pool, the mills still needed an outlet when the lake froze for four months of every year. To overcome this obstacle, Washburn extended the Minneapolis and St. Louis south into Iowa where it then connected with non-Chicago Pool owned lines into St. Louis and Chicago. This new line was especially necessary when the line connecting St. Paul and Duluth that Washburn was using fell into the hands of Chicago Pool investors. In an elaborate ruse, Washburn threatened to build a new railroad from White Bear Lake, the previous extent of his rails, to Ashland, Wisconsin, on Lake Superior. This new line, which he never intended to build, brought the other investors to the negotiation table where the two sides hammered out a deal to continue use of the old line.⁹¹ Though never achieved in his lifetime, Washburn's vision to create a new terminus in Sault Ste. Marie was actualized by his brother, William, in the construction of the Soo Line five years after C.C. Washburn's death in 1882.

⁸⁹ Ibid.

⁹⁰ Ibid., 171.

⁹¹ Ibid., 175.

In his time in Minneapolis, both with the Minneapolis Mill Company and the Washburn Crosby Company, C.C. Washburn oversaw and directly contributed to the flour milling revolution of the late nineteenth century. Throughout his life, he involved himself in many industries, including land holdings, banking, lead shot producing, and sawmilling. He also served Wisconsin as congressman and governor and he led union forces during the Civil War. Though he never lived in Minneapolis at any point in his lifetime, his company and his business maneuverings profoundly impacted the growth of the young city and permanently transformed the flour milling industry.

The growth and success of the Minneapolis flour milling industry was the result of a number of factors. The fertile wheat growing region in Minnesota and the Dakotas was a natural tributary to the cities flour mills and the water power provided by the Falls of St. Anthony allowed for the construction of many mills. Further, the traditional millstone and milling process were quickly replaced during the mid-nineteenth century for the more efficient technology such as the roller mill, gradual reduction, and the middlings purifier. The construction of railroads leading into and out of the city during this time also boosted the industrial capacity of the city's flour mills. Finally, the expansion of flour markets into Europe provided a source of further income for the growing mills. Though there were many different mills and milling companies in the city at the time, few were as large or as successful as the Washburn Crosby Company. Leading the company until his death in 1882, Cadwallader Washburn pioneered many of these

improvements that brought “prestige” and “world-wide recognition” to the Minneapolis flour mills.⁹²

What Washburn is perhaps best known for in his work with the Minneapolis flour mills is his role in the technological revolution of milling machinery. The problems faced by Minneapolis millers were twofold. First, the traditional flour milling techniques and methods as well as the associated technology were designed around the processing of winter wheat. When applied to the processing of spring wheat, the resulting flour was inferior in quality to that produced by winter wheat. Second, even with the mechanical adjustments for grinding spring wheat, the traditional millstone could not produce enough flour for the growing demand. Space for building new mills was limited at the falls, so the milling engineers needed to adapt their machines to the higher output expectations. Where Washburn most importantly influenced this revolution was not in his mechanical expertise or his intimate knowledge with the milling procedure. Indeed, he never worked in his own mills and never even lived in Minnesota during this time period. Rather, Washburn’s greatest contribution to the revolution was his ability to attract the right mill managers and engineers to his company. It is these people, like William Dunwoody or Edmund LaCroix, who deserve the most credit for the actual mechanical innovations and it is Cadwallader Washburn who deserves the credit for assembling them at the right place and at the right time.

In overcoming the first obstacle -- that is the problem of grinding the spring wheat -- Washburn employed George Christian in 1869 as the manager of the B Mill, the first big mill. Christian was to become vital to the growth and success of Washburn’s mills and would have a

⁹² Gray, *Business without Boundary*, 40.

hand in many of the industry developments over the course of the following decade. Washburn, however, was not solely responsible for attracting Christian to the company. In 1869, while Washburn was searching for a new manager to replace the firm of Judd and Brackett, his brother and personal agent at the falls, William, wrote to him that he had found “the man who will fill the bill on the mill question. It is George H. Christian.” He continued on to say that Christian “has more experience than all others together” and that he is regarded as “thoroughly honest.”⁹³ Though C.C. Washburn was not handling the milling machinery or his mills’ day-to-day operations and despite William’s fortuitous recommendation, his ability to seek out and combine Christian’s managerial acumen with his own capital demonstrates the importance and impact he had on the city’s flour milling industry.

Under Christian’s management, a milling engineer helped produce one of the most important innovations in flour milling at the time: the middlings purifier. This device permanently changed the flour milling industry and brought Minneapolis to the forefront in the industry. This engineer was Edmund LaCroix, a French-Canadian miller who had come to Minnesota to work in the Cannon River valley in southern Minnesota. Christian, then the manager of the Washburn B mill, induced LaCroix to come work in his employ in Minneapolis where, after many months of tinkering and perfecting, he produced a rudimentary middlings purifier. Another engineer working in the mill at the time, George Smith, created a crucial component for the purifier, an invention which would ultimately lead to litigation over the ownership of the device.

⁹³ W.D. to C.C. Washburn, June 3, 1869. C. C. Washburn letters received, 1869, P2192. Minnesota Historical Society Manuscripts, St. Paul, Minnesota, United States.

Over thirty years later, William D. Gray, a milling engineer who had worked for the Washburn Crosby mills, wrote a series of articles in the flour industry journal *Northwestern Miller* entitled “A Quarter Century of Milling.” In these articles, Gray describes the history and the consequences of the early developments of the Minneapolis flour milling industry. Here, he makes the uncontroversial claim that “the first purifier in this country was placed in [the Washburn B] mill.”⁹⁴ He further quotes Christian, who states that the “machine for purifying middlings [was] first used in [the Washburn B] mill” and also that it was “introduced by me in this country.”⁹⁵ Though this last claim may be somewhat gratuitous, Gray’s other claims support the notion that the purifier was first created in Washburn’s mill.

For this reason, Washburn deserves credit for the introduction of the revolutionary purifier device. Granted, others were working on similar devices around the same time, but it is quite possible that if Washburn had not hired LaCroix another mill would have completed the technology first and brought its home city to greater prominence than Minneapolis. Despite the fact that the Washburn B mill was the first home of the middlings purifier, the question of who owned the rights to the machine’s patent was not immediately resolved. After George Smith invented the traveling brush to unclog the bolting cloth on LaCroix’s machine, he started his own purifier company in Michigan and claimed that Washburn was infringing on his patent. By the end of the century, Smith’s company failed and his name had developed a sour reputation in Minneapolis.⁹⁶

This unfavorable attitude towards Smith can be explained by the notion that he was viewed as an enemy of Washburn, a man who was likely considered to be an important element

⁹⁴ William D. Gray, “Quarter Century of Milling,” *Northwestern Miller*, Oct. 25, 1899.

⁹⁵ William D. Gray, “Quarter Century of Milling,” *Northwestern Miller*, Nov. 8, 1899.

⁹⁶ Bicha, C.C. *Washburn and the Upper Mississippi*, 152.

behind the prosperity of Minneapolis at the time. Indeed, in “A Quarter Century of Milling,” Gray reports that Washburn was not only “a staunch friend of the standard purifier, and would have no other in his mills,” but also that “the name Smith was particularly disagreeable to him.”⁹⁷ Furthermore, two weeks prior to publishing this statement, the *Northwestern Miller* quoted an article from an unnamed Minneapolis daily paper which claimed that Smith “endeavored by unjust means to deprive Edmund N. LaCroix, the truly known inventor of the middlings purifier.”⁹⁸ These statements demonstrate that Smith not only became the adversary of Washburn and LaCroix, but likely of the city’s general population as well. This unfavorable attitude indicates that Washburn and his company were indeed quite important to the city for pioneering the innovations that brought Minneapolis to such prominence in the American flour milling industry.

The results of the implementation of the middlings purifier were profound. In the flour milling industry at the time, competition often forced the price of flour to just a few cents above the price of production.⁹⁹ With the purifier improving the economic viability of producing greater quantities of flour from spring wheat, the demand and the price rose dramatically. Compared to similar grades of winter wheat, Minnesota’s spring wheat flour was selling at a full one dollar per barrel higher.¹⁰⁰ In the *Northwestern Miller*, George Christian asserted that the profits of the Washburn mills following the start of the new process and the middlings purifier averaged “the first year [1871] ... fifty cents a barrel, the second year they averaged a dollar a barrel, the third year two dollars, and the fourth year anywhere from four to four and a half

⁹⁷ William D. Gray, “Quarter Century of Milling,” *Northwestern Miller*, Nov. 29, 1899.

⁹⁸ *Northwestern Miller*, Nov. 8, 1899.

⁹⁹ Kuhlmann, *Development of the Flour Milling Industry*, 119.

¹⁰⁰ “Annual Report - 1876,” Minneapolis Board of Trade, 39.

dollars a barrel.”¹⁰¹ The same article asserts that the Washburn A mill was built out of two or three year’s profits from the Washburn B mill.¹⁰² These unprecedented profits were no doubt due to the middlings purifier brought to the city by Washburn.

In addition to solving the issue of spring wheat with the middlings purifier, Washburn’s mills also led the industry in the introduction of devices that increased overall output and productivity: the roller mill. In 1891, nearly a decade after Washburn’s death, an article in the *Northwestern Miller* described the advantages of the full roller mill. Whereas many Minneapolis millers of the 1880s were “in favor of the limited use of millstones,” the mindset was quickly “giving way to the idea that an all roller mill is the proper thing.” This was because “the cost of keeping the buhrs (grooves on the stone) dressed and having them furrowed out once a year is an item of considerable expense, and that it can be about all be saved by the use of rolls.”¹⁰³ These advantages of the roller milling technique were certainly familiar to mill owners like Washburn in the late 1870s, but the gamble of relying entirely on rollers was likely too big a risk for those interested in the new technology.

The use of rollers to grind flour was not invented by Washburn or any American firm. Indeed, the technology was already in use in many European flour mills. In 1873, Washburn sent George Christian to Europe to study other milling techniques and he returned with new information on the importance of the middlings and on the use of the rollers.¹⁰⁴ Desiring to learn more, Washburn had his brother Elihu, then serving as American minister to France, send him European books on flour milling.¹⁰⁵ Based on these new sources of knowledge, Washburn sought

¹⁰¹ E.B. Barnes, “Milling History of Minneapolis,” *Northwestern Miller Holiday Number*, 1890, pp. 33.

¹⁰² *Ibid.*

¹⁰³ *Northwestern Miller*, Feb. 27, 1891.

¹⁰⁴ E.B. Barnes, “Milling History of Minneapolis,” *Northwestern Miller Holiday Number*, 1890, pp. 33.

¹⁰⁵ *Ibid.*

to implement more of the roller machines into his mills. After the Washburn A mill explosion in 1878, he had lost a sizeable investment but he was also presented with an opportunity to build his mill from the beginning. Arriving quickly to Minneapolis from his office in Madison, Wisconsin, he famously paced out an addition to the still standing B Mill and told his engineers to “build out to that point.”¹⁰⁶ This addition was to become known later as the Washburn C Mill or the Experimental Mill. To help with the construction of this new mill, Washburn brought on two new engineers, William D. Gray and William de la Barre of Austria. These two men were to assist Washburn through the next phase of the flour milling revolution in Minneapolis.

Despite his interest in the new roller milling technology, Washburn remained cautious about completely converting to the new devices. Initially, he did not want to rebuild the new A mill without millstones, so he designated the newly built addition to the B mill as the “C” mill for the purpose of experimenting with the roller assemblies. He brought to Minneapolis William Dixon Gray, an engineer with the Milwaukee based firm Edward P. Allis Company, in order to install these new roller assemblies. Washburn drove a hard bargain with Gray and stipulated that he would pay for the new technology only if they produced satisfactory results. To ensure that the end result would be most suitable for Washburn’s desires, Gray invited the Hungarian engineer Oscar Oexle, the most experienced roller mill expert in the world, to supervise the installation of the assemblies. Evidently, Washburn was pleased with the success of the roller for he soon bought twenty two new pairs of rollers for the C mill.¹⁰⁷ In 1880, writing on the specifications of the rebuilt A mill, the *Northwestern Miller* reported that “strictly speaking, it

¹⁰⁶William D. Gray, “Quarter Century of Milling,” *Northwestern Miller*, Dec. 13, 1899.

¹⁰⁷ William D. Gray, “Quarter Century of Milling,” *Northwestern Miller*, Dec. 13, 1899.

will be a Hungarian roller mill, although there will be in it 20 run of French buhrs [millstones]. There will be 120 roller mills of four rolls each ...”¹⁰⁸

Another problem Washburn and other millers faced with the old millstone technology was the amount of dust generated during the grinding. Not only did the dust need to be collected for the purpose of disposal, but it also presented serious risks to the mill and its workers. One of these risks was known as miller’s cough, a condition caused by the constant inhalation of fine flour dust particles. Another serious risk of the suspended dust particles was the threat of fire and explosion. This particular problem was given “frightful emphasis” when the dust of the Washburn A mill ignited on the night of May 2, 1878, and the entire mill was destroyed.¹⁰⁹ To prevent another explosion, Washburn began seriously investigating technology to sequester the hazardous flour dust.

It is in this chapter of Washburn’s milling career that he became acquainted with the Austrian born William de la Barre. In a letter to Washburn’s daughter in 1917, de la Barre describes his involvement with the dust collector and the Washburn mills. In 1876, the German miller Gustave Behrns displayed at the Centennial Exposition in Philadelphia his device for the prevention of flour dust explosions. Behrns was unsuccessful at gaining attention in America and the plans for the devices ended up in the hands of the Brehmer Brothers firm at the close of the exposition. Two weeks after the 1878 explosion, Washburn requested that the firm send a representative to Minneapolis to demonstrate the technology. This representative was de la Barre and, like Gray’s roller assemblies, Washburn refused to pay for the machines until they were thoroughly demonstrated to work to his standards. After installing them at his own expense, de la

¹⁰⁸ “The Washburn A Mill,” *Northwestern Miller*, Mar. 26, 1880.

¹⁰⁹ Storck and Teague, *Flour for Man’s Bread*, 221.

Barre soon convinced Washburn of the device's utility and sold to him the machines for which he had paid to install.¹¹⁰ Subsequently, de la Barre states that Washburn adopted the dust collector for all his mills and "thus helped me to have other other millers do likewise" in order to protect other mills from similar explosions.¹¹¹

Though Washburn was the driving force behind the introduction of the new technology in Minneapolis, he remained quite cautious during the process. He always wanted to ensure that any move he made in a new direction would be the most likely to be successful. Indeed, in a later letter to de la Barre about modifications to the existing roller assemblies in his mills, Washburn expressed that he wanted to "know by actual experience and by demonstrating on a large scale and by the side of some other mill, which is the best."¹¹² Furthermore, once he decided to invest, he wanted to ensure perfection in the final product. This is again illustrated in another letter to de la Barre from the same series of correspondence about the completion of the new A mill. Here, Washburn advises de la Barre that he does not "want a blow struck until it is demonstrated that your last mill is better than anything on the falls."¹¹³

Beginning with the introduction of the middlings purifier until his death in 1882, Washburn was critical to the technological revolution of the Minneapolis flour milling industry. Writing for the *Northwestern Miller* about this period twenty years later, W.D. Gray gives credit for the introduction of the roller mill to Washburn. He wrote: "I believe it was entirely his own experiment, encouraged by me."¹¹⁴ Not only does Gray claim that Washburn was the principal

¹¹⁰ Bicha, *CC Washburn and the Upper Mississippi Valley*, 160.

¹¹¹ de la Barre to A. Warren Kelsey, undated, in *Israel, Elihu and Cadwallader Washburn: A Chapter in American Biography*, ed. Gaillard Hunt (Ayer Publishing, 1971), 386-387.

¹¹² C.C. Washburn to William de la Barre, Aug. 23, 1881, *de la Barre Papers*.

¹¹³ *Ibid.*, Jul. 2, 1881.

¹¹⁴ *Ibid.*, Dec. 13, 1899.

force behind the new technology, but he also states that the Washburn experimental or C mill was “the first full roller mill in America” and that it was “the first complete automatic roller mill in the world.”¹¹⁵ Additionally, Gray believes that Washburn’s installation of the dust collecting apparatus “shows that he gave a good deal of his time, at this period in his life, to the details of milling and milling machinery.”¹¹⁶ Further, as stated previously, de la Barre admits that Washburn helped spread the dust collecting device to the many mills at the falls. Together, these comments support the notion that Washburn was instrumental to the flour milling revolution and the growth of flour milling in Minneapolis in the nineteenth century.

Despite his achievements in the mechanical and engineering innovations in the flour milling process, Washburn was primarily a businessman. Indeed, there were many aspects of his flour milling interest that required no technical milling knowledge, particularly the organization of an international export market for his mills’ flour. From the first barrel of Washburn flour produced in the 1860s until his death in 1882, the market to which Minneapolis flour mills sold had expanded well beyond the borders of Minnesota. Through this international transition, he received assistance from a number of men, most importantly from a Pennsylvania native named William H. Dunwoody.

When Dunwoody first arrived in Minneapolis in 1871, he initially became a partner in two milling firms and then helped form the Minneapolis Millers Association, a wheat buying agency. Here, working as the association’s general agent, he helped establish a system of buying in the wheat growing regions of Minnesota for the Minneapolis millers. It is also in this position that Dunwoody became acquainted with Washburn. Washburn desired to have the same method

¹¹⁵ Ibid.

¹¹⁶ Ibid., Jan. 10, 1900.

applied to the international flour market and when the other members of the association disapproved of the plan, Washburn employed Dunwoody to travel to Europe on behalf of the Washburn Crosby Company.¹¹⁷ In 1877, Dunwoody first arrived in England with the hopes of establishing a new market for Minneapolis flour.¹¹⁸

Prior to Dunwoody's departure, Washburn reportedly told him: "Start the people there buying our flour, and, where stand these mills, which now seem so large, will be erected others far surpassing them in importance and capacity."¹¹⁹ It is clear that Washburn wanted prospective buyers to know that the 'mammoth' mills that he had already built were soon to be replaced by even larger ones. Despite his grandiose message, Dunwoody initially met with great reluctance from British buyers. He later stated that he "spent the winter and following spring alternating between Liverpool, London, Glasgow and smaller cities with indifferent success ..."¹²⁰ Part of this British hesitancy towards American flour stemmed from differences between the practices of flour marketing in each country.

The first of these problems, as Dunwoody recalls, is that the trade in American flour up to that point "was in the hands of the wheat receivers."¹²¹ These receivers would purchase American wheat and sell the resulting flour not to the consumers in England, but to the millers who mixed it with their own flour. As a result, as E.B. Barnes claims in an article in which Dunwoody is quoted, "the English people in general had absolutely no conception of what the best kind of flour was."¹²² Moreover, Dunwoody's goal was to sell Washburn flour not to the

¹¹⁷ Edgar, *The Medal of Gold*, 67.

¹¹⁸ "Minnesota Flour in Europe," Feb. 11, 1881. *Northwestern Miller*.

¹¹⁹ Quoted in Edgar, *The Medal of Gold*, 69.

¹²⁰ Quoted in E.B. Barnes, "Milling History of Minneapolis," 1890. *Northwestern Miller Holiday Number*, 33.

¹²¹ Ibid.

¹²² Ibid.

British millers, the traditional source of flour for bakers and retailers in England. Indeed, in an 1878 letter from Dunwoody in Liverpool, he reminds his colleagues in Minneapolis that “when I give the name of purchasers by cable you are to understand that the shipment is to be made direct to them.”¹²³ Selling directly to the bakers ensured that the superior qualities of Minneapolis flour would remain secure.

Another set of issues Dunwoody faced was the differences in the preferences of people in the flour trade. English flour reportedly only came in hardly more than one grade and it made a “very dark bread.” The white bread produced by American flour caused some British millers to accuse American millers of using “alum, marble dust, beans, etc. to whiten their flour.”¹²⁴ In response, Dunwoody demonstrated the superior qualities of Minnesota flour. Unlike soft wheat, in which “starch largely predominates over gluten,” hard wheats like those of Minnesota are “nearly all gluten.”¹²⁵ As a result of the greater amount of gluten, breads made from hard wheat flour are larger than breads made from the same amount of soft wheat flour. One midwestern baker reported that he could make about “250 pounds of bread from a barrel of hard wheat flour, while he could only get 225 pounds from an equally good barrel made from soft wheat.”¹²⁶ Even if the stigma against white flour was erased, the issue of barrels posed a further obstacle for flour exporters. In the same 1878 letter, Dunwoody reported on this issue: “I can’t sell bbl [barrel] flour to go to the country at all as they have no facilities for handling and the bbls are not worth more than firewood.” Rather, the buyers “much prefer sacks there...”¹²⁷ Though the sacks they used were more prone to moisture and breakage on the six month journey from Minneapolis,

¹²³ William H. Dunwoody to Washburn Crosby Company, Feb. 22, 1878. *Dunwoody Papers*.

¹²⁴ Quoted in E.B. Barnes, “Milling History of Minneapolis,” 1890. *Northwestern Miller Holiday Number*, 33.

¹²⁵ “Hard Wheat Makes More Bread,” Feb. 18, 1881. *Northwestern Miller*.

¹²⁶ *Ibid*.

¹²⁷ William H. Dunwoody to Washburn Crosby Company, Feb. 22, 1878.

they were on the whole a success.¹²⁸ Thus, Dunwoody had soothed the concerns of the British flour market, and the exports from the Washburn Crosby and other Minneapolis mills soon began growing to international buyers.

In 1877, the year in which Dunwoody traveled to England, the shipments of flour from Minneapolis to European ports was nominal. The following year, which was the first full year of shipments, the amount of flour exported from Minneapolis mills reached 109,183 barrels. The next year, it rose to 442,958 barrels, then it topped 750,000 barrels at the end of 1879. Over the next decade, the number of barrels per year climbed to over 2,000,000 and in 1887, it reached its peak at 2,620,000 barrels.¹²⁹ Further, during this decade, the number of countries to which the flour was shipped was also expanding. After England, the first continental country to order flour was France and others soon followed. Regular shipments were made to Ireland, Germany, Holland and Belgium. Some mills reported sending their flour to ports and distribution points as far as Spain, Austria, Turkey, Denmark, Egypt and Italy.¹³⁰ It is clear that Dunwoody's 1877 visit to England opened wide a new market for Minneapolis flour exports. Although Dunwoody certainly deserves credit for his achievements here, the initial spark and continuing motivation for the endeavor belong to C.C. Washburn. Indeed, as E.B. Barnes puts it in his article in the *Northwestern Miller's* Holiday Number: "To Washburn belongs the lion's share of credit for this work."¹³¹

With the demand for flour from Minneapolis mills on the rise during the 1860s and 1870s, Washburn needed more than ever a reliable system of transportation for wheat and other

¹²⁸ Quoted in E.B. Barnes, "Milling History of Minneapolis," 1890. *Northwestern Miller Holiday Number*, 33.

¹²⁹ *Ibid.*, p. 34.

¹³⁰ "Minnesota Flour in Europe," Feb. 11, 1881. *Northwestern Miller*.

¹³¹ E.B. Barnes, "Milling History of Minneapolis," 1890. *Northwestern Miller Holiday Number*, 33.

raw materials to the mills and for flour to the expanding markets. Initially, the flour mills at St. Anthony Falls produced only for the local market. However, with the opening of new western lands and the subsequent influx of settlers, flour millers began receiving more wheat than was necessary for producing flour for the immediate region. As a result, the flour mills in Minneapolis grew to ‘mammoth’ sizes, such as was the case with the Washburn B mill, and looked to other markets to sell their product. To reach these markets, the Minneapolis mills needed reliable and friendly rail lines to transport grain to the mills and flour to the eastern markets.

The first railway to connect the twin cities to Chicago was completed in 1867 by a company then known as the Milwaukee and St. Paul. This company had bought the tracks of the McGregor Western, a company which operated lines from St. Paul to Owatonna, Minnesota, and from Cresco, Iowa, to Prairie du Chien, Wisconsin, where it connected with rail lines to Milwaukee. The Milwaukee and St. Paul then bridged the gap between the terminuses at Owatonna and Cresco to complete the full connection between the two cities. Additionally, five years later in 1872, the Milwaukee and St. Paul bought the tracks of another company called the St. Paul and Chicago which ran from St. Paul down the Mississippi River to Winona, Minnesota. Here, the rails crossed the river and connected with existing lines to Milwaukee in La Crosse, Wisconsin, just downstream from Winona. Thus, the Milwaukee and St. Paul owned two separate lines out of the twin cities and controlled much of the rail traffic leaving the city. In 1874, the company purchased tracks from Milwaukee to Chicago and renamed itself the Chicago, Milwaukee and St. Paul, or Milwaukee Road for short.¹³²

¹³² Bicha, *C.C. Washburn and the Upper Mississippi*, 169.

The general manager of this controlling firm was Sherburn S. Merrill. Under his leadership, the railway increasingly became adversaries with the milling interests of Minneapolis and continually impeded the shipment of flour from the falls. In 1869, William D. Washburn wrote to Cadwallader about Merrill's treatment of the millers, which he regarded as "simply infamous."¹³³ Referring to him as the "he-devil" or the "autocrat of the Milwaukee Road," William describes how Merrill had stationed buyers along the rail lines in order to drive up the price of wheat by 10 cents per bushel. He estimated that Merrill had profited nearly half a million dollars over the previous three years.¹³⁴ Without another rail outlet on which to ship their product, many other Minneapolis millers certainly shared Washburn's dislike of the Milwaukee Road's monopolistic behavior as well. Indeed, William expressed this view succinctly in a letter on May 10, 1869: "We have got to have other R.R. connections or we are gone up."¹³⁵

Furthermore, William expressed disdain not only for Merrill's railroad practices in relation to flour milling, but also as they affected his ongoing lumber practices. As an owner of multiple sawmills along the Mississippi River valley, William was not pleased when Merrill planned to have a new bridge constructed in St. Paul. In the same set of letters, he lamented to his brother that "We protest having the bridge built to St. Paul with the piers standing as present. It will not only nearly destroy steamboat navigation above St. Paul but will be a serious obstruction to the running of lumber rafts, rendering it impossible to run a raft through on a windy day."¹³⁶ This shows the effect of Merrill on lumbering but it also illustrates the issue of river transportation faced by the Minneapolis mills.

¹³³ W.D. to C.C. Washburn, May 6, May 30, 1869, Minnesota Historical Society.

¹³⁴ Ibid.

¹³⁵ W.D. to C.C. Washburn, May 10, 1869, Minnesota Historical Society.

¹³⁶ W.D. to C.C. Washburn, May 30, 1869, Minnesota Historical Society. .

Steamboat traffic to Minneapolis at this time was especially important because of the lack of independent rail lines in the city. As the first substantial natural barrier to river transportation, the Falls of St. Anthony naturally limited navigation up the Mississippi and it would seem that river traffic should terminate there. However, the river channel below the falls to St. Paul was riddled with rocks and, especially when the water level fell, steamboats would “commence hitting “boulders”, a few of which remain in the channel.”¹³⁷ This meant that the boats had great difficulty navigating upstream to Minneapolis and its mills. Therefore, St. Paul became the natural head of most steamboat traffic on the river, though some companies still traversed the boulders to Minneapolis. Indeed, in May of his 1869 letters, W.D. Washburn wrote his brother, who was still representing Washington D.C. at that time, that the millers “are having something of an excitement on the navigation question. The Northern Line [Northern Packet Line, a steamboat company] are willing to run their boats here 3 times a week”¹³⁸ Despite this development, Merrill had visited Minneapolis with “promises and threats” and “swung the shippers from riverboats to rail cars.”¹³⁹ Evidently, the change was permanent, for later that year W.D. Washburn asked Cadwallader to inquire about “the use of the steamboats now lying idle at St. Paul. There is no reason why they should not be employed in removing boulders from the river ...”¹⁴⁰

Without steamboat service, the millers were forced to recognize their dependence on the road, a development which William believed would make Mill property worthless.¹⁴¹ In order to ship flour by rail and also avoid the Milwaukee Road, C.C. Washburn found it necessary to

¹³⁷ W.D. to C.C. Washburn, May 21, 1869, Minnesota Historical Society.

¹³⁸ Ibid.

¹³⁹ Marquette, *Business Activities of C.C. Washburn*, 326.

¹⁴⁰ W.D. to C.C. Washburn, June 8, 1869, Minnesota Historical Society.

¹⁴¹ W.D. to C.C. Washburn, May 6, 1869, Minnesota Historical Society.

construct an independent rail line to Minneapolis. On the other side of the river in St. Anthony, a short line owned by the St. Paul and Pacific connected the east bank mills to St. Paul, but that line was bought up by the Milwaukee road interests. A spur of the Hastings and Dakota railway was the only line into Minneapolis in 1870, but it too befell the same fate as the St. Paul and Pacific in 1872. At this time, W.D. Washburn was not disposed to see “cars backed tail to [tail] into Minneapolis” and, together with his brother, was already part of a different plan that had been set in motion in 1870.¹⁴²

In this endeavor, a group of capitalists and investors headed by the Washburn brothers reactivated an unused railroad charter for a line called the Minnesota Western.¹⁴³ These charters were granted by the territorial legislature in the years 1853 to 1857 for the purpose of constructing railroads “radiating from St. Paul to serve the entire territory.”¹⁴⁴ One of these charters was called the Lake Superior and Nebraska and was designated to connect the port city of Duluth with the rest of the the state’s rails. Later renamed the Lake Superior and Mississippi, this line’s southern terminus in St. Paul bypassed Minneapolis completely. Another charter was for the Minnesota Western. Its original charter authorized the construction of a road from the St. Croix River to St. Paul and St. Anthony, then to western boundary of the Territory.¹⁴⁵ This line did not succeed, but the revitalized charter in 1870 changed the name to the Minneapolis and St. Louis railroad and granted the owners the right to build from a point on the Lake Superior and Mississippi railway, through Minneapolis, and south to the Iowa border.¹⁴⁶ The location at which

¹⁴² W.D. to C.C. Washburn, May 30, 1869, Minnesota Historical Society.

¹⁴³ Bicha, *C.C. Washburn and the Upper Mississippi*, 171.

¹⁴⁴ Marquette, *Business Activities of C.C. Washburn*, 319.

¹⁴⁵ “R.R. Report,” *Minnesota Executive Documents*, 1872, 143-144.

¹⁴⁶ Marquette, *Business Activities of C.C. Washburn*, 329.

the company chose to connect to the Lake Superior line was a small town named White Bear Lake.

From this location, the company built a line to Minneapolis called the Minneapolis and Duluth (under the ownership of the parent company Minneapolis and St. Louis) and the west side mills were connected to an outlet for their flour that avoided the Milwaukee Road. The effects were immediate. In 1872, Washburn mill manager George Christian stated that west side mills shipped nearly three quarters of all their eastbound flour via the new line and Lake Superior.¹⁴⁷ In the year following the railway's construction, it carried over 33,000 bushels of wheat and nearly 40,000 barrels of flour to White Bear Lake.¹⁴⁸ Despite the line's newfound success, the lake and the port of Duluth remained ice bound for four months out of the year. Thus, in his effort to avoid payment to the Chicago Pool lines, Washburn sought to continue construction under the new charter south to Iowa.

The first segment of this southbound line of the Minneapolis and St. Louis was completed in 1871 and ran southwesterly out of Minneapolis to a point near Carver, Minnesota. With the milling district's closer access to sources of wheat and a market for lumber from the falls, Washburn and the other capitalists behind the railway continued the line south to Albert Lea, Minnesota, only twelve miles from the Iowa border. In doing so, the Minneapolis and St. Louis ran parallel to one of the Milwaukee Road's lines as it cut through the southern wheat growing region of the state.¹⁴⁹ When the line reached Albert Lea in 1877, Washburn's tracks were just a few miles away from connecting with Iowa railroads that would connect Minneapolis with St. Louis as well as with the Illinois Central, a non Chicago Pool line that offered

¹⁴⁷ Ibid., 331.

¹⁴⁸ "Appendix to R.R. Report," *Minnesota Executive Documents*, 1872, 253.

¹⁴⁹ Bicha, *C.C. Washburn and the Upper Mississippi*, 172.

‘backdoor’ access to Chicago. To make this connection, Washburn used the growing output of his new A Mill. He made arrangements with the Burlington, Cedar Rapids and Northern Railroad in which they would lay track from the Iowa border to Albert Lea in exchange for the lowest possible rates for their trains to the flour milling center in Minneapolis.¹⁵⁰

By this time in the late 1870s, Washburn had organized a system of friendly rail interests that connected his flour mills in Minneapolis to the distribution centers of Chicago, St. Louis, and Duluth. Even after his death in 1882, his brother William continued to search for new outlets for Minneapolis flour. Completed in 1887, the Soo Line linked Minneapolis with Sault Ste. Marie, Michigan, and bypassed these other cities altogether.¹⁵¹ Nearly 20 years earlier, William had foreseen the future of Minneapolis rail transportation. Describing the advantages as “numerous and great,” he proclaimed that “We could make Minneapolis the point between the Union Pacific and Lake Superior.”¹⁵² This vision had indeed come true, for by time C.C. Washburn died in 1882, his flour mills were not only producing more than at any other time, but the railroads he had helped establish were also carrying more shipments from Minneapolis than ever before.

In 1882, the Minneapolis Board of Trade released their annual report of business activity and statistics from the past year. It reported that flour production had exceeded 3,000,000 barrels that year, an increase of 1,000,000 over the previous year.¹⁵³ Further it estimated that shipments mirrored this pattern. In 1860, well before rail lines had reached Minneapolis, there were only 30,000 flour shipments out of the city. A decade later, it reached 193,814 shipments. After the

¹⁵⁰ *Northwestern Miller*, April 12, 1878.

¹⁵¹ Bicha, C.C. *Washburn and the Upper Mississippi*, 174.

¹⁵² W.D. to C.C. Washburn, June 2, 1869, Minnesota Historical Society.

¹⁵³ Minneapolis Board of Trade, *Annual Reports*, 1882, 12.

Washburn controlled rail lines to Minneapolis were completed in 1871, the shipments continued to grow exponentially. Only five years later in 1876, the number of shipments topped one million and, after a brief plateau until 1879, the numbers rose to two million and finally to over three million by 1881.¹⁵⁴ Additionally, the report stated that many railroads centered in Minneapolis were still building new track, including the 128 miles of new track built by the Minneapolis and St. Louis line.¹⁵⁵ Though this number is significantly less than the 442 miles built by the competing Milwaukee Road that year, the Minneapolis and St. Louis was never intended to become a major railroad. All that Washburn needed when he sponsored it was a route around his competitors. Indeed, once he believed he was secure in his railroad options and after the Minneapolis and St. Louis was operating profitably, he sold his stock in the railroad and “pocketed the proceeds.”¹⁵⁶ After a decade of maneuvering in the burgeoning railroad scene in Minnesota and handling the ‘autocrat of the Milwaukee Road,’ Washburn had completed his goal of creating a reliable and affordable network of rail transportation for his mills. In doing so, he benefited the other mills in Minneapolis and contributed to the rapid growth of the flour milling industry in the city.

Soon after he removed himself from the politics of the Minnesota railroads in 1881, Washburn’s health began to falter. In February of that year, he suffered a stroke that was fortunately non debilitating. He sought relief at a number of famous health spas; first in Hot Springs, Arkansas, then in a variety of European cities. He maintained correspondence with his colleagues in Minneapolis throughout this holiday. Indeed, in the summer of 1881, he wrote to William de la Barre a number of letters about various aspects of the mills and the water power

¹⁵⁴ Ibid., 42, 45.

¹⁵⁵ Ibid., 24.

¹⁵⁶ Bicha, *C.C. Washburn and the Upper Mississippi*, 175.

company. He often noted the condition of his health to de la Barre. Writing from Carlsbad, Germany, on July 2, 1881, Washburn wrote that “I like this place very much. It is very elevated and cool and the water are said to be peculiarly adapted to people affected as I have been. I shall probably remain here three weeks and hope that my cure will then be complete.”¹⁵⁷ He visited other locations in Germany and Switzerland, where he stayed “three hundred feet above the lake of Geneva,” before returning to the United States in November.¹⁵⁸ Soon after his return, however, his condition began to deteriorate rapidly. After organizing his business affairs with the help of Cyrus Woodson, his former business partner and lifelong friend, he returned to Arkansas to visit the “healing waters” in Eureka Springs.¹⁵⁹

Despite the healthful and restoring reputation of the springs, Washburn’s health did not improve significantly. Charles Martin, Washburn’s lifelong personal secretary, wrote to de la Barre on April 21, 1882, regarding the Governor’s health. He began, “The gov is improving daily but his progress is necessarily slow - very slow - and he is weak.” After discussing his particular conditions, Martin reported that Washburn’s “organs seem to be in good working condition and his heart and kidneys all right.” He concluded by stating that he hoped they would “remain here long enough to get full benefit from the waters.”¹⁶⁰ Washburn was also feeling optimistic about his recovery. On April 1, 1882, he wrote a letter to de la Barre concerning a potential milling exhibit in which he further reported that “I think I am getting along pretty well, and it seems to me this morning, that I am better than any previous day since I came to Eureka Springs. I hope I shall see you early in June ...”¹⁶¹ Unfortunately, Washburn never got to see de

¹⁵⁷ C.C. Washburn to William de la Barre, *de la Barre Papers*, Jul. 2, 1881.

¹⁵⁸ *Ibid.*, Aug. 23, 1881.

¹⁵⁹ Bicha, *C.C. Washburn and the Upper Mississippi*, 187.

¹⁶⁰ Charles Martin to William de la Barre, *de la Barre Papers*, Apr. 21, 1882.

¹⁶¹ C.C. Washburn to William de la Barre, *de la Barre Papers*, Apr. 1, 1882.

la Barre in June. On May 14, he succumbed to his deteriorating health. His body was transported back to LaCrosse, his home city, and buried in the Oak Grove cemetery with the largest monument erected there to date.¹⁶² An even larger monument to his achievements, however, remained in the flour mills situated along the west bank of St. Anthony Falls in Minneapolis.

Following his death in 1882, the company continued to expand and reach new markets in the United States and around the world. In 1891, the Washburn Crosby Company contributed to a relief campaign for a Russian drought and famine organized by William C. Edgar, the longtime editor of the *Northwestern Miller* and author of *The Medal of Gold*.¹⁶³ Also, during the First World War twenty years later, the company again contributed to relief effort for Belgians affected by the ongoing battle. As the company entered the twentieth century, the innovations that had brought it and Minneapolis to the forefront of the flour milling industry became more widespread. The outstanding profit margins the Minneapolis mills experienced in the 1870s soon dropped to the average margins, usually around a couple of cents per barrel, as the technology became available for many mills around the country. Despite this, the company continued expanding and increasing capacity. Also, it soon began using its famous slogan: “Eventually....Why not now?” Furthermore, with the opening of new markets in Europe and the ever improving transportation options in the United States, the Washburn Crosby Company opened new mills in Livingston, Montana, as well as Buffalo, New York. Under the leadership of James S. Bell and then his son, James F. Bell, the company continued evolving with the changes in the industry. On June 22, 1928, it merged with a number of other mills around the

¹⁶² Kerck Kelsey, “C.C. Washburn: The Evolution of a Flour Baron,” 50.

¹⁶³ Harold F. Smith, “Bread for the Russians William C. Edgar and the Relief Campaign of 1892.” *Minnesota History* 42, no. 2 (1970): 54.

country to form General Mills, a company which is still a major food producer and which still operates from its headquarters in Minneapolis.¹⁶⁴

In his time with the flour mills of Minneapolis, Washburn contributed significantly to the growth of the flour milling industry in the city. Though he never lived there at any point during his career, his decisions and actions influenced the success of Minneapolis in the nineteenth century. First, he understood the potential for flour milling provided by St. Anthony Falls and the surrounding wheat growing region. Further, by attracting to his mills the right managers and engineers, Washburn ensured that his company remained at the forefront of the innovations that were being rapidly developed during the early phase of Minneapolis flour milling. He also was the first Minneapolis miller to attempt to open markets in Europe. Finally, in his efforts to avoid the Chicago Pool railroads, he helped connect Minneapolis to the growing network of railroads in the state and the country while ensuring that the west side mills would have transportation options well into the future. From the organization of the Minneapolis Mill Company and the construction of the B Mill to the new A Mill and his death in 1882, Cadwallader C. Washburn significantly contributed to the region's flour milling industry and profoundly impacted the growing city of Minneapolis.

Bibliography

Secondary Sources

Bicha, Karel D. *C.C. Washburn and the Upper Mississippi Valley*. Garland Pub., 1995.

Calomiris, Charles W., and Larry Schweikart. "The Panic of 1857: Origins, Transmission, and Containment." *The Journal of Economic History* 51, no. 4 (1991): 807-34.

¹⁶⁴ James Gray, *Business Without Boundary*, 141.

Edgar, William Crowell. *The Medal of Gold: A Story of Industrial Achievement*. Bellman Company, 1925.

Fieldhouse, William R. "History of the flour milling industry of Minneapolis." PhD diss., University of Minnesota, 1916.

Frame, Robert M. "The Progressive Millers: A Cultural And Intellectual Portrait Of The Flour Milling Industry, 1870-1930, Focusing On Minneapolis, Minnesota". PhD diss., University of Minnesota, 1980.

Gray, James. *Business without Boundary: The Story of General Mills*. University of Minnesota Press, 1954.

Hofsommer, Don L. "'Temples of Mammon and Hives of Industry': Railroads and the Minneapolis Milling District." *Minnesota History* 61, no. 6 (2009): 248-259.

Hunt, Gaillard, ed. *Israel, Elihu and Cadwallader Washburn: A Chapter in American Biography*. Ayer Publishing, 1971.

Kane, Lucile M. *The Falls of St. Anthony: The Waterfall that Built Minneapolis*. The National Academies, 1987.

Kelsey, Kerck. "C.C. Washburn: The Evolution of a Flour Baron." *The Wisconsin Magazine of History* Vol. 88, No. 4 (Summer 2005): 38-51.

Kuhlmann, Charles Byron. *Development of the Flour-Milling Industry in the United States: With Special Reference to the Industry in Minneapolis*. The Riverside Press Cambridge, 1929.

Kuhlmann, Charles Byron. "The influence of the Minneapolis Flour Mills upon the Economic Development of Minnesota and the Northwest." *Minnesota History* Vol. 6, No. 2 (Jun., 1925): 141-154.

Larson, Henrietta M. *The Wheat Market and the Farmer in Minnesota: 1858-1900*. Columbia University, 1926.

Marquette, C. L. "The Business Activities of C.C. Washburn." PhD diss., University of Wisconsin Madison, 1940.

Parcell, Lisa Mullikin, and Margot Opdycke Lamme. "Not "Merely an Advertisement": Purity, Trust, and Flour, 1880–1930." *American Journalism* 29, no. 4 (2012): 94-127.

Perren, Richard. "Structural change and market growth in the food industry: flour milling in Britain, Europe, and America, 1850-1914." *The Economic History Review* 43, no. 3 (1990): 420-437.

Roberts, Kate, and Barbara Caron. "'To the Markets of the World': Advertising in the Mill City, 1880-1930." *Minnesota History* 58, no. 5/6 (2003): 308-319.

Rogers, George D. "History of Flour Manufacture in Minnesota," Minnesota Historical Society Collections 10, pt. 1 (St. Paul, 1905).

Smith, Harold F. "Bread for the Russians William C. Edgar and the Relief Campaign of 1892." *Minnesota History* 42, no. 2 (1970): 54-62.

Storck, John, and Walter Dorwin Teague. *Flour for Man's Bread*. University of Minnesota Press, 1952.

Primary Sources

C. C. Washburn letters received, 1869, P2192. Minnesota Historical Society Manuscripts, St. Paul, Minnesota, United States.

Northwestern Miller Collection, HD9056 .N8 v.117-248. Minnesota Historical Society Manuscripts, St. Paul, Minnesota, United States.

William de la Barre Papers, A/.D332. Minnesota Historical Society Manuscripts, St. Paul, Minnesota, United States.

William H. Dunwoody and family papers, 1837-1915, A/.D928. Minnesota Historical Society Manuscripts, St. Paul, Minnesota, United States.