

The Architecture of the Western Canadian Fur Trade: A Cultural-Historical Perspective

Henry Glassie, in a classic study of Middle Virginia folk housing, wrote:
Any artifact that can be provided with association in space and time, either by being accompanied by a document or better — as with gravestones or buildings — by being set into the land, is a valuable source of a great quantity of information.¹

There is in architecture a set of complex cultural meanings, or “information.” Humans use architecture to cope with their environment and their economies, and to support their traditions and beliefs. It also influences people’s perception of their physical and social environment.

Western Canadian fur trade architecture, which forms the basis of this study, contains information about an early Canadian way of life. Its raw simplicity is a statement about the harsh conditions of the early western Canadian frontier. But fur trade architecture changed through time and space, and was linked to variable economic or social conditions in the fur trade. It is a measure of cultural change, and this truly makes it a valuable source of information about the past.

In this study I assess fur trade architecture in western Canada from about 1780 to 1900. First, the basic elements of fur trade architecture are summarized. Next, how those architectural elements are related to the economics and organization of the fur trade are reviewed. Finally, the relationship between architectural elements and the regional and corporate structure of the fur trade are explored. In particular, I examine how and why fur trade architecture is related to regional and occupational inequality.

A regional comparative approach is used in this examination of fur trade architecture. Consequently, the architecture of each individual post is not described in detail. Although the comparative approach neglects some very interesting architectural detail, it brings to light the broader connections between fur trade architecture and the elements and processes operating within the fur trade of western Canada.

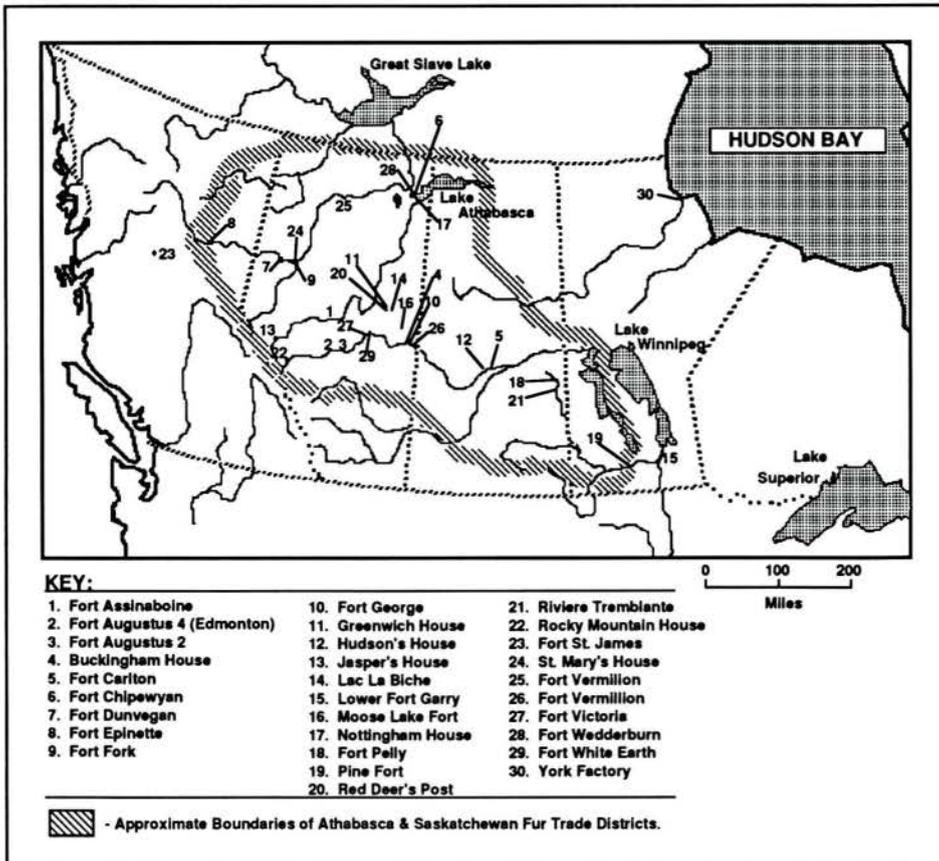
Information for this study was collected from documentary records and archaeological remains of fur trade posts in the interior of western Canada, primarily Alberta. These posts were constructed in the Saskatchewan and Athabasca fur trade districts (**figure 1**).² The types of fur trade data include: 1) scattered references about architecture, which are difficult to use for comparative purposes; and 2) quantitative data from maps and the archaeological record, allowing some general comparisons between posts to be undertaken. These data are by no means exhaustive, and the conclusions drawn from them are therefore a first approximation.

By Heinz W. Pyszczyk

1 Henry Glassie, *Folk Housing in Middle Virginia* (Knoxville: University of Tennessee Press, 1975), 12.

2 For more details regarding these fur trade districts, see Harold A. Innis, *The Fur Trade in Canada* (Toronto: University of Toronto Press, 1975), 283-341; Glyndwr Williams, “The Hudson’s Bay Company and the Fur Trade, 1670-1870,” *The Beaver*, Outfit 314:2 (autumn 1983): 25-51.

Figure 1. Location and name of the fur trade posts referred to in the text.



FUR TRADE ORGANIZATION AND ARCHITECTURE

History and Organization

Inland fur trade posts emerged in the early 1780s, when European traders moved along the major waterways into the interior of western Canada to trade for furs with the natives. By the end of the nineteenth century, approximately 130 fur trade posts had been constructed between Hudson Bay and Lake Winnipeg, west to the slopes of the Rocky Mountains, south of Lake Athabasca to the edge of the northern plains.³ Trade in this vast region was dominated by the Hudson's Bay Company (1670-), the North West Company (1776-1821), the short-lived XY Company (1802-1805), and a few independent traders (figure 1). The architecture of the North West Company and the Hudson's Bay Company comprise the principal subject matter of this study.

Many fur trade posts consisted of little more than a few small log buildings enclosed by a wooden picket fence, or palisade. Alexander Ross's first glimpse of the Hudson's Bay Company's Fort Assiniboine in 1825 was a rude awakening to what the western Canadian experience was going to be like:

... a petty post erected on the north bank of the river, and so completely embosomed in the woods, that we did not catch a glimpse of it until we were among huts, and surrounded by howling dogs and screeching children. At this sylvan retreat there were but three rude houses ... and there was not a picket or palisade to guard them from either savage or bear. This mean abode was dignified with the name of fort.⁴

On the other hand, Philip Turnor, in 1791, described Fort Chipewyan as "the completest Inland House I have ever seen in the country."⁵ In 1843, John Lefroy was less impressed with Fort Chipewyan:

Although assured by my guide beforehand that the Fort was one of the finest in the country and the most famous for the men, the dogs, and everything, I could see nothing of those honours in its first appearance. Quite the contrary, it appeared to me the poorest I had seen.⁶

There was considerable variability in both the architecture of these "forts" of the northwest, and the impression they made on people unaccustomed to the Canadian wilderness. Fort Chipewyan was perhaps more grand than many posts because it was a regional

3 Terry Smythe, "Thematic Study of the Fur Trade in the Canadian West, 1670-1870," Historic Sites and Monuments Board of Canada, Agenda Paper 1968-29 (unpublished manuscript, Ottawa, 1968), 53-278.

4 Alexander Ross, *The Fur Hunters of the Far West: A Narrative of Adventures in the Oregon and Rocky Mountains* (London: Smith, Elder, 1855), 2:204-5.

5 J.B. Tyrrell, ed., *Heame and Turnor Journals* (Toronto: The Champlain Society, 1934), 398.

6 J.H. Lefroy, *In Search of the Magnetic North: A Soldier-Surveyor's Letters from the North-West, 1843-1844*, ed. G.F.G. Stanley (Toronto: Macmillan, 1955), 66-67.

headquarters, but it did not meet with the approval of all outsiders.

Fur trade company posts varied in size and function. Wintering posts were small and occupied only during the winter months. They were constructed in native territory, often in very isolated areas, to acquire furs and provisions (i.e., dried meat, pemmican) from the natives. District trading posts were large and more permanent than wintering posts. They were often occupied by the senior partner and shareholders of the company. After 1821, one trading post became the headquarters for an entire region and performed many roles (e.g., fur trading, provisioning, redistributing trade goods). Decisions regarding regional trade affairs and the allocation of goods and resources were made by the officers in charge of these forts.

Fur trade employees were organized vertically and horizontally according to the roles that they performed.⁷ Roles not only dictated what functions people undertook, but also specified how much income, power, and prestige each person received. Officers in charge of the forts had the highest income and often shared in company profits. Clerks carried out administrative duties. Craftsmen and labourers who carried out the menial tasks were paid the least, and thereby held the lowest positions in the fur trade companies. An employee's ethnic background was instrumental in determining his type of employment. Officers and clerks were almost always English or Scottish. Craftsmen and labourers came from a variety of ethnic backgrounds. Orkneymen and French Canadians made up a large part of the labouring class. Natives hunted for the companies or acted as interpreters; native women who lived with company men bore their children and carried out many domestic tasks at the post. As a result of these alliances, large numbers of mixed-blood people entered the fur trade labour force, but rarely, if ever, attained positions in the upper ranks of the companies.

A Summary of Fur Trade Architecture

Prior to 1821, the Hudson's Bay Company, North West Company, and XY Company competed fiercely for furs in western Canada.⁸ Because of this intense rivalry, the fur trade rapidly expanded west and north, continually lengthening supply lines. Consequently, many fur trade posts were temporary and built quickly from readily available materials; they were abandoned after a few years and left to rot in the wilderness. This type of fur trade architecture was simple and crude, reflecting to a large degree the impermanence of the settlement system.

The roofs of buildings at many fur trade posts were covered with bark or sod and dirt.⁹ Even clay, sand, and grass were occasionally used to build roofs.¹⁰ Generally, though, whatever materials were used, the result was the same — leaking roofs which constantly needed repair. By the latter half of the nineteenth century cedar shakes were being imported from the west (e.g., Fort St. James), increasing the quality and durability of roofing. Parchment skin covered the windows of buildings (e.g., Fort Chipewyan).¹¹ Window glass was rarely used at the early posts, but its use increased during the last half of the nineteenth century.¹²

The frames and walls of buildings were constructed from logs. Mud, mixed with straw or sand, filled the cracks between logs, or covered entire walls of houses for warmth and comfort: "men moding the Men's Houses."¹³ A good local clay source for mudding was as important as good timber. In fact, available mud may have had a greater effect on the location of the post than timber, which was relatively abundant. In 1789, when looking for a suitable place to build Moose Lake Post for the North West Company, Angus Shaw noted:

... I arrived at the entrance of *Rivière Original* I brought the goods, however, to a large point on the south-east of the lake, and wrought two or three days at felling trees for my house, but, to my great mortification, we then discovered there was no clay to be found within five leagues of us.

There was no alternative short of a removal to another and more favorable situation at the entrance of a small river on the west side of the lake¹⁴

Both framed and massed building wall construction techniques were used in the fur trade.¹⁵ In the framed construction method a series of grooved vertical upright logs were placed at regular intervals (generally 8-12 feet) along the building wall.¹⁶ Then infill logs were "tongued" on each end and slipped horizontally into the grooves in the vertical uprights. Long, straight trees were unnecessary, since the sections between the uprights were relatively short. Vertical posts were placed either in holes in the ground (post-in-ground construction) or on sills (post-on-sill construction).¹⁷ Each method was a slightly different version of the Red River frame log construction technique, originally of French Canadian origin.¹⁸

In the post-in-ground construction method, vertical wall and ridge posts were set in holes in the ground four to five feet deep. This method was commonly used at many of the early (pre-1820s) North West Company and Hudson's Bay Company fur trade buildings in western Canada (e.g., Buckingham House, Fort George, Fort White Earth, Rocky Mountain

7 Jennifer S.H. Brown, *Strangers in Blood* (Vancouver: University of British Columbia Press, 1980), 23-51.

8 Innis, *The Fur Trade*, 229-62.

9 Hudson's Bay Company Archives [hereafter HBCA], PAM, B.159/a/8, fo. 11d, in Olga Klimko, *The Archaeology and History of Fort Pelly I, 1824-1856*, Pastlog 5, Manuscript Series in Archaeology and History (Regina: Saskatchewan Culture and Recreation, 1983), 86; for example, Fort Dunvegan in 1805. HBCA, B.239/k/2, August 7, 17, 18.

10 James Parker, *Emporium of the North* (Regina: Great Plains Research Center/Alberta Culture and Multiculturalism, 1987), 41.

11 Lefroy, *In Search of the Magnetic North*, 66-67.

12 Window glass was recovered at this site. See Timothy C. Losey et al., *Archaeological Investigations: Fort Victoria, 1975*, Occasional Paper No. 3, Historic Sites Service (Edmonton: Alberta Culture, 1977); Michael R.A. Forsman, *The Archaeology of Victoria Post, 1864-1897*, Manuscript Series No. 6, Archaeological Survey of Alberta (Edmonton: Alberta Culture and Multiculturalism, 1985).

13 HBCA, B.184/a/3, and HBCA, B.184/a/4.

14 Roderic[k] McKenzie, "Reminiscences," in *Les Bourgeois de la Compagnie du Nord-Ouest, récits de voyages, lettres et rapports inédits relatifs au Nord-Ouest Canadien*, ed. L.R. Masson (Quebec: A. Coté, 1889-90), 1:31.

15 For a more detailed description and background of these techniques, see Georges-Pierre Léonidoff, "L'habitat de bois en Nouvelle-France: son importance et ses techniques de construction," *Material History Bulletin* 14 (spring 1982): 19-35.

16 Thomas R. Garth Jr., "Early Architecture in the Northwest," *The Pacific Northwest Quarterly* 38 (July 1947): 221-22.

17 D.R. Babcock, "Fort George and Buckingham House: A Structural History," Historic Sites Service, Alberta Culture (unpublished manuscript, Edmonton, 1983), 9.

18 Ibid.

House, Dunvegan). The North West Company consistently placed vertical posts in the ground at the corners, along the walls, and down the centre of their buildings.¹⁹ The Hudson's Bay Company placed posts in the ground along the walls and sometimes at the corners of buildings.²⁰

Post-in-ground building construction was replaced by the post-on-sill construction technique some time after 1821. In the latter method, vertical wall and corner posts were set on sills or foundation logs which rested directly on the ground or on rocks (e.g., Fort Victoria).²¹ The reason for abandoning the post-in-ground method is uncertain. Post-on-sill construction appeared when forts were occupied for relatively longer periods of time, in turn requiring a longer-lasting log building method. However, it is questionable whether post-on-sill building construction was structurally superior to the post-in-ground method. It has been suggested that the change in framed construction techniques was due to the strong French Canadian influence after 1821. This explanation is weak because both methods were of French Canadian origin.

The deficiencies present in the framed construction techniques may have led to the introduction of the elaborate, but more structurally sound, massed wall construction techniques during the last half of the nineteenth century. The walls of massed structures contained horizontal logs that were joined by various corner-notching techniques (dovetail, saddle, lap notch, trenailed/keyed).²² These corner notching techniques (e.g., dovetail at Fort Dunvegan²³ and Fort Chipewyan²⁴) required relatively more skilled labour and were more costly than the framed construction methods.

Fireplaces and chimneys were made from mud, sticks, and rocks. The base, made of rocks, rested on a clay pad. The firebox was made from clay, which hardened when heated.²⁵ Chimneys were framed with sticks and poles, then covered with mud: "fixed Poles to the chimney of Mr. McLeods upper Room in order to heighten it."²⁶ The men often complained when the wind blew, "which causes every chimney in the Fort to smoke, and renders our house very disagreeable."²⁷ Sometimes the mud chimneys washed away during heavy rains.²⁸

Flooring was crude during the early fur trade period. Wooden floor boards rested on the ground, on sleepers or on ledger strips placed along building walls.²⁹ At Fort George, floor boards were pit sawn, with the bark-covered end facing down. Often the labourers' quarters contained sand or hard-packed dirt floors.³⁰ Later in the nineteenth century, sawn floor planks rested on evenly spaced joists which were placed on stones or on the ground.³¹

Building foundations were made primarily of wood or stone (e.g., Fort Dunvegan).³² Dwellings and stores had cellars, which were often crude holes in the ground with no cribbing whatsoever (e.g., labourers' barracks, Fort George).³³ However, at some posts the clerk's and factor's house cellars were large and elaborately cribbed.³⁴ In the most lavish houses, such as the Big House at Fort Edmonton, large basements served as cooking facilities and servants' quarters.

Fortifications

Fortifications at many inland trading posts were often neglected and inadequate. Wooden palisades enclosed buildings and working areas to form a square, rectangle, or quadrangle. Wooden pales, between 12 and 28 feet in length, were placed in trenches three to four feet deep to form walls.³⁵ Blockhouses or bastions were sometimes constructed at opposite corners of the palisades, or were placed along the walls near gates: "Set the Men to work on an elevated half Bastion above the Gate."³⁶ Galleries ran around the top of the palisade to provide some protection against attack.³⁷ However, because the forts were operated and constructed by civilians, defense against attack was often of secondary importance. At Rocky Mountain House the gates and bastions were "the most wretched buildings for defence."³⁸ On occasion, competing companies built their posts close together or shared a common palisade for protection against attack.³⁹ Defenses at fur trade posts were quite often simply a show of strength:

Edmonton is a well-built place ... surrounded by high pickets and bastions, which, with the battlemented gateways, the flagstuffs, etc., give it a good deal of a martial appearance.⁴⁰

There was very little difference in the basic construction methods of fortifications at the western Canadian fur trade company posts, although there was considerable variability in their strength. By the last half of the nineteenth century, fortifications at many posts diminished because native/non-native hostilities were also diminishing (e.g., Dunvegan, Victoria, Chipewyan). The 'martial' appearance of these posts gave way with the devolution to a more scattered distribution of buildings, often with no palisades.

19 Archibald Norman McLeod, "Journal of the Daily Transactions at Dunvegan—Summer 1807, Winter 1807-1808," HBCA, unpublished journal, 1807-08, 9280.

20 Karlis Karklins, "Nottingham House: The Hudson's Bay Company in Athabasca 1802-1806," *Canadian Historic Sites: Occasional Papers in Archaeology and History* 69 (Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1983), 25.

21 Timothy C. Losey et al., *Archaeological Investigations: Fort Victoria, 1974*, Occasional Paper No. 2, Historic Sites Service (Edmonton: Alberta Culture), 11.

22 Léonidoff, "L'habitat de bois en Nouvelle-France," 19-35.

23 Heinz W. Pyszczczyk and Mary Margaret Smith, "Archaeological Investigations at Fort Dunvegan (1878-1918), Dunvegan, Alberta," *Archaeological Survey of Alberta, Alberta Culture and Multiculturalism* (unpublished manuscript, Edmonton, 1985).

24 Roderick J. Heitzmann, "Fort Chipewyan III and IV: Historical Resources Inventory and Assessment, 1979," *Historic Sites Service, Alberta Culture* (unpublished manuscript, Edmonton, 1980).

25 Timothy C. Losey et al., "Fort George Project Interim Report No. 2: Archaeological Investigations, 1978," *Archaeological Survey of Alberta, Alberta Culture* (unpublished manuscript Edmonton, 1979), 36-37.

26 McLeod, "Daily Transactions at Dunvegan," 292.

27 Richard Glover, ed., *David Thompson's Narrative* (Toronto: The Champlain Society, 1962), 297.

28 Elliot Coues, ed., *New Light on the Early History of the Greater Northwest: the Manuscript Journals of Alexander Henry, Fur Trader of the North West Company, and of David Thompson, Official Geographer and Explorer of the Same Company, 1799-1814* (Minneapolis: Ross and Haines, 1897), 2:579-80.

29 Timothy Losey et al., "Fort George Project Interim Report No. 1: Archaeological Investigations, 1977," *Archaeological Survey of Alberta, Alberta Culture* (unpublished manuscript, Edmonton, 1978); Losey et al., "Fort George Project Interim Report No. 2"; and, Robert S. Kidd, *Fort George and the Early Fur Trade in Alberta*, Provincial Museum and Archives of Alberta, Publication No. 2 (Edmonton: Provincial Museum and Archives of Alberta, 1970).

30 *Ibid.*, 35-38.

31 Construction details of the Fort Dunvegan factor's house (1877-) and the Fort Victoria clerk's quarters (1864-) were personally observed and recorded. Both buildings are still standing.

32 Pyszczczyk and Smith, "Archaeological Investigations at Fort Dunvegan (1878-1918)."

33 Losey et al., "Fort George Project Interim Report No. 2," 35-38.

34 See note 31.

35 Alexander McKenzie, *Voyages from Montreal, on the River St. Lawrence, through the Continent of North America, to the Frozen and Pacific Oceans; in the Years 1789 and 1793* (London, 1801), 131ff, states that palisades were 18 feet long, 7 inches in diameter at Fort Fork; Henry J. Moberly, *When Fur was King* (New York: Dutton, 1929), 35, states that the palisades at the 1854 Rocky Mountain House were 28 feet high.

36 *Ibid.*, 28.

37 Hugh A. Dempsey, "A History of Rocky Mountain House," *Canadian Historic Sites: Occasional Papers in Archaeology and History* 6 (Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1973), 32.

38 Alexander Henry talking about Rocky Mountain House in 1810, quoted in Dempsey, "A History of Rocky Mountain House," 29.

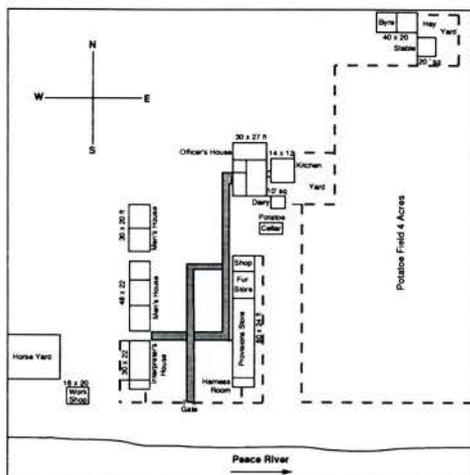


Figure 2 (above). Reproduction of an 1875 map of the Hudson's Bay Company Fort Dunvegan.

Table 1 (right). Summary data of western Canadian fur trade architecture (see appendix for sources).

Table 1. Summary Data of Western Canadian Fur Trade Architecture.

Fort	Company	Occupation Period	Region	Fort Area	Bldg. Area	No. Bldgs.	No. Activ.
St. James	H.B.	1846-	N.Cal.	-	-	8	9
St. James	H.B.	1899-	N.Cal.	-	8662	12	13
Epinette	N.W.	1806-23	Atha.	11011	3103	4	-
Dunvegan	N.W.	1805-21	Atha.	38809	-	8	-
Dunvegan	H.B.	1821-77	Atha.	38809	6945	10	11
Dunvegan	H.B.	1878-86	Atha.	-	7728	13	17
Dunvegan	H.B.	1887-1918	Atha.	-	6722	11	11
Fork	N.W.	1792-1800	Atha.	-	2470	4	-
St. Mary's	H.B.	1819-20	Atha.	19126	4068	6	6
Vermilion	H.B.	1848-	Atha.	-	18211	21	13
Nottingham H.	H.B.	1802-06	Atha.	-	1138	3	4
Wedderburn	H.B.	1815-21	Atha.	-	1033	1	3
Chipewyan	N.W.	1803-21	Atha.	-	-	8	8
Chipewyan	H.B.	1898-	Atha.	-	16500	22	16
Greenwich House	H.B.	1800-03	Atha.	-	1255	3	4
Red Deer's Post	H.B.	1819-20	Atha.	-	3050	3	4
Lac La Biche	H.B.	1875-6	Atha.	-	-	6	5
Lac La Biche	H.B.	1889-	Atha.	-	4728	9	8
Lac La Biche	H.B.	1895	Atha.	-	3070	7	6
Pine Fort	Can.	1768-94	Sask.	13833	-	4	-
Fort Pelly 1a	H.B.	1824-	Sask.	14400	4312	4	6
Fort Pelly 1b	H.B.	1831-	Sask.	32554	4956	9	8
Fort Pelly 2	H.B.	1856-	Sask.	-	-	9	-
Hudson's House	H.B.	1778-98	Sask.	12100	2074	4	4
Riviere Trem.	N.W.	1791-98	Sask.	29082	2596	7	-
Fort Carlton	H.B.	1855-80	Sask.	64349	12884	10	7
Fort George	N.W.	1792-1800	Sask.	60860	7415	9	-
Buckingham H.	H.B.	1792-1800	Sask.	17835	2961	3	-
White Earth	H.B.	1810-13	Sask.	27040	-	-	-
White Earth	N.W.	1810-13	Sask.	52728	-	-	-
Victoria	H.B.	1864-98	Sask.	29480	3859	8	9
Augustus 2	H.B.	1801-10	Sask.	24300	5625	7	11

Note: Fort Area was calculated only when forts were enclosed by palisades.

REGIONAL VARIABILITY IN FUR TRADE POST ARCHITECTURE

The following results are derived from the fur trade post data presented in table 1.

Fort Size

The size of fur trade posts increased as their role changed from wintering posts to district headquarters. Prior to 1821, North West Company posts were larger than Hudson's Bay Company posts, likely because they had larger populations and more diverse functions (table 2). Hudson's Bay Company posts increased substantially in size after 1821 (table 2). Furthermore, the Saskatchewan River posts were slightly, but not significantly, larger than the northern establishments.⁴¹

Building Diversity, Size, and Frequency

Most fur trade posts contained dwellings, storage facilities, and specific work areas. A sketch of the 1875 Hudson's Bay Company Fort Dunvegan represents the layout and functional diversity of buildings necessary to conduct the inland trade (figure 2).⁴² Imported goods, local provisions, and furs were stored in large buildings. Large storage cellars contained perishable goods. The blacksmith's and carpenter's shops were essential to the operation of the inland posts. Dwellings housed the fur trade employees. Animals were kept farther away from the fort compound.

Variability in the diversity, size, and number of fort buildings reflected primarily the individual needs of posts and districts. Furthermore, number of buildings, size, and activity areas all increased as the role and rank of the fort changed. The large district headquarters, such as Fort Edmonton and Chipewyan, performed many roles, contained many different types of buildings, and incorporated considerably more space for storage, working, and living (table 1). Prior to 1821, number of buildings, total building space, and functions were all greater at North West Company fur trade posts than at the Hudson's Bay Company posts (table 2). These differences likely reflect the considerably larger populations and greater economic output at North West Company posts than the Hudson's Bay Company. After 1821, Hudson's Bay Company posts became larger, and contained more buildings, total build-

39 For example, Fort Vermilion in 1814 (see Gabriel Franchère, *Narrative of a Voyage to the Northwest Coast of America in the Years 1811, 1812, 1813, and 1814*, trans. J. V. Huntington [New York: Redfield, 1854], 318-19), and Fort White Earth in 1810-13 (see Coues, ed., *Manuscript Journals of Alexander Henry ... and of David Thompson*, vol. 2).

40 Sir George Simpson, *Narrative of a Journey Round the World, during the Years 1841 and 1842* (London: H. Colburn, 1847), 1:101.

41 Statistical significance tests of these means, however, indicates that they are not different at a 95 percent confidence level.

42 National Archives of Canada, PA-9141, Fort Dunvegan, October 1872.

Table 2. General trends in fur trade post size.

Company/Period	Fort sq. ft.	Bldg. sq. ft.	No. Bldgs.	Activities
N.W. Company <1821	38081	4423	6.1	8
H.B. Company <1821	21543	315	4.6	5.1
H.B. Company 1822-1860	39690	8261	9.8	7.7

ing space, and functional areas (table 2). The Hudson's Bay Company reduced the number of inland posts after amalgamation with the North West Company to decrease their operating costs; consequently, there were fewer, larger, and more functionally diverse forts in each region.

Architecture as Display

Apparently, then, variability in fur trade post size, and the diversity of roles, was related to variability in fur trade economics. Occasionally, however, personal prestige and status, and sometimes competition between officers, also left its mark on fur trade architecture.⁴³ This behaviour defied rational economic principles and enraged chief Company officers. For example, George Simpson, Governor of the Hudson's Bay Company, complained about construction expenses at Fort Pelly in 1832:

... from being merely a temporary Post, it has since then gradually become one of the most expensive permanent Establishments in the Country, the different Gentlemen who have been in charge thereof exhausting their ingenuity and wasting means in embellishments and fanciful improvements.⁴⁴

Fort Pelly was an unprofitable enterprise, but its officers intended to keep up with other posts in the region. It was prestige and competition between chief traders, and their attempts to visibly demonstrate equality, that were instrumental in the investment of resources in architecture.

Events at Fort Dunvegan leave a similar impression of how architecture was used to display rank of the posts and their occupants. When Fort Dunvegan became the new headquarters of Peace River District in 1878 improvements to its buildings were undertaken.⁴⁵ Some buildings were rebuilt, despite the continuing decline of furs and profits. Dunvegan's new role as a district headquarters was reflected in its architecture. It carried out more roles and tasks, which is probably why some of its buildings were rebuilt and others added. The construction of a new factor's house some distance away from the servants' quarters—which were not rebuilt—also reflected the higher status of the man in charge of the new district. Evidently, architecture was used for conscious display of occupational rank at Fort Dunvegan.

VARIABILITY IN OCCUPATIONAL RANK AND ARCHITECTURE

Major trends in fur trade architecture, when compared with occupational inequality, are summarized in table 3.

Living Arrangements

Living quarters at many inland fur trade posts were arranged along palisades to form a courtyard within the main compound (e.g., Fort George, Dunvegan, Buckingham House). The trader's or factor's house was usually the largest, most dominant dwelling. Other Company employees lived in long barracks or small cabins, either inside or outside the fort. Privacy, which was minimal, was attained by constructing fences between dwellings. By the late nineteenth century the posts began to resemble small settlements, their buildings scattered over a larger area (e.g., Fort Dunvegan, 1880s).

Officers and labourers at the majority of the posts lived in separate quarters (table 4). These two occupational groups more often lived under a common roof prior to 1821 than after. Furthermore, officers and labourers lived together more often at Hudson's Bay Company posts than at North West Company posts. Finally, the degree of spatial proximity of the company employees was closely related to the relative size, and consequently the rank, of the fur trade posts they inhabited. And whenever possible, as at Fort Dunvegan during the 1880s, the living quarters of the officers and labourers were separated by a great deal of space.

43 Heinz W. Pyszczuk, "Big Men – Big Houses? The Interpretation of Archaeological Architectural Remains, Dunvegan," *Archaeology in Alberta, 1985*, Occasional Paper No. 29, Archaeological Survey of Alberta, ed. John W. Ives (Edmonton: Alberta Culture and Multiculturalism, 1986), 29-50; Heinz W. Pyszczuk, "Economic and Social Factors in the Consumption of Material Goods in the Fur Trade of Western Canada" (Ph.D. diss., Dept. of Archaeology, Simon Fraser University, 1987); Heinz W. Pyszczuk, "More on Image and Material Culture in the Fur Trade," *Archaeology in Alberta, 1986*, Occasional Paper No. 31, Archaeological Survey of Alberta, ed. Martin Magne (Edmonton: Alberta Culture and Multiculturalism, 1986), 17-30; D. R. Babcock, "Fort George and Buckingham House: A Structural History," Historic Sites Service, Alberta Culture (unpublished manuscript, Edmonton, 1983), 19.

44 HBCA, PAM, D.4/99, fo.47d.

45 Pyszczuk, "Big Men – Big Houses?"

Table 3 (above). Summary of western Canadian fort dwelling data (see appendix for sources).

Table 4 (below). Spatial proximity of living quarters between Company officers and servants at western Canadian fur trade posts.

Table 3. Summary of Western Canadian Fort Dwelling Data.

Fort	Company	Occupation Period	Region	Officers' Area (sq. ft.)	Servants' Area (sq. ft.)	Officers' # Rms	Servants' # Rms	Officers'/ Servants' Proximity
St. James	H.B.	1846-	N.Cal.	-	-	2	1	sep.
St. James	H.B.	1899-	N.Cal.	1818	341	6	2	sep.
EpINETTE	N.W.	1806-23	Atha.	1190	294	3	1	sep.
Dunvegan	N.W.	1805-77	Atha.	978	331	4	1	sep.
Dunvegan	H.B.	1878-86	Atha.	1552	300	5	1	sep.
Dunvegan	H.B.	1887-1918	Atha.	1552	300	5	1	sep.
Fork	N.W.	1792-1800	Atha.	1050	270	1+	1	sep.
St. Mary's	H.B.	1819-20	Atha.	1772	363	5	1	sep.
Vermilion	H.B.	1848-	Atha.	2300	360	8	1-2	sep.
Nottingham	H.B.	1802-06	Atha.	134	77	1	1	att.
Wedderburn	H.B.	1815-21	Atha.	280	196	1	1	att.
Chipewyan	N.W.	1872-	Atha.	1964	531	5	1-2	sep.
Greenwich House	H.B.	1800-03	Atha.	-	-	1	1	att.
Red Deer's Post	H.B.	1819-20	Atha.	1250	333	3	1	sep.
Lac La Biche	H.B.	1889-	Atha.	975	224	-	1	sep.
Lac La Biche	H.B.	1895	Atha.	600	224	-	1	sep.
Pine Fort	Can.	1768-94	Sask.	504	248	-	1	sep.
Fort Pelly 1a	H.B.	1824-	Sask.	800	160	3	1	sep.
Fort Pelly 1b	H.B.	1831-	Sask.	1100	160	4	1	sep.
Hudson's House	H.B.	1778-9	Sask.	560	314	2	1	sep.
Riviere Trem.	N.W.	1791-98	Sask.	613	283	2+	1	sep.
Fort Carlton	H.B.	1855-80	Sask.	1120	300	2+	1	sep.
Fort George	N.W.	1792-1800	Sask.	1456	320	5	1-2	sep.
Buckingham H.	H.B.	1792-1800	Sask.	365	72	2	1	att.
Victoria	H.B.	1864-98	Sask.	1117	326	5	1-2	sep.
Augustus 2	H.B.	1801-10	Sask.	1379	348	2+	1	sep.
Augustus 2	N.W.	1801-10	Sask.	1336	389	2+	1	att.
Augustus 4	H.B.	1861-	Sask.	5293	315	9	1-2	sep.
Rocky Mt. House	N.W.	1799-1821	Sask.	1000	275	2+	1	sep.
Rocky Mt. House	H.B.	1799-1821	Sask.	1444	244	2+	1	sep.
Rocky Mt. House	H.B.	1799-1835	Sask.	216	264	2	1	att.
Jasper House	H.B.	1857-90	Sask.	968	168	2	1	sep.

Table 4. Spatial proximity of Living Quarters between Company Officers and Servants at Western Canadian Fur Trade Posts.

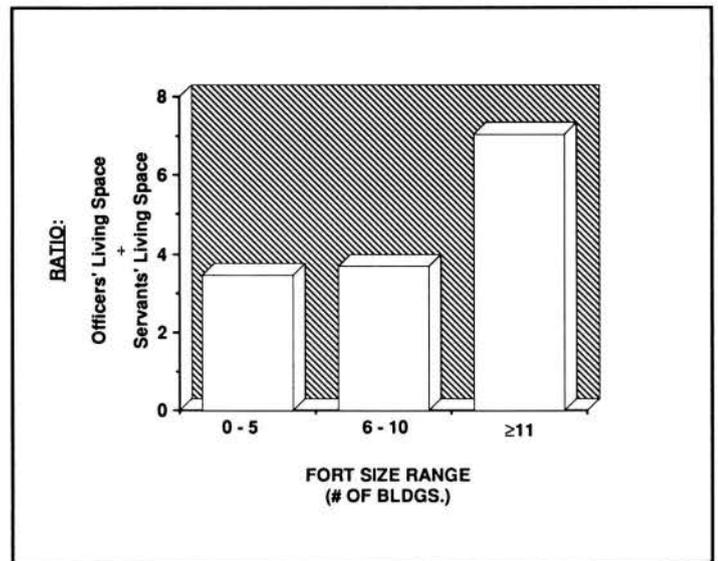
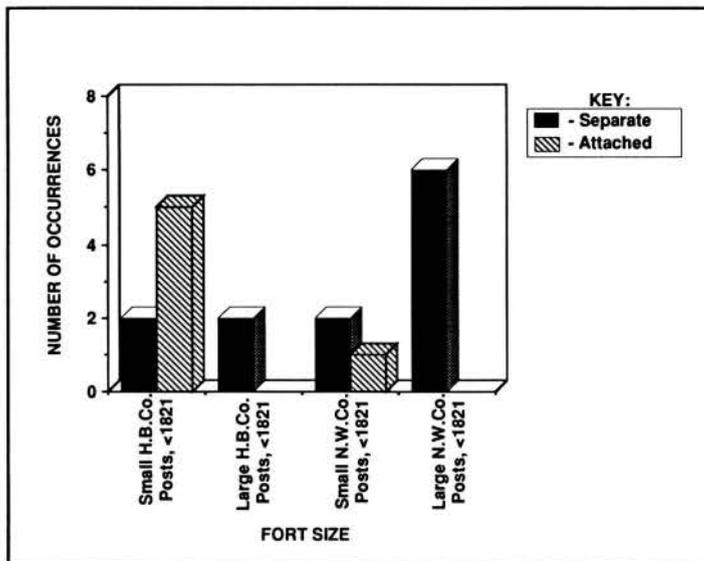
Company/Period/Size	Number of Occurrences	
	Separate Living Quarters	Attached Living Quarters
All	33	6
<1821	14	6
1821-60	5	0
>1861	8	0
H.B. Company	22	5
N.W. Company	8	1
0-5 Buildings	6	5
6-10 Buildings	19	1
>10 Buildings	6	0

What factors are responsible for these results? Historically, there was a much stronger ethnic link between the British officers and Orkney labourers of the Hudson's Bay Company than the British/Scottish officers and French Canadian labourers of the North West Company.⁴⁶ These closer ethnic ties may account for the often closer proximity of living quarters of the officers and their servants in the Hudson's Bay Company than in the North West Company. Evidently, habitation of the same building by Hudson's Bay Company officers and servants was preferred because this arrangement resembled the master-servant relationship in Britain during the early nineteenth century. But the present fur trade sample shows that fort size played an equally important role in the degree of proximity between Hudson's Bay Company officers and servants prior to 1821. Proximity decreased as the size of the post increased in the Hudson's Bay Company (figure 3). Therefore, habitation of the same dwelling by officers and labourers was not due to greater ethnic compatibility in one company than the other, but occurred out of economic necessity.

Dwelling Space and Rooms

The amount of living space and number of rooms for each occupational class is given in table 3. Living space was calculated as square feet per person. It is only a rough approximation, since often many people (especially the labourers) shared the amount of space listed in table 3.

46 Brown, *Strangers in Blood*, 46; and Pyszczky, "Economic and Social Factors in the Consumption of Material Goods," 86-99.



For example, in 1810 Alexander Henry described the occupants in ten houses at Fort Vermilion.⁴⁷ Each house contained between one and 18 people, with a mean of 10.8 people per house. At Fort Edmonton in 1858, the number of occupants ranged between two and 10 people in 14 separate houses, with a mean of 6.8 people.⁴⁸ At Fort George, approximately 12 separate compartments have been identified to house approximately 140 people, or roughly 11.6 people per compartment. Sometimes these houses or compartments were often no bigger than 200 square feet.

In order to further examine general trends in living space, officers' space was divided by servants' space and expressed as a ratio (table 5). The officers have relatively more space than the servants as this figure increases; a decrease in the ratio signifies the opposite. Clearly, the officers always had more living space than the labourers. Prior to 1821, differences in living space between the two ranks was greater in the North West Company than in the Hudson's Bay Company. Furthermore, differences in living space among the ranks were much greater after 1821 than before 1821 in the Hudson's Bay Company. Finally, the degree of difference there was in living space between the occupational ranks was related to the size of the post (table 5, figure 4). In short, the degree of inequality in living space grew larger between the occupational classes as the size of the post increased.

There is also considerable variability in the number of rooms or partitions in dwellings (table 3). One room often served many functions for the labourers (eating, sleeping, etc.). At other forts, each specific activity took place in a separate room. For example, the men's quarters at Lower Fort Garry consisted of one or two rooms, and were much smaller than the officers' quarters.⁴⁹ Often, however, the men lived in barracks-like quarters that contained little or no internal partitioning.⁵⁰

... while the exterior is fair enough with its winter porch, protected doors, the inside was somewhat of a maze and more like a rabbit warren is supposed to be, both in excess of occupants ...⁵¹

The number of officers' to labourers' rooms was computed as a ratio, by dividing the number officers' rooms by the number of labourers' rooms (table 5). Differences between officers'/labourers' number of rooms is only slightly higher in the North West Company than in the Hudson's Bay Company, though there is a significant difference in the officers'/labourers' number of rooms before and after 1821 (table 6). Furthermore, the ratio is also significantly different when large posts are compared to small posts. Like living space, the difference in number of rooms between the officers and labourers increased as the size or rank of the fur trade post increased.

CONCLUSIONS

Fur trade architecture is a valuable source of information about the people who first settled the Canadian west. While an understanding of basic log construction techniques in the fur trade is important, there are other architectural attributes, such as size and diversity of posts or buildings, which are equally informative about the past. These attributes are sensitive to changes that occur in the economic or social processes that operated in the fur trade. The first step in analyzing these attributes is to document the architectural variability, and then to

Figure 3 (left). The number of times officers' and servants' quarters were attached or separate at Hudson's Bay Company and North West Company posts.

Figure 4 (right). The relationship between the mean living space ratio of officers to servants and fur trade posts.

47 Coues, ed., *Manuscript Journals of Alexander Henry ... and of David Thompson*, 507-675.

48 George Heath MacDonald, *Edmonton, Fort - House - Factory* (Edmonton: Douglas Printing Co., 1959), 79.

49 Gregory Thomas, *The Men's House, Lower Fort Garry: Its Furnishings and Place within the Hudson's Bay Company Post Environment*, Manuscript Report Series No. 246 (Ottawa: National Historic Parks and Sites Branch, Parks Canada, Department of Indian Affairs, 1978), 28-50.

50 See Robert M. Ballantyne, *Hudson's Bay; or, Everyday Life in the Wilds of North America, During Six Years' Residence in the Territories of the Honourable Hudson's Bay Company* (Edinburgh and London: W. Blackwood, 1848); Isaac Cowie, *The Company of Adventurers* (Toronto: William Briggs, 1913); J.A. Hussey, "'Unpretending', but not 'Indecent', Living Quarters at Mid-19th Century Hudson's Bay Company Posts," *The Beaver*, Outfit 305:4 (1975): 12-21; G.S. McTavish, *Behind the Palisade* (Victoria: Gray's Publishing Company, 1963).

51 McTavish, *Behind the Palisade*, 114.

Table 5. Summary of living space and number of rooms of Company officers and servants.

Period/Company/Size	Officers' to Servants'	
	Mean Living Space Ratio	Mean No. of Rooms Ratio
N.W. Company	3.5	2.6
H.B. Company <1821	2.9	2.3
H.B. Company 1821-60	5.8	3.5
H.B. Company 1861- <1821	4.9	2.5
>1821	3.2	2.5
Head quarters	5.4	3.5
Other	7.8	3.8
	3.4	2.7

Note: Ratios are computed by dividing the Officers' figures by the Servants' figures.

explain it. Although there are still deficiencies in the fur trade data base, some trends are already discernible.

In the fur trade, as in many other societies, basic environmental and economic factors account for most of the variability found in architecture. The architecture of the fur trade post was designed so that furs could be acquired from the natives and its inhabitants would be protected from the elements. For the most part, readily available local building materials were used to construct these posts. Consequently, the form and function of fur trade architecture strongly reflects basic needs and availability of resources.

Even though fur trade post architecture was a direct response to immediate economic needs or available resources, it was also sensitive to larger prevailing economic and social conditions. Internal competition between company officers and their respective posts often led to improvements in architecture intended primarily for outward display and status. Under these circumstances, architecture categorizes humans and their environments. It is a means of active expression of human affiliation or differentiation, a fact often overlooked by conventional economic models. Resources, when divided unequally among posts and their inhabitants, are the means to accomplish these ends. When given the opportunity, as at the larger fur trade posts, officers invested labour and resources in architecture to differentiate themselves from the labourers.

Thus, at one end of the spectrum, when access to labour and resources were limited, there was relatively more similarity in architecture of the different ranks than when labour and materials were unlimited. This trend was evident when examining living conditions at the Hudson's Bay Company posts built before 1821. The close degree of proximity between the occupational ranks was not a consequence of closer ethnic ties that existed between the different ranks. As soon as access to labour and resources increased, as at the larger posts, greater spatial distance between the ranks occurred.⁵² Humans use material things to fix or make concrete their social positions within society. Initially, the ability of people in the fur trade to make those distinctions with architecture was minimal, but grew as access to labour and resources increased.

To conclude, fur trade architecture impressed upon people the importance or dignity of an institution or position, whether economic, political or religious. Consider, for example, Governor George Simpson's statements of how architecture was used to impress the natives:

This fort [Edmonton], both inside and outside, is decorated with paintings and devices to suit the taste of the savages that frequent it. Over the gateway are a most fanciful variety of vanes; but the hall, of which both the ceiling and the walls present the grandest colors and most fantastic sculpture, absolutely rivets the astonished natives to the spot with wonder and admiration.⁵³

Now, consider the following statement from the *Edmonton Bulletin*, 1906, describing the new Alberta legislative building:

While it is with a degree of pride and pleasure that we note the changed conditions from the fur traders' life to a prosperous, modern civilization, we must admit the feeling that we are, after all, aiming only to establish for our people the most important and imposing structure in the Province.

Architecture, in both cases, was used in a similar fashion: to rivet the "astonished natives" (and, in the latter case, non-natives) "to the spot with wonder and admiration."

52 The exceptions occurred at the large establishments, such as Fort Edmonton and Fort Garry, where the house servants lived in the basement of the factor's house.

53 Simpson, *Narrative of a Journey Round the World*, 1:101.

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Appendix: Sources for data presented in tables 1 and 3.

Ken Arnold, "The History and Archaeology of Fort Fork," The Provincial Museum and Archives of Alberta (unpublished manuscript, Edmonton, 1972); Douglas R. Babcock, "Fort Dunvegan: A Structural Synopsis and Archival Extracts," Historic Sites Service, Alberta Culture (unpublished manuscript, Edmonton, 1983); Dean W. Clark, "Report on Preliminary Excavations at Hudson's House," *Napaoo* 2 (1969), 28-33; Dean W. Clark, "Historic Resource Development, Victoria Settlement," Historic Sites Service, Alberta Culture (unpublished manuscript, Edmonton, 1971); Knut Fladmark, "A Preliminary Report on Excavations at Fort Epinette (St. John's) - HaRc27" (report submitted to the Archaeological Sites Advisory Board, Vancouver, 1976); Michael Forsman, *The Archaeology of Victoria Post 1864-1897*, Manuscript Series No. 6, Archaeological Survey of Alberta (Edmonton: Alberta Culture, 1985); Donald A. Harris, *The Archaeological Excavations at the Site of Fort St. James, British Columbia, 1972*, Manuscript Report Number 228 (Ottawa: Parks Canada, Department of Indian Affairs, 1974); HBCA, b.39/e/16; Roderick J. Heitzmann, "Fort Chipewyan III and IV: Historical Resources Inventory and Assessment, 1979," Archaeological Survey of Alberta, Alberta Culture (unpublished manuscript, Edmonton, 1980); Karlis Karklins, "Nottingham House: The Hudson's Bay Company in Athabasca, 1802-1806," *Canadian Historic Sites: Occasional Papers in History and Archaeology* 69 (Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1983); Robert S. Kidd, *Fort George and the Early Fur*

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