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Article abstract

The study of Gabriel Christie's investments in, and operation of, Chambly Mills in the late eighteenth century provides insight into the role of a small-scale seigneurial enterprise in the rural economy. Despite the sizable investment involved, the flour mill employed only a small number of permanent wage workers, and other cash expen- ditures were minimal. The mill can therefore be seen to have operated within a traditional structure of rural society rather than as a force for change. The mill, however, also depended on artisanal labour and a link between the establishment of the mills and the growth of the village is suggested. Seigneurial investment may have been a major factor in the increasing number of villages in Lower Canada between 1815 and 1831. A need for further study of the role of seigneurial capital in the wider economy is indicated, an area which the focus on centralized and large-scale industries has left virtually unexplored.

Chambly Mills, 1784–1815*

FRANÇOISE NOËL

Résumé

The study of Gabriel Christie's investments in, and operation of, Chambly Mills in the late eighteenth century provides insight into the role of a small-scale seigneurial enterprise in the rural economy. Despite the sizable investment involved, the flour mill employed only a small number of permanent wage workers, and other cash expenditures were minimal. The mill can therefore be seen to have operated within a traditional structure of rural society rather than as a force for change. The mill, however, also depended on artisanal labour and a link between the establishment of the mills and the growth of the village is suggested. Seigneurial investment may have been a major factor in the increasing number of villages in Lower Canada between 1815 and 1831. A need for further study of the role of seigneurial capital in the wider economy is indicated, an area which the focus on centralized and large-scale industries has left virtually unexplored.

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L'étude sur l'investissement et l'exploitation par Gabriel Christie des moulins de Chambly à la fin du 18ème siècle nous éclaire sur le rôle d'une entreprise seigneuriale à petite échelle dans l'économie rurale. Malgré un investissement considérable, le moulin à farine n'employait qu'un petit nombre de travailleurs permanents, et les autres dépenses étaient minimales. On peut donc considérer que le moulin a été exploité en respectant les structures traditionnelles de la société rurale, et qu'il n'a pas servi d'agent de changement. Toutefois, le moulin dépendait aussi du travail des artisans, et on peut croire à l'existence d'un lien entre l'établissement des moulins et la croissance du village. L'investissement seigneurial a peut-être joué un rôle important dans l'accroissement du nombre de villages dans le Bas-Canada entre 1815 et 1831. Il serait indiqué d'étudier plus à fond le rôle des investissements des seigneurs dans l'économie en général, cette question ayant été largement délaissée au profit d'études sur les industries centralisées et de grande taille.

Emphasis on the large-scale corporate firm in the study of business history has resulted in little being known about other forms of capitalist enterprises. According to Philip Scranton, "the result of historians' acceptance of the joint-stock company as the agent of economic dynamism is a remarkably one-dimensional account of nineteenth-century industrialism."[1] His study shows that proprietary capitalism in the Philadelphia textile

*The author would like to thank Louis Michel and John Willis for their comments on an earlier draft of this paper, presented to the Canadian Historical Association in June 1985.

1. Philip Scranton, *Proprietary capitalism. The textile manufacture at Philadelphia, 1800–1885* (Cambridge, 1984), pp. 7–8.

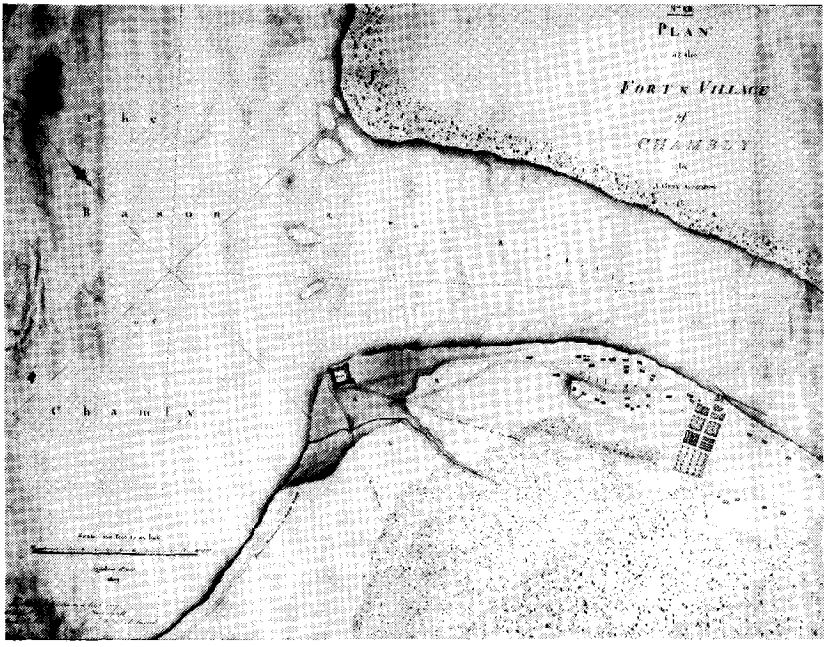
industry was an equally viable alternative. In Quebec historiography, because of "the concentration of economic historians on the importance of Montreal as the focal point of the 'commercial empire of the St Lawrence,' the growth of industry has been largely obscured."[2] Jean-Claude Robert's pioneering study has shown the entrepreneurial activities of Bartholémy Joliette[3] but the importance of decentralized seigneurial investments in small manufactures to the larger economy remains largely unexplored. An important increase in the number of villages found in the seigneurial zone in the period from 1815 to 1831, noted by Courville,[4] may well be related to the multiplication of seigneurial investments in mills, and this is reinforced by the high proportion of artisans and labourers in villages such as St. Denis, St. Ours and Napierville in 1831.[5] This study of Chambly Mills explores the interrelationship of a seigneurial flour mill and the local work force as well as the scale of the investment and the organization of the enterprise. Although the mill worked within the existing social structure in the period examined, it also represented a base for capital accumulation and, unlike the grain traders who would disappear with the wheat trade, Chambly Mills was expanded and modified for the production of flannel, employing 150 to 200 hands in the 1880s.[6] Its successful transition into the industrial era helps to underline the contention that the historiographical focus on Montreal may have obscured the role of seigneurial capital in industrial growth.

i

Chambly Canton was a village on the road from Montreal to the United States near Fort Chambly and the rapids of Chambly Basin (Figure 1). The seigneury of Chambly in which it was located was divided among several heirs, that section containing the mill belonging to Jean-Baptiste Boucher de Niverville.[7] In 1782 he formed a partnership with James Glenny for the purpose of constructing a grist mill on this site.[8] Glenny

2. Gerald Tulchinsky, *The River Barons. Montreal Businessmen and the Growth of Industry and Transportation, 1837–1853* (Toronto, 1977), p. 203.
3. Jean-Claude Robert, "Un Seigneur entrepreneur, Barthélemy Joliette, et la fondation du village d'Industrie (Joliette) 1822–1850," *Revue d'histoire de l'Amérique française* 26 (décembre 1972), pp. 375–95.
4. Serge Courville, "Esquisse du développement villageois au Québec: le cas de l'aire seigneuriale entre 1760 et 1854," *Cahiers de Géographie du Québec* 28 (April–Sept. 1984), p. 41.
5. Allan Greer, *Peasant, Lord and Merchant: Rural Society in Three Quebec Parishes, 1740–1840* (Toronto, 1985), p. 197; Françoise Noël, "Gabriel Christie's Seigneuries: Settlement and Seigneurial Administration in the Upper Richelieu Valley, 1764–1854," Ph. D. dissertation, McGill University, 1985, p. 221.
6. Chambly Canton, Quebec, *Programme souvenir, 1849–1949* (n.p., n.d.).
7. The seigneury of Chambly was divided among several heirs. He held that part which was south of the Petite Rivière de Montréal on the west side of the Richelieu; see Archives of the University of Montreal (AUM), Baby Collection, B1/379, Abstract of Title, Chambly.
8. Archives nationales du Québec à Montréal (ANQ-M), Grisé, no. 2330, Agreement, Boucher de Niverville and Glenny, 17 July 1782. Called "Jacques" in this and other documents, this is certainly the same person as James Glenny who was a Royal Engineer in this area at the time but spent most of his later career in New Brunswick: See *DCB*, Vol. V, p. 348.

Figure 1
Chambly in 1809, (*PAC, NMC, C-174477, H 2/340,* Chambly, *1809.*)



agreed to build the mill with a minimum of two pairs of stones, a riddle and a bolter at his own expense, and in return, would receive all of the profits for the first five years. Thereafter the profits and expenses would be shared equally by the partners. Banal privileges applied to the site and Niverville would prevent a competing mill from being built on the Petite Rivière de Montréal by the other seigneurs of Chambly. Materials for the construction of the mill and a house for the miller could be taken in any part of the seigneury, as was often the case for domain construction.

In 1784, Gabriel Christie, already the seigneur of several Upper Richelieu Valley seigneuries, acquired this lease agreement and mill seat from Glenny. He paid £4,000 for it, making it the most expensive of his property investments in the colony.[9] At the time of his purchase, the mill, a 520 foot stone dike and a barn had been completed.

Although the lease purchased by Christie in 1784 was a long-term one, it was limited to the construction of one mill and the profits were shared. It was not until 1796 that he was able to acquire the rights to the Chambly mill seat outright, by buying J.-B.

9. ANQ-M, Foucher, Transfer, Jacques Glenny to Christie, 2 October 1784. A summary of Christie's investments can be found in Noël, "Gabriel Christie's Seigneuries," p. 130.

Boucher de Niverville's share of and rights in the seigneury of Chambly for £2000.[10] The manor house was excluded, but Christie would build one of his own on the domain farm across from the mill. No longer restricted in his rights of construction, he proceeded to add a new automated mill and a kiln to the existing facilities. This work was nearing completion at the time of his death in 1799. His son Napier Christie Burton, who inherited Chambly and the mills in 1800, made no changes beyond completing the mill before selling it to Samuel Hatt in 1815.[11] Christie's inventory after death[12] can therefore be used to describe the mills as they were up to 1815. At that time they were described as "large and valuable mills" by Joseph Bouchette, and other contemporaries agreed with this evaluation.[13] A detailed description of the mills therefore seems warranted, to establish a scale by which other mills might be compared.

ii

The major advantage of the Chambly mill seat was that the rapids provided a year-round source of power.[14] This was probably the reason Christie chose to invest money on this site rather than in his other seigneuries. In 1799 the older mill at Chambly was a three-storey stone building, fifty-five by thirty-five feet in dimension. Turned by two large water wheels, the machinery consisted of four pairs of stones, a riddle or separator and two bolters. In a small adjacent building was a barley mill with one pair of stones. Its power train apparently ran from the main power shaft, since the two buildings were interconnected by a two-storey-high covered gallery. Storage space was provided for in a large (sixty foot by thirty foot) stone storehouse connected to the mill. The roof material of the mill was shingle covered with tin, a precaution against the greatest danger in a flour mill, fire. A sixteen-square-foot kiln to dry the wheat was under construction as a completely separate structure. The new mill, also of stone, was

10. ANQ-M, Papineau, no. 2555, Sale, Boucher de Niverville to Gabriel Christie, 23 November 1796.
11. The sale was arranged privately, but a sheriff's sale followed later: ANQ-M, Thomas Barron, Acte de Dépôt, 10 November 1818; *DCB*, Vol. V, p. 412, s.v. "Hatt, Richard." Richard and Samuel Hatt, his brother, in partnership, developed a complex of industries known as Dundas Mills between 1800 and 1816, when Samuel moved to Chambly. That complex included four mills, a distillery, a potashery, a general store, two sawmills, a coopery, a blacksmith shop, several farms and numerous other buildings. It was, in other words, very similar to that at Chambly.
12. ANQ-M, Papineau, 11 février 1799 (hereafter Inv. GC).
13. Joseph Bouchette, *Topographical Description of the Province of Lower Canada* (London 1815), p. 172. In 1806 they were described as "masterpieces" by the agent of Laprairie; see F. Ouellet, *Lower Canada, 1791–1840: Social Change and Nationalism* (Toronto, 1980), p. 119. Beutler links the construction of new mills and the renovations of others in Montreal in the nineteenth century to the need for technological improvements to remain competitive. See Corinne Beutler, "Les moulins à farine du Séminaire de Saint-Sulpice à Montréal (1658–1840): essai d'analyse économique d'une prérogative du régime seigneurial," *Historical Papers* (1984), pp. 184–207.
14. Bouchette, *Topographical Description*, p. 172.

only twenty-five by fifty-five feet in dimension, but it was four storeys high with an attic. It held three pairs of stones and two bolters. It would also have a separator, but in 1799, it had not yet been installed. It was evidently built according to the latest technology since its power train was made of cast iron and it included an elevator system. This invention by Oliver Evans was the most important improvement in the milling process to be made during the industrial revolution. It consisted of "a series of tiny buckets, or cups, fixed to a continuous leather or webbing belt working inside a wooden casing, which carried the oats upwards and returned for refilling in a circular motion."[15] The new mill was completed a month after Gabriel Christie's death. On 14 February 1799, John Robertson wrote triumphantly to his friend Berczy: "Mr. Yule set the new mill a going the day before yesterday—one pair of stones ground fourteen bushels of wheat, within the hour."[16] This was a definite improvement over traditional mills which, when "turned by water seldom ground more than five bushels of flour in an hour."[17] Unfortunately, Gabriel Christie's inventory does not include an estimate of the value of this mill, but since the first mill's lease was purchased for £4,000, a cost of £2,000 for the new mill does not seem unlikely.[18]

The mill yard at Chambly also included a blacksmith shop with its tools and a large wooden stable, all in excellent condition. The employees' house was a large wooden building with six apartments on the main floor, four rooms in the attic, a cellar below it, and a separate kitchen on the side—more a bunkhouse than a miller's cottage. This role was also reflected in the dishes found therein, the two tables and nine chairs, and the rough bedding which belonged to the seigneur. We can also catch a glimpse of the employees' diet in the three barrels of salt beef, the lard, potatoes, onions, carrots, butter and tea enumerated. The two cows, sow with a litter, twelve chickens, four ducks and one goose found in the yard around the mill might also be expected to provide for their table. The seigneurial manor, located on the road just behind the mill, housed the mills' offices. A two-storey stone building, forty-nine feet by twenty-nine feet in size, it had cellars below it and the domestics' quarters above it. Behind was an enclosed garden.

Closely related to the operation of the mill, but not directly part of the mill yard, were the "Basin Farm" and the houses and lots owned by Christie near the mill. Described as uninhabited and in poor condition in 1799, these five houses were later

15. Enid Gauldie, *The Scottish Country Miller, 1700–1900* (Edinburgh 1981), pp. 97 and 157. Evans's *Young Millwright and Miller's Guide* went into thirteen editions! The elevator was introduced into Liverpool in 1791 and installed in a number of mills. It helped increase the need for millwrights, as opposed to the miller who did his own repairs.
16. AUM, Baby Collection, Box 195, Robertson to Berczy, "Chambly Castle," 14 February 1799.
17. Gauldie, *Scottish Country Miller*, p. 96.
18. The mills constructed by the seigneurs of Montreal between 1792 and 1819 ranged in cost from £1,000 to £4,000 approximately; see Beutler, "Les moulins à farines," Figure V. Simply to install the separator and finish the mill was estimated at £250 in 1799 (Inv. GC).

rented out to employees and others by Burton.[19] The seigneurial farm of 118 hectares, with its old farmhouse, a few livestock and a large granary, in excellent condition, completed Christie's property at Chambly in 1799.

iii

Chambly Mills quickly became the focal point of Gabriel Christie's estate, an importance reflected in his decision to build a manor there. Although managed personally by Christie, it was operated by salaried employees. The overseer was responsible for the accounts, for the other employees, for the repair and maintenance of the domain properties, and for generally advancing Gabriel Christie's interests and following his instructions. James Bell,[20] Christie's nephew, was overseer until 1794 when he was succeeded by William Yule. Responsible for the new construction and for all the workers on the site, Yule was referred to as "top mechanician for the mill and inspector of all the works" in 1799.[21] Bookkeeping was the responsibility of the storekeeper, John Hall, who also made the cash disbursements required for the domain.[22] The miller, Pierre Noël, kept his own account of the wheat ground and was paid a yearly salary like Yule and Hall. Under Burton, however, a new miller was appointed who received a daily wage rather than a salary.

As manager, William Yule received an annual salary of £111, his board, lodgings and laundry. When he was not provided with board, as was the case after April of 1801,[23] he was paid a monthly board wage of 30 pence per day. This gave him a further £82 per year. John Hall's salary was £40 in 1799. He received a board wage at the same rate and from the same date as William Yule. The miller received £35 per year and may also have been provided with a house.[24]

The mills at Chambly were managed separately and kept their own accounts. This was essential during the period when costs and revenues were shared, and continued as a matter of course afterward. Nonetheless, Christie's properties were interdependent. Exchanges with the domain at Lacolle or with the farm were accounted for on the basis of the cash value involved. Both domains supplied the needs of the

19. Ibid. Canada. Public Archives (PAC), MG 8 F14, II, Chambly Accounts (1800–1804), hereafter Chambly Accounts. This account book is the basis of the description of cash expenditures which follows. It begins in 1800 as a continuation of a previous account book kept by William Yule. In March of 1801 it is taken over by John Hall and becomes quite detailed. In 1803 the entries are by Samuel Potts and no longer as detailed. Although the description of the mill which emerges refers specifically to the period 1800–1804, there is no reason to believe that it would not also apply to the period from 1804 to 1815 since Potts retained its management and Burton was absent.
20. Noël, "Christie's Seigneuries," p. 52.
21. Inv. GC.
22. Chambly Accounts.
23. Inv. GC, Chambly Accounts.
24. His salary seems low since the miller at Lacolle received £75 per annum at this time.

seigneur's personal household on request, whether in Montreal or in Chambly, and goods moved frequently between the farms and the mills. But each transaction was recorded and each unit could account for its own production and its own expenses. When shortages caused price increases, the wheat and hay purchases by Chambly from Lacolle balanced out for the seigneur and were to his advantage in contrast to the purchases made in cash from local producers. Self-sufficiency seems to have been encouraged, thereby reducing the impact of the mill as a cash market. The purchase of hay is one example of this. In the winter of 1801, when the horses and cattle at Chambly required hay before summer, Lacolle sent its surplus, 152 bundles, in February and April. But this was not enough and 425 bundles had to be purchased for cash. In 1802, however, extra labour was hired to mow grass for hay at the "Basin Farm," and the following winter these purchases were not repeated.

The domain did occasionally buy local produce, items such as veal, lamb, butter, cod and eggs, especially when the seigneur was in residence. Although the cod sold by a soldier and the butter sold by Urbane Racine cost only a few shillings, there were probably few other cash outlets for such products. For the mills themselves, the requirements were more basic: beef, wheat, corn, barley and oats to feed the workers and the animals. Up to twelve persons were provided with board during the period of construction. The farm at Lacolle supplied wheat and corn but fresh beef for the workers was purchased locally. The mills were linked to the rural economy, therefore, but their role as a cash market was sporadic and limited.

To function, the mill also required a certain number of input factors. From Hall's accounts we can see the type of items required: pine boards, shingles, glass, putty, rope, files, paper, waxes, quills, rendered tallow and firewood. Since none of the items which appear in this account were very expensive, it seems likely that when the mill did require more expensive items, as it was bound to on occasion, these were not paid for by Hall but by the seigneur.

iv

Whether grain belonged to the farmer or had already been purchased by a grain trader, the mill was a convenient point of delivery or exchange, a collection point for produce intended for shipment elsewhere as flour. When grain traders purchased grain in the countryside, they did not collect it at the farm door. The farmer was responsible for delivery to a certain point—the trader's own mill if he had one, or to a commercial mill like that at Chambly if he did not. The wheat, corn and barley, therefore, arrived in the millyard in pouches, on the carts and sleighs of local farmers. The flour could leave in several ways. If intended for local consumption, it would probably leave the way it came. For shipment over greater distances, it would leave in barrels which held about two hundred pounds of flour.[25] These would then have to be carted to Laprairie to cross

25. The barrels held 1.75 quintals of flour and the quintal was 112 pounds. The weight is not specified as French or English, but must have been English since some exports were to Britain.

Table 1
Barrels Purchased Cash by Chambly Mills, 1801–02

Purchase	Price	Delarue Barrels	£ (decimal)	Rousseau Barrels	£ (decimal)
Mar. 1801	1/8			500	41.67
June 1801	1/11			400	38.33
July 1801	1/6	100	7.50		
Oct. 1801	1/6	100	7.50		
Nov. 1801	1/6	167	12.53		
Dec. 1801	1/6	48	3.60		
Feb. 1802	1/8			111	9.25
Apr. 1802	1/6	164	12.30		
Aug. 1802	1/7			400	31.67
Aug. 1802	1/7			100	7.50
Aug. 1802	1/6	110	8.25		
Sept. 1802	[1/6]	127	9.53		
Total		816	61.21	1511	128.42
Percentage		35	32	65	68

SOURCE: PAC, MG8 F 14, II, Chambly Accounts.
NOTE: These represent new barrels. Within the local network barrels and kegs were recirculated. The sale of grain to the mill was accompanied by the sale of kegs or barrels which held the grain.

to Montreal, or be loaded directly onto a vessel for shipment to Quebec and beyond. The responsibility for transportation outside the mill yard was that of the client, but it seems the mill would arrange transportation for major clients if asked to do so. Prices at Chambly would therefore be somewhat less than prices at Montreal. Placing the flour in suitable containers for shipment, however, was the responsibility of the mill, although the cost of barrels was added to the price of grinding, if the client did not supply his own. This meant that much of the labour required by the mill, or as result of the flour trade, was required for transportation rather than production.

At the turn of the century, carting was in the hands of independents who owned their carts and horses and contracted out their services. The carters were especially numerous in Montreal where a steady flow of goods to Lachine provided employment.[26] Chambly was in a similar situation in this period: Bouchette described the road to Chambly as "a great thoroughfare." The mills seldom hired an independent carter, however, employing Joseph Moreau[27] in that capacity instead, the cart and horse

26. Jean-Claude Robert, Jean-Paul Bernard and Paul-André Linteau, "La structure professionnelle de Montréal en 1825," *RHAF* 30 (décembre 1976), p. 392.
27. His name which appears in the documents as in various forms such as "Mauro" and "Mowro" has been standardized to this French spelling. The same practice has been followed throughout whenever the French equivalent was evident from the English spellings given. Rousseau is given for "Ruso" and François for "Franceway."

belonging to the mills.[28] The transportation of flour on the mills' own account or in its capacity as forwarding agent for its clients, the hauling of supplies and the movement of goods between domain properties kept Moreau busy year-round.

At Lacolle Mill, a cooper's shop in ruins in 1799 indicates that Gabriel Christie's had once employed one or more full-time coopers. The trade in barrel staves from the Lake Champlain area was a lucrative one in the second half of the eighteenth century and if this could be combined with the production of a sawmill and a grist mill, the profits could be even greater. But even if the cooper's shop was in ruins, the grist mills continued to need barrels, the containers of trade. Some of the barrels used were recirculated and needed repair. Of 2,407 recorded purchases in two years, only eighty came from Lacolle Mill. The balance came from local coopers whose services or barrels were purchased on the basis of monthly accounts.

Baptist Delarue of Chambly worked for the mills frequently. On 19 August 1801, for example, one finds the entry in Hall's account: "Cash Pd. B. Delarue for repairing Flour Barrels sent Alex. Henry Esq. the 15th & 16th June last, 2 d[ay]s. & finding 15 hoops—£0.9.7.5." Other entries indicate Delarue worked at the store and at the mill, but the barrels he sold for eighteen pence each represented the bulk of his accounts. As few as forty-eight and as many as 127 barrels were purchased at one time. The total value of barrels purchased from Delarue, in 1801 and 1802, was £61 (Table 1). Although less frequent, more substantial purchases were made from the cooper at Sainte-Thérèse, Nicolas Rousseau. This was probably because Delarue could not always meet the required demand for barrels on time. As many as five hundred barrels were purchased at one time, at prices which ranged from twenty to twenty-three pence each. If delivery were included, this would account for the higher price he received. In the same two-year period, 1511 barrels were purchased from Rousseau at a cost of £128. The capacity represented by these purchases was of over four thousand quintals. The mills may have been only one of many clients for these coopers, but it is difficult to imagine that such a volume of trade did not represent a substantial proportion of their yearly work. The relationship was a mutual one. The barrel was an essential input factor for the mill which could not have functioned without the services the coopers provided.

V

Whereas transportation created an ongoing source of mill-related work, the construction of the mill itself created an intensive but temporary demand for both skilled and unskilled labour, provided by artisans and wage labourers. A comparison between 1801, when construction was still not completed, and 1802 when it was, in the local blacksmith's account and in the annual wage bill for daily labour demonstrates that difference.

The blacksmith was essential to the rural economy of the eighteenth century and especially important for the mills. Most tools required by farm and industry were not

28. F. Artifice, a carter, sold the mill a new cart "for General Burton's use" for £1; see Chambly Accounts, 2 May 1801.

Table 2
Wage Rates Current at Chambly from 1799 to 1802
(in pence per day)

Occupation	Wage or Salary	Board Wage	Total Wage
Mechanician	77	30	107
Mason[a]	80	12	92
Bookkeeper	31	30	61
Carpenter	42	12	54
Carpenter	36	12	48
Miller[b]	42	1	43
Miller	27	12	39
Blacksmith	24	12	36
Miller	18	15	33
Labourer[c]	12	12	24
Labourer	10	12	22
Carter[d]	9	12	21
Servant Woman	8	12	20
Labourer	7	12	19

SOURCE: PAC, MG8 F14, II; ANQ-M, Papineau, 11 Feb. 1799.

NOTE: The wage rates given here represent all of the different rates paid at Chambly Mill between 1799 and 1802. Some individuals moved from one rate to another, and those having the same occupation did not necessarily have the same wage. The servant woman in 1799 made the same wage as a labourer at £1.5.0 per month. There is no reference to board wages for the hands in 1799, but they would have received board. The rate of one shilling has been used to adjust their wage accordingly. William Yule's board wage was higher because it included lodging and laundry as well. John Hall received the same board as he did. The miller's salary in 1799 has been adjusted to include board, but he may well have had a house as well, which would add five shillings a month to his wage, making the daily rate forty-one instead of thirty-nine.

[a] The wage paid to the mason was much higher than to other workers. This may be because he came in as a contractor, paying his own assistants; but we do not know this for certain.

[b] The yearly payment in lieu of board wages paid to John Henderman is included here to make his wage rate comparable to the others; in the monthly totals, his wage is based on a rate of fourty-two pence.

[c] The rate of £1.10.0 per month, in 1799, was paid to a "farinier" named Alexis [Lamaroque]. Given the difficulty the bookeeper had with French names, this was the person listed as Alex. Lamar, miller, in the account book. The same wage of £1.10.0 per month was paid to F. Breset who is listed as a labourer, but could well be a "farinier" as well, since Lamar had moved up to being a miller.

[d] In 1801–02, the carter was paid £1.5.0 per month.

imported, but made by blacksmiths, a situation that the industrial revolution did not immediately change because machines were also made on the spot rather than imported long distances.[29] The mills, which from an early date included some iron works,

29. Anthony F.C. Wallace, *Rockdale. The growth of an American village in the early Industrial Revolution* (New York, 1980), pp. 211–2.

Table 3
Total Monthly Wages Paid the Hands at Chambly in 1801 and 1802
(in Decimal Pounds)

1801

1801	J.H.[a]	L.G.[b]	A.L.[c]	J.M.[d]	C.T.[e]	F.B.[f]	Hands	Casual[g]	Total
Jan.	4.55	5.10	4.13	2.75	2.75	2.75	22.03	10.62	32.65
Feb.	4.20	4.20	4.13	2.75	2.75	2.75	20.78	9.11	29.89
Mar.	4.73	6.08	4.13	2.75	2.75	3.00	23.44	7.88	31.32
Apr.	4.55	5.79	4.13	2.75	2.75	3.00	22.97	2.50	25.47
May	4.55	5.63	4.13	2.60	2.75	3.00	22.66	0.00	22.66
June	4.55	5.40	4.13	2.75	2.75	3.00	22.58	8.96	31.54
July	4.55	0.00	4.13	2.75	2.75	0.00	14.18	0.00	14.18
Aug.	4.73	6.23	4.13	2.75	2.75	3.00	23.59	6.23	29.82
Sept.	4.55	0.00	0.00	2.75	0.00	0.00	7.30	0.00	7.30
Oct.	4.55	5.57	4.13	2.75	2.75	3.00	2.27	6.05	8.32
Nov.	4.55	5.33	4.13	2.75	2.75	3.00	22.51	5.27	27.78
Dec.	4.73	0.00	4.13	2.75	2.75	3.00	17.36	0.00	17.36
Total	54.79	49.33	45.43	32.85	30.25	29.50	242.15	56.62	298.77

1802

1802	J.H.	A.L.	J.M.	C.T.	F.B.	Total
Jan.	4.55	4.18	2.80	2.80	3.05	17.39
Feb.	4.20	4.00	2.65	2.65	2.90	16.40
Mar.	4.55	4.18	2.80	2.80	3.05	17.39
Apr.	5.53	4.12	2.75	2.75	3.00	18.16
May	4.72	4.18	2.80	2.80	3.05	17.56
June	4.55	4.12	2.65	2.66	3.00	17.00
July	4.55	4.18	2.80	2.80	3.05	17.39
Aug.	4.72	4.00	2.65	2.65	2.90	16.93

required the services of a blacksmith during construction and for repairs. Since all of the works in the new mill were of iron, it is not surprising that a blacksmith, Thomas Harris, was among Christie's regular employees in 1799. Once the initial installation was over, however, a blacksmith would not be required as often. After 1800, Harris was no longer on the payroll and the local blacksmith, Dominic Rosiquo, did the required work. His accounts were regular in 1801, totalling £20; in 1802 they had decreased to only £2.12.[30] Clearly, repair work alone was not enough to keep one person occupied. Under these circumstances the mill reverted to the use of local artisan labour in preference to salaried or wage labour.

30. Noël, "Christie's Seigneuries," p. 531.

Table 3 (Concluded)

1802

1802	J.H.	A.L.	J.M.	C.T.	F.B.	Total
Sept.	3.50	4.12	2.75	2.75	3.00	16.13
Oct.	0.00	4.93	2.70	2.70	2.95	13.30
Nov.	0.00	0.00	0.00	0.00	0.00	0.00
Dec.	0.00	0.00	0.00	0.00	0.00	2.50[h]
Total	40.87	42.01	27.35	27.36	29.95	170.04

SOURCE: PAC, MG8 F14, II, Chambly Accounts.

NOTE: Wages are adjusted to include the cash value of board from January to April, when it was supplied, at the same rates applied later, when it was paid in cash. Unless noted otherwise, board was one shilling per day. Board wages paid to salaried employees, John Hall and William Yule, from 7 May, are not included here.

[a] John Henderman, miller, 3/6 per day. No board wages are included. He received a yearly payment of one guinea instead, by agreement.

[b] Louis Gance, carpenter; in March 1801 his rate changed from 3 s. to 3/ per day.

[c] Alex. Lamar, miller, 18 d. per day. His board was 1/3 per day.

[d] Joseph Moreau, carter.

[e] Charles Tessie, labourer.

[f] Francis Breset, labourer; in March 1801 his rate changed from 10 d. to 12 d. per day.

[g] Here we have included the total wages paid labourers who worked less than nine months over the year. This includes: Charles Isador, labourer, who worked nine days in February (£0.73); William Fraser, a mason, who worked 9/4 days in June (£3.64); Filish Blangie, labourer, who worked 57 days from January to March (£5.31); Azur Northrup, carpenter, who worked 29 days in January and February (£5.8); Michel Ducloe, labourer, who worked full months from January to March (77 days, £8.25); Mary Rass, servant, who worked full time until 5 May (125 days, £10.41); and Charles Leguerrier, carpenter, who worked 97.75 days from June to November (£22.85).

[h] This represents casual labour hired to help clear ice from the mill dam, and not wages to regular hands.

Christie's correspondence indicates that masons were not always easy to find and that they were paid more than other skilled workers. Care was taken, therefore, to assure that their work progressed quickly.[31] All the major buildings at Chambly were stone, but since the work was largely completed by 1799, we have no record of the cost. When the mason William Fraser was hired in 1801, however, he was paid at a rate of eighty pence per day, in what was the equivalent of an hourly rate, since nine and one-quarter days were recorded and paid, and no more. There is no way to know if he provided his own assistants. If not, this mason was the best paid of all the artisans hired. At Chambly, only the mechanician manager was paid more (Table 2).

31. AUM, Baby Collection, Gabriel Christie to Magnan, Montreal, 28 June 1772 and 7 July 1772.

Several carpenters worked at Chambly in 1801. Louis Gance worked for all but three months; Azur Northrup worked the month of January and Charles Leguerrier worked from June to November (Table 3). By the following year, however, a carpenter was needed only for two small jobs—building four small tables and the gates for the house—and was hired as an independent artisan rather than as a daily labourer. For these carpenters, then, the regular work at Chambly during construction must have been the exception rather than the rule of their work pattern.

In 1802 when the carpenters were no longer employed on a regular basis, no casual labourers were required either (Table 3). One can assume therefore, that their work was also related to the construction process, where a minimal division of labour was imposed. The different levels of wages paid labourers (Table 2) suggests that workers were paid according to the level of their skills.

Until 5 May 1801, workers at Chambly Mills were provided with board in the employees' house and a servant was hired for that purpose. Jenny Prarer and Mary Rass, who succeeded her, were paid a low monthly wage (Table 2). Afterwards, workers received board wages instead of board. By this time, however, the number of casual workers was down, and the regular hands who lived nearby must have depended on the unpaid labour of their wives, sisters or mothers to provide them with the essential household tasks of cooking and laundry. The manager and bookkeeper, who received a board wage of thirty pence per day, may have had their own servant.

Comparing the monthly wages paid at Chambly Mills in 1802 with that paid in 1801 (Figure 2), one finds that the wage bill had been cut almost by half. In 1802 the total wages paid had declined to £170 compared to £299 in 1801. As illustrated in Figure 1, the elimination of casual labour accounts for most of this difference. The operation of the mills required only five hands: two millers, two labourers and one carter. Also, the mill did not operate in November and December of that year, despite its year-round capacity. (In December, workers were hired to clear ice from the mill dam.) Although "large and valuable" mills by contemporary standards, therefore, Chambly Mills was nevertheless a small-scale enterprise.

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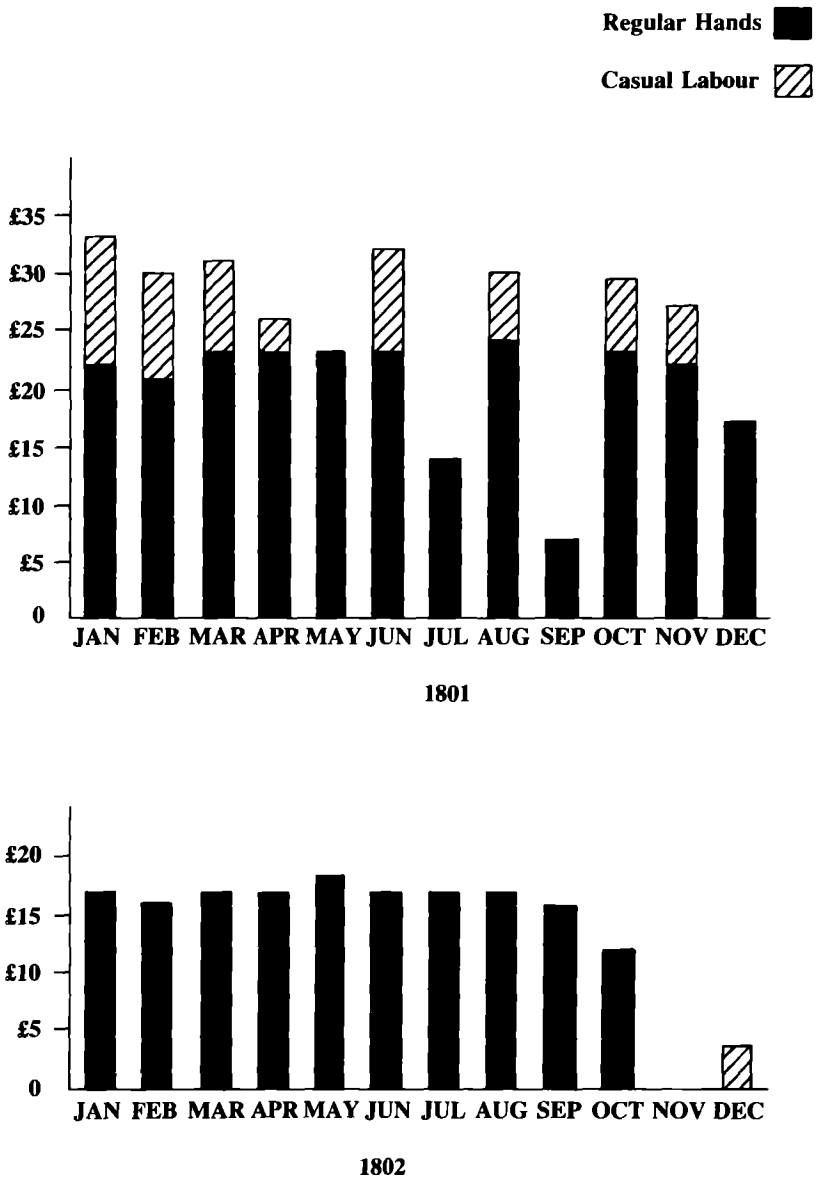
This examination of the records of wages and sundry cash accounts paid at Chambly Mills has shown that a major construction project such as Chambly Mills created employment for local workers on a temporary basis, but that the number of permanent hands employed remained small. The explanation for this resides in part in the fact that wage labour was supplemented by that of independent local artisans, particularly coopers, blacksmiths and carpenters. Although evidently an important client for these petty producers, Chambly Mills did not change their relations of production, nor would it have been advantageous to do so. The variable amount of work required by the mills was best met by artisans working in the context of a household economy, independent of any one employer. Yet wage labour was clearly preferred when the work warranted it, as the number of employees on salary in 1799 indicates. The extent to which the mills acted as a market for local produce, other than for the wheat and barley being

Figure 2
Total wages paid at Chambly Mills in 1801 and 1802



Note: Regular Hands are those who worked nine months or more.
Source: Chambly Accounts, see Table 3.

ground, also appears to have been minimal.[32] In terms of their level of technology, capital investment and productive capacity, the mills at Chambly were definitely commercial flour mills. In terms of their relationship to rural society, however, they appear to have operated within the traditional structure rather than as a force for change.

With this said, however, the fact remains that Chambly Canton was described by Bouchette in 1815 as a bustling village, and that the mills were the focus of much of this activity:

> This place is a great thoroughfare, as the main road from Montreal passes through it, which, with the continual resort to the mills, occasions a good deal of activity among the traders and mechanics, and contributes much to its cheerfulness as a place of residence....[33]

This contemporary observation and the close association between the location of villages and the location of mills which we have observed in the Upper Richelieu Valley, suggest that the substantial increase in the number of villages in the seigneurial zone between 1815 and 1831 found by Courville[34] might be accounted for by an increasing investment in rural manufactures, the cumulative effects of which might be greater than the study of an individual establishment such as Chambly Mills can indicate. The question requires further examination, particularly the occupational structure of this village population. Perhaps the decentralized nature of rural manufacturing, grafted onto the traditional household economy, has masked its presence and its importance, particularly in the period before 1831 when data are particularly deficient. The study of individual villages in a wider regional context may provide some answers, and may also require a reevaluation of the effect of seigneurial tenure on industrial development. This study of Chambly Mills is but one example which shows that the two were not necessarily incompatible. When more regional studies are completed, we may find that the "seigneur entrepreneur" was far from the isolated phenomenon he may have seemed when Jean-Claude Robert studied Barthélemy Joliette more than a decade ago.

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32. The extent to which it acted as a market for wheat would also have been limited by the dominance of traditional methods of accumulation, as shown in other studies. The accumulation of wheat by the Séminaire de Saint-Sulpice as seigneurs, parish priests and for the grinding fee charged, has been clearly shown in Corinne Beutler, "Le rôle du blé à Montréal sous le régime seigneurial," *Revue d'histoire de l'Amérique française* 36 (septembre 1982), pp. 241–262; accumulation by local storekeepers has been shown in Louis Michel, "Le livre de compte (1784–1792) de Gaspard Massue, marchand de Varennes," *Histoire sociale/Social History* 13 (November 1980), pp. 369–98, and by Allan Greer, *Peasant, Lord and Merchant*, pp. 161–76.

33. Bouchette, *Topographical Description*, p. 172.

34. Courville, "Esquisse du développement villageois au Québec," p. 41.