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The early development of the flour milling industry on the Prairies

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Examinations of the historical economic geography of the Prairie Provinces have tended to emphasize the significance of "raw" wheat over "manufactured" flour when studying "staple" production. However, the present cultural landscapes of this region might have been quite different if the production of milling quality wheat had not been successfully developed. In this paper the spatial and economic evolution of the flour milling industry in the Prairie Provinces of Canada is examined. It is argued that two distinct aspects of the flour milling industry should be distinguished. First, a few major extra-regionally owned and controlled flour milling companies came to dominate the export industry of the Prairies, and also influence much of the development of the cultural landscapes of the region. Second, a much larger number of locally owned flour mills were established that basically served their tributary areas, by manufacturing flour for sale or by gristing, although occasionally also producing flour for export. Although of critical significance locally, they were less important in developing regional landscapes. They thrived as a result of the evolution of the Prairie Provinces. As the economics of flour milling have changed most of these smaller enterprises have fallen by the wayside.

The production of staple goods has characterized the Canadian Prairie Provinces since this "peripheral" region was first integrated into what Wallerstein has termed the "modern world system".[1] When Manitoba became the first province "of Canadian creation" in 1870, it was still very much dominated by the fur trade. But this "old Manitoba" was soon to be "engulfed in the new Manitoba" with the fur trade giving way to the grain trade, and "the cart brigade to the railway train".[2]

The economy of the Canadian Prairie Provinces of Manitoba, Saskatchewan, and Alberta has traditionally been dominated by the "staple" crop of wheat.[3] Although Canada is today only the fifth largest wheat producer in the world, it is the second largest exporter, and the vast bulk of Canada's wheat is raised in the three Prairie Provinces. "The prairie west," as Friesen has demonstrated, "was intended to be Canada's settlement frontier," and the process of settlement was so successful that by the late 1920s the "wheat economy" was "firmly established", and the wheat landscape was firmly built.[4] Wheat had become "the keystone in the arch of Canada's national policy. Its production and sale made possible the construction of transcontinental railway systems, and the extension of political control across the continent to the Pacific".[5] In addition it attracted settlement to the Prairies, "sustained the population which homesteaded there in the latter part of the past century and the early part of the present one, and converted the grassy plains into cultivated land".[6]

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Although the success of the grain trade, accompanied by the rise of "King Wheat", was a critical factor in transforming the region, it is misleading to look at the regional impact of this trade in isolation, for it was the fact that it was a trans-national phenomenon that was particularly important. In addition, the critical (and obvious) connection between wheat and the grain trade should not be mistaken for an identification of one with the other. For it was not wheat *per se* that led to the economic boom on the Prairies, but the demand for this grain as the raw material for what Steen has called "The World's Oldest Industry" of flour milling, that proved crucial to Prairie development.[7] Without the demand for flour, and the ability of the Prairies to grow the varieties of grain that were needed by the milling industries of the world, a quite different pattern of landscape change may have taken place. As the significance of flour milling to Prairie development is commonly neglected, it is the purpose of this paper to redress the balance, by looking at the constantly changing relationship between this product and the rest of the world, and how this change was reflected in the economic landscape. The focus here is the time period from 1885, when Prairie flour was first exported, to the late-1930s, by which time flour milling was about to lose its primacy in all three Prairie Provinces.[8]

Flour milling has always been of major significance to the "modern" Prairie Provinces. This importance can be seen in two ways, and the structure of the paper will reflect this division. First, several of the early major line elevator companies were flour milling concerns such as Ogilvie Flour Mills, The Lake of the Woods Milling Company, Western Canada Flour Mills, and Maple Leaf Mills.[9] Although having a very definite "Prairie presence", these companies were oriented towards external areas, and had their head offices and controlling interests outside of the region.[10] As such they were instrumental in the integration of Prairie agriculture into the world economy. Their demands for the raw material for flour milling were critical in the decision making processes that led to the rise of not only "King Wheat", but also the kinds of wheat produced, and the systems used to market this crop. Second, there were many small local milling companies that principally serviced the areas around them, although also at times producing flour for export to other areas of the Prairies, Canada, and even the rest of the world.[11] They were begun and built mainly by mostly local entrepreneurs, or by immigrants who then became "locals", and as such constitute a different kind of company to the "line" milling companies. They existed principally to serve a need of the population that was migrating on to the Prairies in order to engage in agriculture, and their major concern has always been with the consumers located within areas tributary to them.

The development of the grain-staple economy

Growing wheat in Manitoba dates back to the settlers in Lord Selkirk's Red River Settlement which was established in 1812.[12] But for seventy years the "West" was held stationary in the grip of a "production limit" governed by actual "home consumption".[13] Unfortunately the solution to this problem—exports—could not be initiated until there was a demand for Prairie wheat, as well as a means of supplying it. This demand did not come until Prairie wheat was needed as a milling grain in Ontario and Quebec, and this itself had to follow a demonstration that Red Fife wheat could be successfully grown in Manitoba.

Red Fife wheat had not originally enjoyed favour with millers because its flinty kernels would not produce the kind of flour desired.[14] In the 1870s, however, the introduction of the La Croix "purifier" and "the gradual reduction process, involving the substitution of chilled iron rollers for the traditional millstones, brought about a veritable milling revolution",[15] leading to larger, lower-cost structures that produced a superior product.[16] These changes were incorporated into Winnipeg mills beginning in 1881,[17] gave impetus to the demand for spring wheat, and brought the crops of the Prairies and the Dakotas "into high favor".[18] Red Fife wheat, in particular, rose to premium rank, and the importance of milling proved to be so great that it seems certain that without the invention and diffusion of the new technology, the growing of spring wheat in the West and thus development of western Canada, might have been greatly retarded.[19]

It is an axiom of the economic geographer that the location of specific industries is constantly shifting, with some businesses and areas becoming more or less important as circumstances change. These variations also have important repercussions upon the communities involved, which can go from "boom to bust" if successful adjustments are not quickly made. Such was the case with the growing of Prairie wheat and the production of flour from this grain. Winnipeg's commerce still rested on the fur trade until 1875, but the mercantile elite had "seen the writing on the wall" and few of the city's traders confined themselves to this type of business. They had branched particularly into the general retail trade, and into the supply of retailers in new rural settlements, "with nearly every merchant in [Winnipeg] dabbling more or less in" wheat.[20] Lumber was the first and for some years the largest of Winnipeg industries, but by 1875 flour milling was overtaking the lumber industry and "the great warehouse and towering smokestacks of McMillan's" 200 barrel stone process flour mill, built in 1876, came to dominate the skyline. The Hudson's Bay Company's still bigger "mammoth" stone process mill also opened in 1876.[21]

Flour still remained, however, a product for the local market, although it was also supplying the incoming settlers and the railway construction gangs who were moving westward. But in 1877 "R. Gerrie and Co. shipped a consignment of Manitoba wheat by Duluth to the Goderich, Ontario, mills of the well-known Montreal firm of A. W. Ogilvie and Co."[22] Other sales followed, and soon buyers for the Ogilvie company were themselves in Manitoba.[23] The demand for Prairie flour had been generated, but the supply side was still weak: steamboats could only export so much. It would, however, be transformed by the coming of the railway, first from the south (1878) and later from the east (in the early 1880s). As a consequence, although in "1884 the grocery and provision trade showed the largest aggregate of business, [by 1886 it had] given place to grain, grain products and milling".[24] In 1885 came the first export of flour from western Canada, an Ogilvie shipment to Glasgow, Scotland,[25] and by 1886 Winnipeg flour was driving out American flour in the British Columbia market.[26] Enquiries from the British Army and Royal Navy after their 1885 shipment convinced the Ogilvie company of the future of Prairie grain and wheat, and encouraged them in their building of the first Prairie "line" of elevators to collect grain and thus furnish their mills with a guaranteed supply of grain.[27]

Flour milling in Canada was entering a modern phase and was to expand considerably over the next forty years, before entering new periods of adjust-

ment that were again to transform the industry in the 1930s, and subsequently. But this pattern of evolution would affect the different sectors of the industry in the Prairie Provinces in various ways. Before these two sectors of the industry are examined in detail, however, a brief review of the Prairie flour milling situation must be made in order to provide an overall context.[28]

The modern flour milling industry in the Prairies

The introduction of roller milling and the opening of the West, with its new land and improved transportation facilities, began to provide a vast supply of wheat that enabled the milling industry to expand. However, in the 1890s further changes occurred. The price of wheat dropped,[29] and battles over freight rates took place which eventually made it more profitable to transport "raw" wheat than "manufactured" flour.[30] This led to hardships especially for small scattered mills,[31] and to the consolidation of milling in a few strategic locations, although these changes were more noticeable in the established areas of eastern Canada than in the growing West.[32]

But as the high quality of Prairie wheat—particularly for milling—became recognized around the world, Canada's large export trade in wheat and flour developed, and the milling industry attained a capacity well beyond the need of the domestic market.[33] Before the dawn of the twentieth century, exports had become significant to the national industry and were already critical to the Prairie producers, with over 90% of production needing to find an "outside market" in 1896 (Table 1).[34] Nationally, although only 5% of Canada's flour production was exported in 1881, this proportion had risen to over 10% in 1901, and to over 15% by 1911. Although the normal development of flour milling was interrupted by the First World War, the demand for overseas flour in Britain and Europe meant that Canada's flour exports more than doubled between 1914 and 1919.[35] In this year nearly 38% of production was exported, and this figure

TABLE 1
Canadian flour exports 1881–1940

Date	Exports (% of production in dollar value)	Exports (in dollar value)	Export rank
1881	5·0	2,173,108	n/a
1891	2·5	1,388,578	13th
1901	12·2	4,015,226	8th
1905	11·3	5,877,607	9th
1911	15·3	13,854,790	3rd
1917	21·0	47,473,474	3rd
1921	33·8	66,520,490	3rd
1926	38·0	71,994,000	3rd
1930	24·9	45,457,195	4th
1935	19·9	19,382,617	5th
1940	21·3	26,352,000	8th

Sources: *Canadian Statistical Abstracts and Record 1885* (Ottawa: Department of Agriculture); *The Statistical Yearbook of Canada for 1891, 1901* (Ottawa: Department of Agriculture); *The Canada Year Book, 1905, 1911, 1917, 1921, 1926, 1930, 1934–35, 1940* (Ottawa: Dominion Bureau of Statistics).

remained at almost 35% in 1923 (when flour milling was the country's major industry).[36]

By the early 1920s flour exports were the third most important Canadian export (wheat was first), with flour milling the second largest industry. These positions were retained throughout the 1920s, as a result of the growth of trade with the Orient, although the shipments dropped by 40% from their earlier high point. During the 1930s the effects of the Depression were felt as exports dropped steadily in value and volume (with less being exported in 1937 than in 1911), although Canada continued to be one of the world's largest exporters of wheat flour.[37]

The growth of the extra-regional companies

That the original firms attracted into the line elevator company business were flour milling concerns was a consequence of a number of circumstances.[38] First, although local expertise in the grain trade began to grow in the late 1870s, it was still only a sideline for most of the Winnipeg businessmen involved.[39] Second, for both local and extra-regional entrepreneurs seeking Prairie opportunities, the real estate business, and even the lumber business, seemed more rewarding until the early to middle 1880s.[40] Third, wheat farming in Ontario "was failing", and the millers needed a new source of grain.[41] The experience of A. W. Ogilvie and Company will be pursued in detail. This is the best example of the entry of an extra-regional flour milling company onto the Prairies, as it most clearly and completely demonstrates the patterns of takeovers/amalgamations that occurred in the industry, the use of a line of country elevators to secure a supply of milling wheat, the growth in size as well as the economies of scale of mill operation, the attempts at market domination by patterns of vertical integration, and the decline of Prairie milling. As the development (and decline) of the other major Prairie milling companies reflects similar experiences, they will be considered more briefly.

The Ogilvie flour milling empire set up its western subsidiary as W. W. Ogilvie and Company, built its first elevator in Manitoba in 1881, and constructed its 1,000 barrel roller process Winnipeg flour mill in 1882.[42] A line of elevators was then constructed, through districts that produced the best milling grades of grain, as an early part of a pattern of vertical integration by the Ogilvie company across the Prairies. It was designed to guarantee a supply of milling-quality flour to the Winnipeg operation which, if running at full capacity, could use 1,000,000 bushels of wheat annually.[43] As a manager of the Ogilvie company in Winnipeg put it, ". . . the matter of selection and accumulation for future use, of grain of suitable quality for our milling requirements, makes a line of interior elevators of our own a necessary adjunct to business".[44] These elevators also served a retailing and wholesaling function in the distribution of the Ogilvie products to Prairie customers,[45] as well as "intelligence centres" from which the company kept itself informed about the quantity and quality of crops in the Prairies. It was clear that milling in Canada, as in the United States, "was no longer primarily a trade but had become a business".[46]

The construction of the line of elevators was a result of solicitation by the Canadian Pacific Railway (CPR) the general manager of which, Sir William Van Horne, had learned through his American experience that such a programme could create traffic for the railway.[47] This was particularly important as the

CPR needed to compete with American rates in order both to make a profit and allay criticism, but had to do so while operating a lengthy line that passed through difficult and expensive territory—such as the Canadian Shield—that might never produce a profit. Although funded in large part by the parent company, Ogilvie Milling's line of elevators was also financed indirectly, at a critical early stage, by the CPR which gave "rebates" to the miller based upon the amount of flour shipped to the Lakehead.[48] Although complete detail on these rebates is lacking, they were great enough to pay for eight new elevators in 1885.

Ogilvie Milling's success was also said to be the result of practices that were not in the farmers' interests. In 1884, for instance, the company's buyers were offering prices lower than those agreed upon in the rebate agreement and the CPR had to step in to rectify the situation.[49] The Ogilvie company, and later the other large milling companies, were also criticized because they were believed to be large enough to be able to affect the overall price of grain, which led to the Prairie farmers receiving a lower price for their wheat. The fact that up to 1889 "Mr. Ogilvie [had] purchased more than half of all the wheat grown in Manitoba and the North-West Territories" gave some credence to these claims.[50] In addition, the large millers were accused of spreading false reports about crops in order to lower prices, and of exploiting the grading system for wheat in order to buy the grain at prices below its true value.[51] There were also complaints about grading and docking, both of which were largely a judgement call on the part of elevator operators—and thus something over which the farmers had little control. This was particularly a problem at points where Ogilvie Milling had the only elevator, and in some instances (e.g. at Manitou in 1884) led to the local farmers building their own elevator. As competition increased in the late 1880s and early 1890s, however, the specific criticism of the Ogilvie company seems to have disappeared, although "the large western milling companies" were still subject to attack two decades later.[52]

Although these issues make one suspect excessive greed on the part of the Ogilvie family, and this was certainly the opinion of the contemporary farmers, we should avoid making a judgement based only upon our present-day codes of business ethics if we wish to understand fully these actions. It should be recognized that apart from the short run problems associated with the staples economy,[53] and the fact that the years from 1885 to 1896 were poor agricultural years for the Prairies,[54] the Company was at this time in direct competition with US based organizations which were also unrestrained by rules and regulations. As a consequence the Ogilvies believed that they had to operate very frugally—and "unfairly"—in order to survive. In 1885, for instance, Ogilvie was involved very competitively with the Pillsbury company from Minnesota, and a flourishing trade in derogatory "advertising sheets" had each miller trying to prove that his flour was of superior quality.[55] In 1886 "Mr. Pillsbury admitted . . . that his firm had for a long time earned no profit on flour exported to Europe", having dumped it in this market [and in Canada] "for what it [would] bring".[56] In 1887 "the intensity of United States competition forced the Ogilvies to close all four" of their mills temporarily.[57] To make the lives of Canadian millers more difficult, between 1876 and 1886 the Minneapolis Millers Association maintained an extensive line of elevators in Minnesota and North Dakota "through which participating millers bought wheat supplies at prices often considered distressingly low by farmers and militant, recently organized farm organiza-

tions",[58] and allowing them at the same time an unfair advantage compared to their Canadian counterparts. It should also be recognized that the existence of the Ogilvie elevator system, and of those put in place by other line companies, did have some advantages for the farmers, particularly in terms of reliable marketing. On balance, however, the major elevator owning companies were probably more successful than the farmers in exploiting the circumstances available to them.

The rise of the Ogilvie "empire" mirrored (and of course, to some extent caused) the growth of the Canadian national trade that was detailed earlier. In part, this success is indicated by the growth in the company's early milling capacity. In 1890 the capacity of the Winnipeg mill was 1,800 barrels per day, and in 1900 it was 2,500 barrels, but in 1909 Ogilvie Milling built the "biggest mill in the British Empire" and "probably the biggest in the world" at its Point Douglas (Winnipeg) site, increasing production from 4,000 to 8,000 barrels per day.[59] A 2,300 barrels plant in Medicine Hat was built in 1913, and a mill in Edmonton was purchased in 1923. With its successful responses to the various challenges Ogilvie Flour Mills grew nationally large enough to be able to compete with the largest American concerns and hold a "towering position among its rivals" in Canada by at least 1918.[60] In the 1920s, Ogilvie, along with the other large milling companies in Canada, also expanded into the bakery trade, and other flour-related businesses, in order to help guarantee an outlet for their flour.[61]

In the Prairies, flour milling began in Winnipeg, but it was soon dispersed to other centres in other parts of the region. By 1921, when 11 of the 26 major (over 800 barrels) Canadian mills with 26% of the national capacity were in the Prairie Provinces, only three were in Manitoba. These mills had, however, 44% of the Prairie capacity, compared to 22% in Saskatchewan (three mills), and 34% (four mills) in Alberta. By 1940 the Prairie Provinces had 39% of national capacity. Of this total, Saskatchewan had 40%, Alberta 33%, and Manitoba only 27% (the Lake of the Woods mill in Portage la Prairie having closed). The Prairie total continued to rise until the end of the Second World War but has since dropped dramatically.[62] Today the Ogilvies' Medicine Hat mill is the only one still operated by this company on the Prairies, and its closure appears likely.

The successful growth of flour milling in Canada came in part because of the quality of the product, but also because of the success of the system employed by the large companies to gain control over all aspects of the industry, and thus lower production costs. For the Ogilvie company (and others), this included its country elevator system which gave it complete control over the quality and quantity of grain it purchased, as well as eliminating the need to pay other middlemen to handle this grain. Thus, from its first (Gretna) elevator built in 1881, Ogilvie grew to 20 structures by 1884, and had 38% of the Prairie capacity (Table 2).[63] Their storage facilities had risen in number to 28 by 1890 (Figure 1), and 49 by 1896 (13% of structures and 17% of capacity). Although these figures reveal considerably less than the monopoly position suggested by many farmers, other factors have to be taken into account. Thus there was the regional concentration of Ogilvie elevators (mostly on CPR lines in southern Manitoba), the presence of single elevator points, the existence of other large line company holdings (after 1888), and the small size of the competition (the two next largest companies in 1885 had five structures; only one non-milling company had more than seven structures in 1890; only one had more than eight in 1896).[64]

TABLE 2
Licensed elevator ownership: major milling companies[1]

Date	Ogilvie	LofW	WCFM	Maple Leaf	Ellison	Quaker	Robin Hood
1884	12	–	–	–	–	–	–
1890	28	7	–	–	–	–	–
1900	45	48	–	–	–	–	–
1911	118	88	79	46	–	–	–
1920	170	116	96	38[2]	16	17	11
1928	161	114	85	54	18	19	7
1932	149	105	85	–	21	19	–
1938	146	87	75	4	21	13	3

Sources: 1884, Egan to Van Horne, 31 December 1884. CP Archives #8069; 1890 and 1900, *Second* and *Twelfth Annual Reports of the Winnipeg Grain and Produce Exchange* (Winnipeg: WGPE); *1911–12 List of Licensed Elevators in the Manitoba Grain Inspection Division* (Ottawa: Department of Trade and Commerce); *1920–21, 1938–39, List of Licensed Elevators and Warehouses in the Western Grain Inspection Division* (Ottawa: Department of Trade and Commerce); *1932–33, 1938–39, List of Grain Elevators in the Western and Eastern Grain Inspection Divisions* (Ottawa: Department of Trade and Commerce).

Notes
1. Excluding "Flat Warehouses". See text for full company names.
2. Many Maple Leaf elevators were unlicensed in 1920. They owned about sixty elevators at this time.

But perhaps the best index of the influence of Ogilvie Milling (along with the Lake of the Woods Milling Company [LofW]) in the trade, is the fact that their success as large elevator owning companies later compelled the smaller companies to amalgamate into syndicates in order to survive. In 1896 nearly 38% of storage structures were owned by the Ogilvie, LofW and the Northern Elevator Company (the first non-milling line company on the Prairies), with others owned by their close colleagues. Only 20 stations had "Farmers'" elevators which made up only 5% of storage buildings—but these were all separate joint-stock companies, and were not under a unified management.[65] As virtually no other companies owned more than two or three structures, they had little chance of exerting any control in the industry. In 1900 and 1902, the largest companies owned 68% of the elevators, with farmer-owned structures having only increased to 27 (6% of the total) in 1900, and decreased to 23 (4% of the total) by 1902.[66] By 1900 the Ogilvie company owned only 45 structures, in part because it had completely phased out its flat warehouses. But in 1902 its holdings

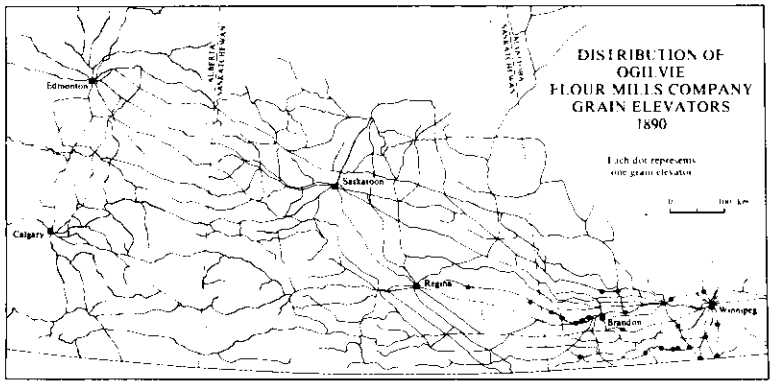

Figure 1. Distribution of Ogilvie Flour Mills Company Grain Elevators 1890.
Source: Government of Canada data

numbered 61, and by 1911 it had 118 elevators, with the total peaking at 170 in the early 1920s (Figure 2) until the takeover of The Lake of the Woods Milling Company in 1954 when this company's elevators were acquired. During these years of growth it continued an aggressive policy in order to maintain its advantage in the market.[67]

The distribution of these elevators very much reflected the spatial and temporal growth of the overall system: in 1911 most were in the southern Prairies (72% in Manitoba for instance), with over 86% being on CPR lines, as these were the most agriculturally settled areas during the early growth stages of the flour milling industry. Although these patterns changed somewhat as Alberta and Saskatchewan were settled more intensively (only 41% were in Manitoba in 1923), over 90% of the Ogilvie elevators were on the CPR when the company's "line" of elevators reached its peak size in the early 1920s. The system gradually declined in numbers as other sources of supply became more dependable (e.g. other elevator companies and then the Wheat Board[68]), and as the Ogilvie company made the decision to concentrate on being a flour milling operation and not a line elevator company.[69] Its remaining 224 elevators were sold to the three provincial Pools in October 1959 "for the purposes of better capitalization".

The story of Lake of the Woods Milling Company [LofW] with its head office also in Montreal is similar to that of Ogilvie and company. It built a 1,200 barrel per day capacity mill at Keewatin (in northwest Ontario) in 1887–88, which was soon to be supplied by its own line of country elevators.[70] New building, purchases of existing companies, bakery ownership, as well as other factors, reflected strategies similar to the Ogilvies'. By the early 1890s LofW was a significant force on the prairies and remained so until the company was sold to Ogilvie Milling in 1954. Even the spatial distribution of its line of elevators was similar to that of Ogilvie Milling (Figure 3).

These two companies dominated the Prairie milling trade until 1905 when Maple Leaf Mills and Western Canada Flour Mills [WCFM] were organized. By 1921 Maple Leaf had overtaken LofW to become the second largest company in Canada, although most of its milling capacity was in its origin-area of Ontario.[71] Maple Leaf disposed of most of its "line" of 59 country elevators (again principally on the CPR) to Federal Grain in 1929. In contrast with the other three major milling companies, over half of the elevators of WCFM were

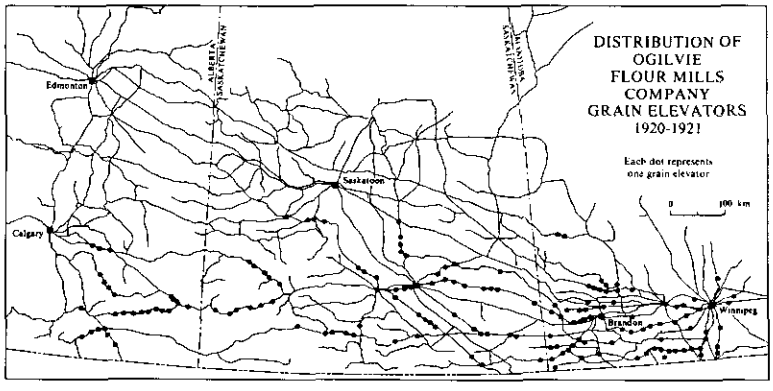

Figure 2. Distribution of Ogilvie Flour Mills Company Grain Elevators 1920–21. *Source*: Government of Canada data

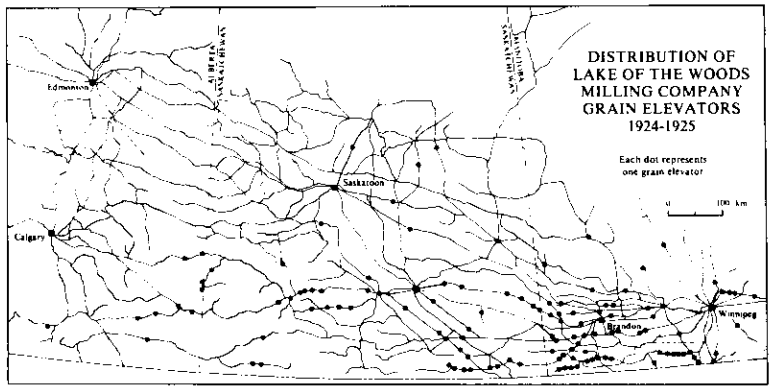

Figure 3. Distribution of Lake of the Woods Milling Company Grain Elevators 1924–25.
Source: Government of Canada data

on Canadian Northern (later Canadian National) Railway lines, due to a corporate connection between these two organizations (Figure 4).[72] WCFM reduced its country elevator holdings during the 1930s, and sold its remaining structures to various grain companies in 1938.

These major milling companies became a critical element in the Prairie landscape not just because of their demand for wheat, but also as a result of their lines of elevators. They accounted for 20% of Prairie elevators and warehouses in 1892, and over 22% by 1900. Although this percentage dropped to 16·5% in 1911, and 10·4% by 1924, it was a proportion of a much larger total: there were 421 structures in 1900 but the number had grown to 4,208 in 1924. In 1900 the "big two" milling companies owned 94 structures, in 1924 the "big four" had 436 elevators, which was 89% of the major Prairie millers' elevators.

Three other significant merchant milling companies have operated on the Prairies, and contributed to the landscape development of the region, but none built lines of elevators as lengthy as those of the "big four". This would appear to reflect the fact that by the time of their formation, the elevator system in the Prairies was becoming more complete, and thus supplies of good milling grain could be more easily assured. Consequently, much-needed capital did not have to be sunk into large numbers of line elevators.

The major latecomers were subsidiaries of US owned corporations. Thus

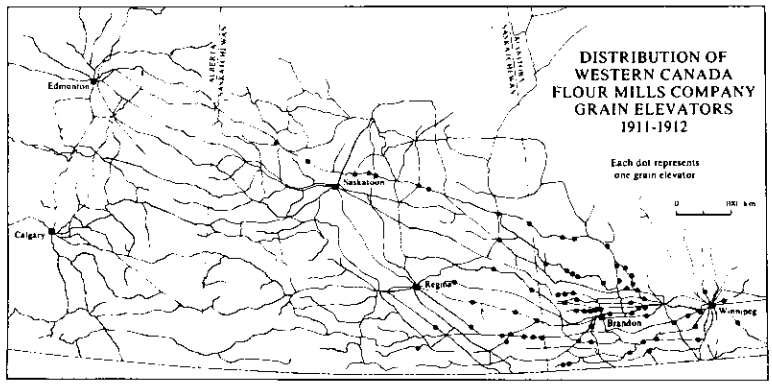

Figure 4. Distribution of Western Canada Flour Mills Company Grain Elevators 1911–12.
Source: Government of Canada data

Robin Hood Mills entered in 1909 and Quaker Oats in 1912, both by buying out existing operations. A third company, Ellison Milling formed in 1903, was owned by American Mormon immigrants, and retained corporate connections south of the border, but cannot be compared in terms of its corporate structure with the other two. The lack of major United States-owned flour milling competition on the Prairies prior to 1909 has not, to date, been fully explained. It is most likely that the Minnesota millers were not in a position to expand into Canada in the early twentieth century, at a time when American line elevator owners were beginning to set up operations north of the border. The industry in Minneapolis was, at this time, poised to decline, due to local competition, takeovers, unfavourably changing railway rate schedules, and the financial reorganization of some companies.[73]

All three other merchant companies followed similar strategies to the "big four" Canadian millers, but for the most part at a reduced scale. The Ellison Milling and Elevator Company began in the small town of Raymond in 1903, but later moved to Lethbridge, and soon owned a southern Alberta-based elevator line (Figure 5) that was extended to twenty-one houses by the early 1930s. However, it then slowly declined in numbers (to eighteen) until the company was sold to Parrish and Heimbecker in 1975.

Quaker Oats bought out Saskatoon Milling in 1912 and built its own, mostly local-regional elevator line in over the next few years (Table 2). A few elevators were added in Alberta—once again reflecting the direction of growth of Prairie settlement, and in the grain trade. The company, as part of the larger Quaker Oats conglomerate, was also involved with a variety of "forward linkage" businesses. The line of elevators was sold to Searle Grain in 1938, and the company no longer operates a flour mill in the Prairie Provinces, having sold its Saskatoon operation to Parrish and Heimbecker in 1979.

Robin Hood Mills was formed in 1909 when International Mills (from Minnesota) purchased the McLean mill at Moose Jaw, later buying (in 1912) the Calgary Milling Company. Robin Hood bought and built a small elevator line to service the mills, although these houses were mostly disposed of in the late 1920s. A third flour mill was built in Saskatoon in 1927 and Robin Hood also expanded into the bakery and other related trades in the 1920s.[74] The economic decline of the Canadian milling industry led to the Calgary and Moose Jaw mills being closed, although the one in Saskatoon is still working.

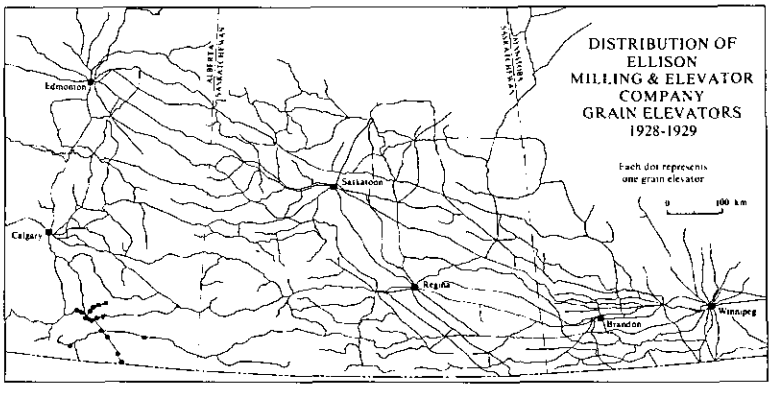

Figure 5. Distribution of Ellison Milling and Elevator Company Grain Elevators 1928–29.
Source: Government of Canada data

The local milling companies

The first export of Prairie grain in 1876, of Prairie wheat for flour production in 1877, and of Prairie flour in 1885 began several decades of expansion for the hard spring wheat mills of the Prairies. Although the large milling companies clearly had a major economic impact on the Prairie region and on the cities in which their mills were located, as well as some financial impact on the settlements where their elevators were constructed, the smaller, "custom" mills were arguably of greater relative significance to their regional economies as they were designed to serve their neighbouring communities rather than cater to extra-regional shareholders.[75] The small mills not only purchased grain from nearby farmers, and thus perhaps stimulated the surrounding region, but they also produced a commodity that satisfied a local need and created business for a railroad on a year round basis. In addition they advertised the settlement in which they were located, and were a source of regional employment, and thus may have helped to economically develop their towns.

These mills were certainly perceived by the people of the Prairies as significant, if not essential, to the growth and development of the areas around them. The import of flour was expensive, and deemed unnecessary in a region that overwhelmingly produced milling wheat—an understandable sentiment. Although the major milling companies soon sold flour through their lines of elevators, not every settlement had easy access to these lines, many settlements were not yet served by a railway, and many people believed that an element of competition might lower the prices demanded.[76] In addition, most early Prairie farmers were cash poor and could not easily purchase even reasonably priced supplies. For them gristing was the answer, as it had been for so many other farmers around the world for centuries, and most of the small mills were advertised as grist mills.

But demand did not inevitably lead to supply, especially when the new, more expensive, roller technology became available in the early 1880s. Consequently "bonuses" were offered by towns, villages, and municipalities in order to attract millers to, or keep them in, their communities.[77] The bonuses were designed to increase the overall supply of mills, but they may also have affected the distribution, by attracting a miller to one settlement, and thus crushing the hopes of a competing neighbour. The bonuses most commonly took the form of cash (up to $6,000 in some cases), which sometimes had to be repaid with interest. In other instances tax exemptions (for up to twenty years) were given, and elsewhere free land might be included. The amount of the bonus was sometimes variable—often being dependent upon the capacity of the mill that was to be constructed—and many of the packages seemed very attractive. Between 1882 and 1890 some 30 bonus offers were made, and more than a dozen mills may have been built as a result of this system.[78]

In some instances groups of "concerned farmers" formed joint stock companies to build flour mills that could both provide a local food supply, and act as a market for their grain. Although these companies may have, on occasion, also used the municipal bonuses, it would appear that they were most commonly formed where bonusing had not successfully attracted milling entrepreneurs. For the offer of a bonus clearly did not always lead to the construction of a mill. If a dozen of the bonus offerers were successful by 1890, clearly more than that number were not. Seven of this latter group did have mills by 1896, perhaps a belated result of the bonus offer, but ten communities were to have no luck at all.

The bonus system does appear to have achieved growth in the overall number of Prairie mills, although many burned and failed (and others were moved), and despite attempts by some of these settlements to restore their *status quo*, the total did not increase as rapidly as was no doubt hoped.[79] In 1881, there were only 25 flour mills in Manitoba and the Northwest Territories, with probably six of them in the Winnipeg area (Table 3). The balance were scattered from Emerson (south of Winnipeg) to Prince Albert and Battleford (in present-day Saskatchewan), but reflecting population distribution and the pattern of settlement development, they were concentrated in Manitoba.[80] By the turn of the century (Figure 6) numbers had increased, despite the significant declines exhibited elsewhere in the country, and although the distribution was still very Manitoban, there were mills as far west as Edmonton, as Prairie settlement moved in that direction.

The average daily capacity of these small mills ranged between 100 and 110 barrels during this time period (the mode was 100 barrels), compared to an average for the large (extra-regional) mills that rose from over 660 barrels in

TABLE 3
Distribution of flour mills on the Prairies

Date	Manitoba	North West Territories		Total	
				Pra[1]	Can[2]
1881	19	6		25	
1891	50	18		68	
1900	48	17		65	
		Saskatchewan	Alberta		
1911	36	21	25	82	
1921	29	34	32	95	582
1925	28	39	36	103	455
1929	28	48	35	111	409
1932	28	55	48	131	394
1934	32	65	55	152	435
1936	34	49	48	131	363
1938	34	44	46	124	328
1940	31	47	45	123	279
1950	10	18	18	46	118
1969[3]	3	3	7	13	41

Sources: 1881, 1891 and 1901 data from the *Census of Canada*. Numbers may include feed mills. The 1901 Census of Canada only listed flour mills with five or more "hands", and thus the data is not comparable; *Twelfth Annual Report* Winnipeg Grain and Produce Exchange (Winnipeg: WGPE) 1890; *The Flour and Grist Milling Industry in Canada 1921* (Ottawa: Dominion Bureau of Statistics) 1923; *Report on the Flour and Feed Milling Industries in Canada, 1925, 1932, 1934, 1936, 1938, 1940* (Ottawa: Dominion Bureau of Statistics); *The Flour and Feed Milling Industries, 1950* (Ottawa: Dominion Bureau of Statistics); *The Flour Milling Industry 1955* (Ottawa: Dominion Bureau of Statistics); *Flour and Feed Mills in Canada 1970* (Ottawa: Dominion Bureau of Statistics).

Notes
1. Total number of flour mills on the prairies.
2. Total number of flour mills in Canada.
3. Data for 1960 and subsequent years used a revised definition that slightly lowered totals.

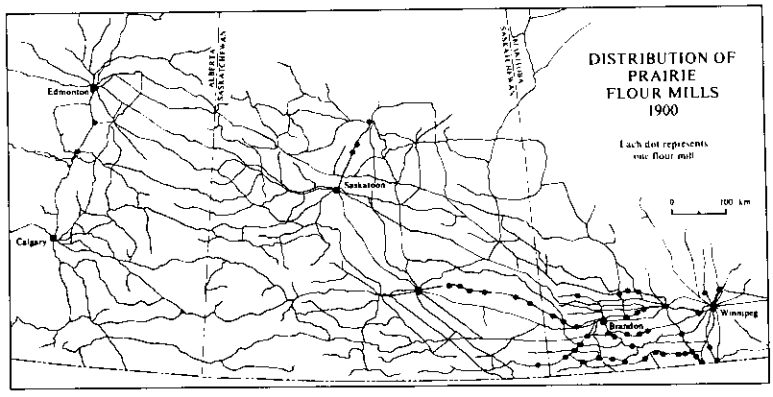

Figure 6. Distribution of Prairie Flour Mills 1900. *Source*: Winnipeg Grain and Produce Exchange 12th Annual Report

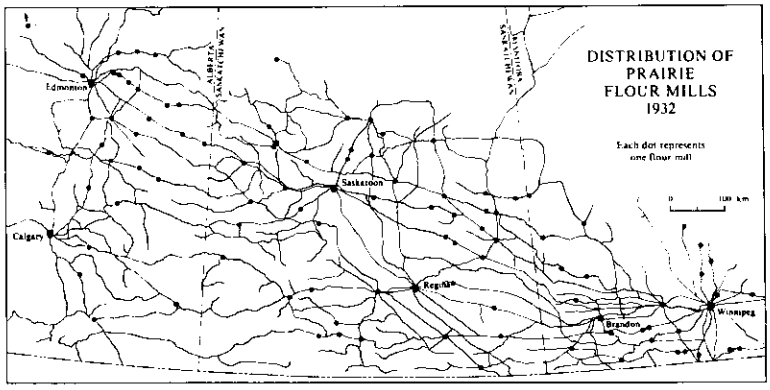

Figure 7. Distribution of Prairie Flour Mills 1932. *Source*: Dominion Bureau of Statistics

1890 to over 1,200 barrels in 1900, and nearly 1,800 barrels in 1921. Most of these small mills were roller mills, the new technology having rapidly extinguished the old, or having driven it farther into the frontier where it still could be economically used.[81]

The settlement frontier continued to expand after 1900 and this had predictable effects upon the number and distribution of small mills. By 1909 Saskatchewan produced more wheat than Manitoba, had more grain elevators by 1910, and a greater rail mileage by 1912. By 1916 Alberta also produced more wheat than Manitoba, had as many elevators, and had surpassed this latter province in railway mileage in 1917. The number of flour mills is harder to gauge, as data is missing or inadequate or inaccurate for many critical time periods, but the best indications are that the number of mills in Manitoba began to drop in the early 1900s, to a low point in the early 1920s. The flour milling industry continued to be the most important form of provincial manufacturing in the early 1920s, however, although it had dropped to second before the end of the decade.[82] A slight rise in mill numbers came in the early to mid 1930s

(Figure 7) although the industry was only Manitoba's third biggest in 1936. This level was maintained during the early years of the Second World War but sharply declined thereafter. Today only two small mills still produce flour in Manitoba.[83]

The pattern was somewhat different in the other two Prairie Provinces, reflecting their continued agricultural expansion after the settlement frontier had passed through Manitoba. Saskatchewan had more mills than Manitoba by perhaps 1912, and Alberta by the end of the decade. The war of 1914–18 gave a great impetus to the flour milling trade, although having a greater relative effect on Alberta and Saskatchewan where the potential for local growth was much greater. But profits from flour milling were such that the smaller mills probably found "difficulty in surviving" once the war was over.[84] Once again data problems prohibit definitive long-term comment, but mill numbers continued to increase in both provinces until the mid-1930s (Table 3). Flour milling was the major provincial industry in Saskatchewan from 1924–36 (and in Alberta at least during the 1920s),[85] despite the adverse effects of the Depression on the export industry.[86] In fact the hard times seemed to have helped the industry, making economies of all kinds necessary, and as locally gristed flour was cheaper than standard brands bought at the local store, custom flour milling flourished.[87]

A further impetus was given to the local milling companies throughout the Prairies by the demands from the allied countries during the Second World War,[88] but then a steady decline began so that today only two local mills still produce flour in Saskatchewan, and only one in Alberta (with this having been recently (1991) purchased by the Alberta Pool).[89]

Thus there has been a steady decline in the number of small Prairie mills, as amalgamation, consolidation, and the economics of large scale production have changed the face of the industry.[90] As Vatter has suggested for the industry in the USA, "Flour Milling appears to provide a 'classic' illustration for those who argue that mature capitalism involves the numerical demise of small enterprise."[91] In Canada, however, and perhaps not surprisingly given the history of the industry, the "numerical demise" of the small mill "involved" more than simple economics. An investigation of the flour milling industry under the auspices of the Combines Investigation Act concluded that an illegal combine had accelerated the process of decline, by price manipulation and other practices.[92]

Apart from economic changes, the milling industry, and particularly the small local mills, have also been hurt by social changes. Many of the smaller flour mills were family operations, and the grain and flour trades have repeatedly given examples of companies that do not survive the passing of the founding generation. Undoubtedly many flour mills, begun in the early years of the century, closed when the founders died or gave up production, the next generation was unwilling to take it on, and outside buyers could not be found. In addition, there may have been (as was the case in the US) a decline in flour consumption as peoples' opportunities and tastes have changed.[93] The decline of home baking and a related increase in the popularity of bakery bread (mostly produced by the extra-regional millers) as standards of living rose, has also had a major effect—particularly on gristing. More recently the growth of larger chain stores has also tended to promote the larger millers' brands over those from the small mills.[94] As the mills closed, the towns in which they were located would

have suffered, although in light of the dramatic transformations that have occurred in terms of the demography of the Prairies since the Second World War, it seems unlikely that the loss of the local mill was the critical factor in a settlement's decay. The drop in rural population numbers, however, almost certainly precipitated the decline of many small flour mills as their customer base disappeared.

These changes were not of course peculiar to the Prairie flour milling industry, but reflected nation-wide trends. In fact flour milling in the Prairie Provinces for some time continued to become relatively more important than elsewhere in the country. In 1921, when comparative statistics become available, the Prairies were home to about 16% of Canada's flour milling establishments, this figure rising slowly to 27% (of a larger total) by the late 1920s. There were 38% of the Canadian total on the Prairies in 1935, and 42% by 1945, but then the strength of the industry in the Prairie Provinces began to decline.

Conclusion

The cultivation of milling-grade wheat and the growth of the flour milling industry stimulated the development of the Prairie Provinces in the late nineteenth century and led to the development of a landscape dominated by "King Wheat" by 1930. The major milling companies controlled the production of flour,[95] and were geared to both national consumption and to export, acting as critical cogs in the "modern world system". Significantly for the Prairies, however, these major companies also dominated the grain elevator industry for two decades, and were major partners in that trade into the 1930s. They have grown and changed with the times, and appear firmly entrenched as major national and/or multi-national corporations.

Small milling companies themselves played a critical role in the development of the milling industry, but were predominantly geared to supply their local regional markets. When necessary, however, this surplus capacity could be tapped for the export trade. In this way the small millers could be viewed as serving as a safety valve on the industry, counter-balancing as they did the oligopolistic tendencies among the larger millers. They also served a critical service function to the Prairie farmers that enabled these people to turn their own grain into flour whenever necessary. Changing times have essentially eliminated this category of flour production, and with it, much Prairie milling.

In sum, the early economic growth and development of the Canadian Prairie Provinces is a classic example of an instance where the demand for, and the characteristics of, the region's staple export have strongly influenced the pace and nature of cultural landscape formation and economic progress.[96] Boom and bust cycles have characterized the Prairie economy, and the low elasticity of demand for both wheat and flour have meant that Prairie farmers benefitted less from the country's economic growth than regions such as Southern Ontario. The flour milling industry, although by no means free of criticism, did grow to be a major tool for both regional and national development for several decades—albeit within the confines of the "staples trap".[97] In its present incarnation, it still appears to be fulfilling a national role, but it is unlikely to be an engine of

Prairie regional change in the foreseeable future, and may have little influence on Canada's position within the international scene.

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Notes

[1] The principles of the Wallersteinian model and its applicability to the prairie context have been detailed in P. J. Hugill and J. C. Everitt, Macro-landscapes: the cultural landscape revised by world-system theory, in S. T. Wong (Ed.), *Person, place, and thing: interpretive and empirical essays* Geoscience and Man Series (Baton Rouge 1992) 177–194

[2] W. L. Morton, *Manitoba: a history* (Toronto 1957) 199

[3] J. C. Everitt, The borderlands and the early Canadian grain trade in R. Lecker (Ed.) *Borderlands. Essays in Canadian-American relations* (Toronto 1991) 146–172

[4] G. Friesen, *The Canadian Prairies: a history* (Toronto 1984) 301, 329

[5] W. T. Easterbrook and H. G. J. Aitken, *Canadian economic history* (Toronto 1956) 476

[6] C. F. Wilson, *A century of Canadian grain: government policy to 1951* (Saskatoon 1979) 1

[7] H. Steen, *Flour milling in America* (Minneapolis 1963); Canadian industries, 1: the milling industry *Dominion Illustrated* **3**, No. 53, (7 July 1889) 6–7

[8] Pre-railway flour milling in Manitoba is covered in B. Kaye, Flour milling at Red River: wind, water, and steam *Manitoba History* **2** (1981) 12–20

[9] Groups of elevators under common ownership came to be known as "line elevators" because they were commonly located along a single "line" of railway, with the companies owning them being called "line elevator companies": V. C. Fowke, *The national policy and the wheat economy* (Toronto 1957) 107. This terminology was never applied to farmer-owned, or cooperative elevators, although it was used to describe the elevators owned by the major flour millers.

[10] These are sometimes known as "merchant mills", although this terminology has not been exclusively applied to the extra-regional companies.

[11] These operations were sometimes called "custom mills", with the smallest being termed "micro mills", but this terminology has not been consistently applied.

[12] F. L. Dickinson, *Prairie wheat: three centuries of wheat varieties in western Canada* (Winnipeg

n.d.) 1; C. W. Anderson, Grain: pioneer merchants established Winnipeg as a major Canadian commercial centre *The Beaver* **66**, No. 5 (October–November 1986) 33–42

[13] Winnipeg Grain Exchange, *The grain trade in western Canada* (Winnipeg n.d.) n.p.n.

[14] H. S. Patton, *Grain Growers' cooperation in western Canada* (Cambridge 1928) 5

[15] Patton, *ibid.* Porcelain rollers were originally used. Other sources say "steel" rollers superseded porcelain, and chilled steel did prove to be the best: G. D. Rogers, History of flour manufacture in Minnesota *Collections of the Minnesota Historical Society* **X**, Part I (1905) 35–55

[16] *Flour from Canada's far north west* (Winnipeg 1907) n.p.n.

[17] These innovations were originally introduced by McMillan's City Mills (1881) and Ogilvie Milling (1882). The Hudson's Bay mill, also converted to the new, superior, means of production (in 1885).

[18] V. G. Pickett and R. S. Vaile, *The decline of northwestern flour milling* Studies in Economics and Business No. 5 (Minneapolis 1933) 24

[19] "These two happenings [milling and Red Fife wheat] did more to expand wheat production on the Prairie Provinces than anything else except the building of the Canadian Pacific Railway" (CPR): L. Nesbitt, *Tides in the west* (Saskatoon n.d.) 5

[20] A. Begg and W. R. Nursey, *Ten years in Winnipeg. A narration of the principal events in the history of the city of Winnipeg from the year a.d. 1870 to the year a.d. 1879 inclusive* (Winnipeg 1879) 183

[21] Morton, *op. cit.*, 169; J. M. S. Careless, The development of the Winnipeg business community 1870–1890 *Transactions of the Royal Society of Canada* Fourth Series, **8** (1970) 244. It is worth remembering that Minneapolis, Winnipeg's major competitor for regional urban supremacy at this time, was at a similar stage of development. Flour surpassed lumber as the main manufactured product of the Minnesota city "before the end of the" 1860s: D. Morgan, *Merchants of grain* (London: Penguin 1980) 83

[22] Morton, *op. cit.*, 183

[23] In 1878 "a number of merchants engaged extensively in buying wheat, and Messrs. Ogilvie & Co., of Montreal, made their appearance in the country, offering 60 cts (sic) cash for No. 1 clean wheat." W. T. Thompson and E. E. Boyer, *The city of Winnipeg, the capital of Manitoba, and the commercial, railway, and financial metropolis of the northwest: past and present development and future prospects* (Winnipeg 1886) 20; Begg and Nursey, *op. cit.*, 178. There is evidence that John Ogilvie had gone to Manitoba earlier in the 1870s (and perhaps as early as the 1860s) and had recognized the potential of prairie wheat. Presumably he judged that the time was not yet ripe for its exploitation—perhaps due to the lack of a rail link at that time.

[24] Thompson and Boyer, *op. cit.*, 50

[25] G. R. Stevens, *Ogilvie in Canada: pioneer millers 1801–1951* (Montreal 1951) 30

[26] Thompson and Boyer, *op. cit.*, 93

[27] Stevens, *op. cit.*, 30

[28] Unfortunately official data sometimes gave the number of "flour and grist mills", on another occasion listed "flour and feed mills", and in yet other circumstances "flour mills". In addition mills not on rail lines may have been excluded in some places, and definitions changed over time. The numbers varied accordingly. In 1890 the WGPE recorded 26 flour mills, but in 1891 *The Census of Canada* said there were 50 establishments concerned with "flouring and grist mill products". In 1924 the government's *List of Grain Elevators in Canada* included 10 "manufacturing elevators", the contemporary synonym for mills. This number did not include as a "manufacturing elevator", however, the Harrison Mill at Holmfield, operating since 1898 and still producing flour today, as well as other known milling establishments. *The Canada Year Book* indicates that in 1921 there were 93 mills on the prairies (582 in Canada), with 29 in Manitoba. These figures are confirmed in the various issues of *Flour and Feed Mills in Canada* and succeeding documents, and consequently this data is used in this paper, except where otherwise indicated, for the years from 1921 to 1969.

[29] Wheat prices during the early 1880s averaged over 100 cents per bushel; by 1890 they had dropped to 84·6 cents, and in 1896 reached a low of 65·5 cents. Prices fluctuated thereafter, but generally rose in the late 1890s and early 1900s, climbing above 100 cents once more by 1907: F. H. Leacy (Ed.), *Historical statistics of Canada* Second Edition (Ottawa 1983) M 228

[30] J. Seaborn, *About Canadian wheat, facts and figures. With a directory of millers, shippers and buyers of flour, grain and produce* (Toronto 1899) 18

[31] Stevens, *op. cit.*, 32–33

[32] The number of "Flour and Grist Mills" (including feed mills) had risen from 2,407 in 1881 to 2,550 in 1891, but then dropped precipitously to 1,141 in 1911. As the prairie numbers in this category had risen from 25 to 68 from 1881 to 1891, climbing to 82 by 1911, the direct effects of these changes were clearly more significant elsewhere in the country. Between 1891 and 1911 mill numbers in British Columbia dropped by 75%, in Ontario dropped by 47%, in Quebec by 63%, and in the Maritimes by 68%. Some closures did occur in Manitoba, however, and industry growth was almost certainly slowed (*Census of Canada* 1881, 1891, 1911).

[33] *The Canada year book 1922–23* (Ottawa 1924) 445

[34] *The Commercial* 23 March (1896) 618

[35] US exports also doubled; Argentina increased its exports by five times and Australia increased its by 50%: H. A. Bellows, *A short history of flour milling* (Minneapolis 1924) 41

[36] In terms of Value of Production. Data taken from *The statistical yearbook of Canada* (Ottawa) published from 1886 to 1904, and *The Canada year book* (Ottawa) published beginning in 1905

[37] The losses during the Depression were a result of the Depression itself, the freight rate policies, and the fact that Canadian wheat was priced higher than that produced elsewhere: W. A. Simonton, The flour milling industry 1926–35 (unpubl. B.Com. thesis, Queen's University 1937) 16

[38] The elevator was an American invention that diffused to the Prairies where it was to become *the* agricultural symbol, with the first "standard" elevator being built by the Ogilvie Milling Company at Gretna, Manitoba in 1881. A "standard" elevator was defined by the CPR as having not less than 25,000 bushels of capacity, and was meant to be equipped with both elevation and cleaning machinery: Wilson, *op. cit.*, 14

[39] Morton, *op. cit.*, Chapter 8

[40] Morton, *ibid*; D. R. M. Jackson, The national fallacy and the wheat economy: nineteenth century origins of the western Canadian grain trade (unpubl. M.A. thesis, University of Manitoba 1982) Chapter 5

[41] Morton, *loc. cit.*

[42] Not to be outdone, the other merchant mills in Winnipeg, owned by McMillan and the Hudson's Bay Company, converted immediately to the roller process.

[43] *The Commercial* 1, No. 8 (1882) 147

[44] *Manitoba Free Press* 8 January (1910) 7

[45] Stevens, *op. cit.*, 30. Interestingly, the method of local sales reflected the changing economic conditions on the prairies. For instance, an "evidence of the economy enforced by continued stringent times is to be found in the quantities in which flour has sold retail. A year ago nothing less than 50 pounds of flour could be purchased; and two years ago the minimum quantity was 100 pounds. The Ogilvie Milling Co. are now packing in paper sacks of 25 and 12 1/2 pounds. The latter quantity should be small enough for any purchaser.": *The Commercial* **3**, No. 22 (1885) 425

[46] Steen, *op. cit.*, 65

[47] W. C. Clark, The country elevator in the Canadian west *Bulletin of the Department of History and Political and Economic Science* (Kingston 1916) 1–23

[48] Jackson, *op. cit.*, Chapter 5

[49] The Ogilvie company attempted to keep its prices, which apparently varied from place to place (even on the same date), secret. A furor erupted in the fall of 1884 when a CPR telegraph agent released information on the prices Ogilvie were offering to the newspapers.

[50] *Dominion Illustrated, op. cit.*, 6. Despite such inferences, however, this accusation was, of course, difficult to substantiate. Basically the argument was that the large millers were able to "cull" the better grades of wheat by the use of their own elevator lines, and by "somehow selecting the best car lots" collected by other elevator owners, before it was able to reach the market. Thus the average grade marketed elsewhere was lower, and thus the average wheat price, based upon overall sales, was lower. This lower price was received by the farmers, to their obvious detriment: *Report of the elevator commission of the province of Saskatchewan, 1910* (Regina 1910) 20–21

[51] *Report of the elevator commission of the province of Saskatchewan, 1910, ibid.*

[52] *Report of the elevator commission of the province of Saskatchewan, 1910, ibid.*

[53] A. Blackbourn, The staples trap *Transition* **13**, No. 2 (Summer 1983) 13–16

[54] R. E. Ankli and R. M. Litt, The growth of Prairie agriculture: economic considerations, in D. H. Akenson (Ed.) *Canadian papers in rural history* (Gananoque 1978) 35–64

[55] W. W. Ogilvie was convinced by late 1885 that he had the "Bulge" on Pillsbury, as experts had certified Ogilvie flour as superior to that from the Pillsbury mills. (W. W. Ogilvie to W. C. Van Horne, Montreal, 22 October 1885. CP 11141)

[56] R. Bellen, *Winnipeg first century: an economic history* (Winnipeg 1978) 54

[57] Stevens, *op. cit.*, 30. These mills held two million bushels of wheat at the time, and the Ogilvies were accused of attempting to "corner the market".

[58] J. L. Work, *Cargill beginnings . . . an account of early years* (Minneapolis 1965) 107; Morgan, *op. cit.*, Chapter 3

[59] In 1909 the Ogilvies' largest ("Royal") mill in Montreal produced 6,000 barrels per day. The Fort William (Ontario) and Glenora (Montreal) mills produced 3,000 barrels each per day.

[60] B. J. McKenna, *Report on the operations of flour-milling companies in Canada* (Ottawa 1918) 36. Though a successful milling company, the wartime profits of Ogilvie were, primarily, a result of "wheat dealings"—showing in a different way the importance of its country elevator line. Although the other major Canadian milling companies also dealt in wheat during the war, their profits were not as dramatically affected. The capacity of Ogilvie's Winnipeg operation was only 3,000 barrels by the end of the war, and 2,600 barrels by 1945.

[61] Simonton, *op. cit.*, 20

[62] *Industry profile: flour milling* (Ottawa: Industry, Science, and Technology Canada 1988) 1

[63] This figure included twelve elevators and eight flat warehouses. Egan to Van Horne, 31 December 1884. CP Archives #8069. In this paper, data for 1884 are taken from Egan; data for 1890, 1896 and 1900 are taken from the Second, Eighth, and Twelfth *Annual Reports* of the Winnipeg Grain and Produce Exchange [WGPE]; data from 1911 to the present are taken from *Lists of grain elevators in the eastern and western divisions* (Ottawa various years).

[64] Totals in this WGPE data set do not agree in detail with the Canadian Census reports for these times, perhaps reflecting the fact that some very small mills might have been excluded from the WGPE survey, especially if they were not on railroad lines. Overall, however, this data source does include the greatest detail.

[65] J. C. Everitt, A "tragic muddle" and a "cooperative success": an account of two elevator experiments in Manitoba, 1906–1928 *Manitoba History* **18** (Autumn 1989) 12–24

[66] These companies were the Ogilvie Milling Co., the Lake of the Woods Milling Co., the Northern Elevator Co., the Winnipeg Elevator Co., the Dominion Elevator Co., and Baker and Reid (the Western Elevator Co. by 1902).

[67] For instance, although the milling companies professed "no objection" to the development of a Manitoba Government owned system in 1910 (*The Commercial* 15 January (1910) 26), their actions contradicted their words. The milling companies refused to sell any elevators to the Manitoba Elevator Commission, and the companies' influence is reflected in the fact that they were virtually unaffected by the government expropriation proceedings. They were able to pay premium prices for milling wheat, which the government system could not economically match (Clark, *op. cit.*, 13), and in addition, they used this ability to actively sabotage the government system: "In some places milling companies gave track prices for street wheat and the government men could not compete." *Manitoba Free Press* 26 January (1911) 8

[68] The Wheat Board was formed in 1935, to create a floor price for wheat, after the hectic days of the early 1930s. Originally the farmer could also sell through regular channels, but in 1943 the Board took over entirely.

[69] Ogilvie's line of elevators was apparently more than was needed in order to keep the mills running. Even in 1952, before the purchase of the Lake of the Woods Company, *The Jolly Miller* reported that all "the wheat handled at (its) 120 elevators cannot be milled in the four Ogilvie Mills": 16, No. 5 (August 1952) 9

[70] A. E. Epp, The Lake of the Woods Milling Company: an early western industry, in H. C. Klassen (Ed.) *The Canadian west. Social change and economic development* (Calgary 1977) 147–213

[71] Maple Leaf was the third largest milling company, in terms of production by 1918, and later grew to be the largest.

[72] D. W. Holdsworth and J. C. Everitt, Bank branches and elevators: expressions of big corporations in small prairie towns *Prairie Forum* **13**, No. 2 (Fall 1988) 175

[73] C. B. Kuhlmann, *The development of the flour-milling industry in the United States, with special reference to the industry in Minneapolis* (Boston and New York 1929) Chapter V

[74] *Horizons unlimited: the story of Robin Hood Flour Mills Limited* (Robin Hood n.d.) 27

[75] E. S. Rollins, Elevator towns versus milling towns *The Northwestern Miller* **52**, No. 19 (1901) front page and 943

[76] The standard brands of the large milling companies, such as Royal Household (Ogilvie), Five Roses (LofW), and Purity (WCFM) cost more than locally produced flours, although they were often of better quality: G. E. Britnell, *The wheat economy* (Toronto 1939) 30

[77] Bonuses were often offered to millers, but rarely to elevator owners, again demonstrating the relative perceived importance of these related industries.

[78] These are detailed in John Everitt and Roberta Kempthorne "Prairie 'custom' flour mills" in J. Selwood and J. C. Lehr (Eds) *Reflections from the Prairies: geographical essays* (Winnipeg 1992) 41–60

[79] Everitt and Kempthorne, *op. cit.*

[80] Anderson, *op. cit.*, 34, indicates twenty mills in 1880. The distribution he describes is used here in concert with the similar census figures for 1881.

[81] Stone process mills were still, for instance, being constructed in Saskatchewan in the early 1890s. The machinery used in some of them had come from Manitoba where it had been replaced by roller technology. Some machinery made more than one such move as the frontier advanced (*The Commercial* 10 February (1890)).

[82] Measured in terms of Value of Gross Production

[83] One of these is the historic Harrison Mill, which operates part-time in the village of Holmfield. The other is the Kent Mill in Virden, which has recently grown to become a regional Prairie producer. The third Manitoba mill, Soo Line Mills was once a custom mill, but has expanded beyond this level, and was recently taken over by Archer Daniels Midland, a US based multinational corporation.

[84] McKenna, *op. cit.*, 37

[85] It was in second position in Alberta by 1934.

[86] Exports of wheat flour declined from 10,737,266 barrels in 1928 to 3,911,886 barrels in 1938. Despite this decrease, Canada continued to be one of the leading exporters of wheat flour (*The flour milling industry 1949* (Ottawa 1950))

[87] Britnell, *loc. cit.* It is unlikely that these mills were all profitable, however, and many only operated sporadically.

[88] The Harrison (custom) Mill at Holmfield, Manitoba, worked at maximum production during the lean years of the thirties, and reached peak production during the Second World War (William Harrison, personal communication).

[89] The mills in Saskatchewan are at Viscount and Humboldt. The one in Alberta is at Camrose.

[90] Canada-wide the number of flour mills had been declining since at least the early 1920s, with the total in 1950 being under 21% of the number in 1921. However, this decline was for a long time greater in Ontario, Quebec, and Eastern Canada.

[91] H. G. Vatter, *Small enterprise and oligopoly. A study of the butter, flour, automobile, and glass container industries* Oregon State Monographs, Studies in Economics No. 4 (Corvallis 1955) 65

[92] F. A. McGregor, *Flour milling industry. Investigation into an alleged combine in the manufacture, distribution, and sale of flour and other grain-mill products* Report of the Commissioner, Combines Investigation Act (Ottawa: Department of Justice 1948). Although conducted in the late 1940s, this investigation also covered the latter part of the time period included in this paper.

[93] H. Working, The decline in per capita consumption of flour in the United States *Wheat Studies* **2**, No. 8 (July 1926) 265–292

[94] V. G. Pickett and R. S. Vaile, *The decline of northwestern flour milling* Studies in Economics and Business No. 5 (Minneapolis 1933) Introduction and Summary

[95] Fowke includes a table adapted from L. G. Reynolds, that shows that 73% of the cumulative percentage of milling output was controlled by five companies in the mid-1930s (*op. cit.*, 99)

[96] W. L. Marr and D. G. Paterson, *Canada: an economic history* (Toronto 1980); R. Pomfret, The staple theory as an approach to Canadian and Australian economic development *Australian Economic History Review* **21**, No. 2 (September 1981) 133–146

[97] Blackbourn, *op. cit.*