TRADITIONAL RURAL ARCHITECTURE IN
QUEBEC: 1600-1800

Sarah M. McKinnon*
Major Report No. 9


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<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barge board</td>
<td>sloping board covering ends of roof timbers at verge</td>
</tr>
<tr>
<td>brace</td>
<td>short timber set obliquely to stiffen frame by introducing triangulation</td>
</tr>
<tr>
<td>cob</td>
<td>primitive concrete composed of mud and chopped straw</td>
</tr>
<tr>
<td>collar</td>
<td>short length of timber tying together pair of rafters near apex</td>
</tr>
<tr>
<td>cornice</td>
<td>crowning member of Classical entablature, also used as a finish to a wall-top and below internal ceilings</td>
</tr>
<tr>
<td>dog-leg stair</td>
<td>stair formed of two flights joined by half-landing; 'pair of stairs'</td>
</tr>
<tr>
<td>dormer</td>
<td>small window set in roof timbering</td>
</tr>
<tr>
<td>dressings</td>
<td>worked stone or brick surrounding openings, also quoins and other features requiring special care</td>
</tr>
<tr>
<td>eaves</td>
<td>projection of roof over wall-face</td>
</tr>
<tr>
<td>field-stone</td>
<td>see 'rubble'</td>
</tr>
<tr>
<td>gable</td>
<td>end of building showing roof pitch</td>
</tr>
<tr>
<td>girder</td>
<td>beam passing between main posts of building</td>
</tr>
<tr>
<td>half-timber</td>
<td>modern term to describe timber-framed building</td>
</tr>
<tr>
<td>hip</td>
<td>roof-slope carried around angle of building</td>
</tr>
<tr>
<td>hipped end</td>
<td>end of building with roof-slope carried around to cross it</td>
</tr>
<tr>
<td>joist</td>
<td>timber actually carrying floor boarding or ceiling plaster</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>king-post</td>
<td>central vertical member of roof 'truss' (see diagram)</td>
</tr>
<tr>
<td>plate</td>
<td>horizontal timber set on wall to carry joists of rafters; wall-plate (see diagram)</td>
</tr>
<tr>
<td>purlin</td>
<td>longitudinal timber supported by trusses gable walls etc. and carrying rafters (see diagram)</td>
</tr>
<tr>
<td>queen-post</td>
<td>one of a pair of small posts forming part of a roof-truss</td>
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<tr>
<td>quoin</td>
<td>angle of a building, or stones, bricks, etc. forming it</td>
</tr>
<tr>
<td>rafter</td>
<td>sloping timbers to which roof covering is attached (see diagram)</td>
</tr>
<tr>
<td>ridge</td>
<td>line of meeting of roof-slopes at apex; small timber carrying this (see diagram)</td>
</tr>
<tr>
<td>rubble</td>
<td>stone gathered from fields or salvaged from old buildings and laid without dressing by tools</td>
</tr>
<tr>
<td>shingle</td>
<td>long wooden tile for roof covering</td>
</tr>
<tr>
<td>sill</td>
<td>horizontal timber carrying vertical ones, foundation timber of framed house, lower timber of door or window frame</td>
</tr>
<tr>
<td>tie-beam</td>
<td>heavy beam tying opposite walls together; foundation member of roof 'truss' (see diagram)</td>
</tr>
<tr>
<td>truss</td>
<td>strongly-framed triangular feature crossing building at bay interval and carrying ridge and purlins of roof</td>
</tr>
<tr>
<td>verge</td>
<td>edge of roof at gable end</td>
</tr>
<tr>
<td>wall-plate</td>
<td>horizontal timber set on top of wall to carry feet of rafters (see diagram)</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>wattle</td>
<td>woven willow-wands used as foundation for plaster of cob or, later lime</td>
</tr>
<tr>
<td>weatherboard</td>
<td>board used for external sheathing of timber frames and set overlapping;</td>
</tr>
<tr>
<td></td>
<td>clapboard</td>
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</tbody>
</table>

iii
ROOF TRUSSING

a. Wall Plate
b. Tie Beam
c. King Post
d. Struts
e. Principal Rafters
f. Pole Plate
g. Purlin
h. Ridgepole
i. Common Rafters
INTRODUCTION

This study of rural architecture in Quebec is taken from a larger work which was submitted to the University of Toronto as a Doctor of Philosophy thesis. The thesis compared French and Quebecois rural architecture during the seventeenth and eighteenth centuries, but it has not been possible to publish the whole of the work under this format. However, those sections covering the Quebec evidence and the analysis of that evidence can be seen to form an independent unit. Therefore I have determined to present them here. In addition I have included the comprehensive bibliography on Quebecois rural building, not only as an indication of the materials used in the present study but as the starting point for future work in this subject.

The study itself needs no introduction. It presents to the reader a selection of houses, physical evidence illuminating the history of rural architecture in Quebec. Too often this history has departed from its evidential basis. Not so with this study which discusses and analyzes the physical remains of a subject that has enduring importance for all those interested in human habitation.

I would like to express my appreciation to several offices of the Ministere des Affaires Culturelles in Quebec City, particularly for photographic reproductions for the Inventaire des Oeuvres d'Art. Near the end of the task, perceptive criticism was graciously provided by John Leyerle, Director of the Centre for Medieval Studies. I would also like to mention Ava Blitz, Maja Dettbarn, Kris Jarron, Karin Moeller, Tricia Montrose and
Lise St. Denis, all of whose assistance was invaluable.

The work was greatly facilitated by a generous grant from The Cadillac-Fairview Corporation, Ltd., administered through the Centre for Urban and Community Studies of the University of Toronto.

Finally, my heartfelt thanks are offered to my Supervisor, the late James H. Acland, Professor, Department of Architecture and Centre for Medieval Studies, whose idea this topic really was.

Sarah M. McKinnon

December 30, 1976
Winnipeg, Manitoba
1. FRENCH CANADIAN INVENTORY DATA

Unfortunately for a study of this type, there exist no comprehensive inventories of French Canadian rural housing. As a result this chapter focuses on 12 houses whose descriptions are based on several different sources. These particular examples of early rural building in Quebec were carefully chosen because together they represent a comprehensive sampling of remaining architectural evidence. They are not intended to present a variety of the most typical characteristics of the French Canadian building tradition in the context of specific sites and particular constructional problems.

Another major consideration in the selection of houses for this study was that of age: none was chosen which dates from after the middle of the eighteenth century, and several are considerably earlier. Clearly, the oldest Québécois houses are vital in an evolutionary study. Other factors which helped to narrow the field of possible examples include: whether a prospective house exists presently in a relatively unaltered state; whether firsthand examination of the site (at least on the exterior) is possible; whether the building has been documented by previous scholars. Thus, if the answers to the latter questions were "yes" and the prospective house were old enough and provided clear evidence of typical French Canadian plan and constructional technique, it was selected for this study.
In general, dating Québécois rural houses is relatively easy because written primary evidence pertaining to specific houses is often available. Also in Quebec there is a relatively small geographic area throughout which building materials and techniques were fairly uniform; therefore, a house's date may be estimated based on a comparison with another for which precise historical information is available. In addition, several other scholars have previously treated the problem of chronology in French Canadian domestic architecture.¹ Certainly the investigator of Quebec rural housing faces the difficulties in dating of continuous inhabitation and later remodeling of the physical evidence. However, recent interest in the unique architectural heritage of French Canada has encouraged public programs of preservation and reconstitution involving careful research into questions of chronology in building development. Consequently, fairly precise historical information is available to the researcher; he should be knowledgeable in approaching the task of dating. As a result, the margin of error for the dates suggested in this chapter should be extremely small.

Despite the lack of a single, comprehensive inventory study of French Canadian housing, there have been numerous small-scale, selective approaches to this methodology. In 1927 the Quebec provincial

¹The clearest statement of the chronology of the French Canadian house may be found in the sketched chart in: Gauthier-Larouche (1974).
government under the direction of the archivist P.-G. Roy issued a collection comprised of written historical notes and photographs on individual houses, usually those of some architectural significance. Slightly later, Ramsay Traquair was directing architecture students at McGill University in a project preparing measured drawings of historic architecture located primarily in the Montreal area. This material later became the basis for almost all of Traquair's publications. In the 40's, 50's and 60's, a photographic inventory of art and architecture, Inventaire des Oeuvres d'Art, under the direction of Gérard Morisset for the provincial government, expanded and updated Roy's work. However, it does not contain any written analysis of the material surveyed and only occasional documentary evidence. In the 60's and 70's, C. Ross Anderson of the architecture department of Laval University organized several projects aimed at surveying and drawing the historic buildings of the province, primarily in the region around Quebec City. This material is unlike Traquair's because its drawings are not complemented by written physical or historical analysis. Finally the federal Department of Indian Affairs and Northern Development's National Historic Sites Service has

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2Pierre-Georges Roy, Vieux manoirs, vielles maisons, (Québec, 1927).

Québec

Valley of the St. Lawrence

1. Batiscan
2. Cap Sante
3. Charlesbourg-Ouest
4. Sillery
5. Sainte-Tfoy
6. Beauport
7. Beaumont
8. Château Richer
9. Sainte-Famille, I.O.
10. Berthier-en-Fos
produced the Canadian Inventory of Historic Building. It is a national inventory of all buildings of architectural merit designed to aid in their preservation by providing a central file of physical, historic and photographic documentation. At least the first round of inventory work has been completed for the province of Quebec.

In this chapter these various sources taken together as well as first-hand examination of each site provide the primary evidence available for the Quebec region. It is possible to group the French Canadian examples according to floor plan types. Because the two-room plan is the most common type from the early period, a significant number of these examples are included along with the functional extended and polite "lesser manor house" plans. The format employed is that measured drawings of each house are accompanied by simple descriptions of the form, location, date and constructional materials.

Finally, a word must be said about the use of scale in the measured drawings. I have modeled them after other drawings from several different sources but have enlarged or reduced them to obtain a workable size. Thus the dimensions have been obtained by scaling the drawings, not from measurement of the sites.

I. Two-Room Plan

a) Cap Santé (Chevalier). This small, one-and-a-half storey example is one of the oldest extant structures in Quebec; it was built
Floor Plan

South Facade
CAP SANTÉ
[HEVALIER HOUSE]

West Facade

5 m

East Facade

5 m
around 1700. Its name derives from an early twentieth-century owner, Joseph Chevalier, although it was restored in 1948 by the architectural historian Gérard Morisset. The house is rectangular in shape and has its principal façade on the south, facing towards the St. Lawrence River.

Form:

The exterior dimensions of the house are 12.5 x 7.8 meters. Inside the larger room measures 6.1 x 6.6 m, the smaller room, 4.7 x 6.6 m. The exterior walls are .7 m thick. The house possesses an inhabitable room-attic space above. There are four symmetrically placed windows of 1.4 x 1.1 m along the front façade, two of which are sheltered under a small covered porch and flank the front door, 2 x .8 m.

Immediately above the roof of this porch is another later addition: a centrally placed dormer with a double window (this feature does not appear on the drawing as it is known to have been built in the twentieth century). There is another door and two windows of similar dimensions along the rear, or north, façade. The end walls also display symmetrical window openings: one large one in the front portion of the first floor and two smaller ones (.7 x .6 m) on the upper storey. There are two hearths, one in each of the end walls. Thus there are two chimneys whose stacks emerge from the two roof gables. The roof forms an angle of 75° at its summit, 52° and 53° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 5.2/3.6 m or about 1.44/1. From the ridge of the roof to the front foundations, the distance measures 9.6 m.
Constructional Materials:

The foundations of the house are fieldstone. The exterior walls consist of fieldstone covered with stucco. The carpentry of the roof structure is simple: a king post/collar beam arrangement and a second tile beam support the main rafters. The roof is presently covered with asphalt shingles. Inside the fireplaces are also fieldstone.

b) Beauport (Girardin House). This house is a very simple example of the early two-room type. Dating from the late seventeenth century, its basic rectangular plan is extended by a small, separately roofed storeroom attached to the west end wall. Presently the house is unoccupied and belongs to the Sisters of the Congregation of Notre Dame; it is boarded up and not in use. It faces south and east and occupies a rather large lot which adjoins the Chemin Royal on the south side, in a built-up area of Beauport.

Form:

The exterior dimensions of the house are 15 x 7.7 meters, although the two main rooms together measure only 11.9 in length. Inside the two rooms are almost identical in size 5.4 x 6.5 m. and 4.9 x 6.5 m. The exterior walls and the wall separating the two rooms are uniformly .6 m. thick. There is a two-room storage area above. On the front façade there are three windows, 1.1 x .7 m, 1.3 x .8 m and 1.2 x .8 m, opening into the rooms and two smaller openings at ground level. The front door, 1.8 x .8 m, is raised slightly above ground level, although the door of the storeroom is not. There are two small dormer windows

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BEAUPORT
[GIRARDIN HOUSE]

Ground Floor

Second Floor
BEAUPORT
[GIARDIN HOUSE]

Southwest Facade

Northeast Facade
BEAUPORT
[GI RANDIN HOUSE]

Section

8.3 m

6.6 m
above. On the opposite façade there are three windows, also 1.2 x 0.8 m and a very wide door, 1.8 x 1.1 m. Finally there is a small window opening into the upper storey attic space on the southwest façade. In each end wall and projecting out into the rooms are two large fireplaces whose chimneys emerge from the tops of the roof gables. The roof forms angle of 73° at its summit, 53° and 54° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 5.4/3.2 m or about 1.69/1. From the ridge of the roof to the front foundations the distance measures 8.6 m.

**Constructional Materials:**

The exterior walls are a continuation of the foundations: squared rubble stones which are stuccoed above ground level. The ends of the roof purlins are visible along the gable walls. The chimney stacks are sheathed with sheet metal while the roof and the northeast gable wall are covered with wooden shingles painted green.

c) **Beaumont (Lacourcière House).** This small rectangular house dates from probably around 1720 and was for many years known as the Camille Breton house. It was recently remodeled by its present owner. Its front façade faces the main road; its north façade, the St. Lawrence, although it is located quite some distance from the river. The example is of interest on account of its roof type.
BEAUMONT
[LACOURCIÈRE HOUSE]

Floor Plan

South Facade

11.9 m
8.8 m

5 m
West Facade

5 m
Form:

The exterior dimensions of the house are 11.9 x 8.8 meters. On the interior all partitions are modern, although the central fireplace's opening on two sides indicates that there were probably two rooms on the original floor plan. The exterior walls are about .55 m thick. The house has an attic storage area on the second floor. On the front façade there are three windows, 1.5 x .7 m, arranged asymmetrically about the main door, 1.8 x .8 m. Four identical windows are placed in the same position on the opposite façade and one in each of the end walls. There are also four dormer windows, 1 x .7 m, along both the north and south façades. A somewhat unusual feature is the later addition of a small, slightly extended dormer window, cut above the line of the pavilion roof in the east end wall. As mentioned above, there is a large double hearth in the middle of the house, necessitating a central chimney. The roof is slightly bellcast along the front façade, though not at the rear, and it is hipped at the end walls. It forms an angle of 81° at its summit, 50° and 49° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 5.5/2.8 m or about 1.96/1. From the ridge of the roof to the front foundations the distance measures 8.3 m.

Constructional Materials:

The walls are constructed of fieldstone coated with plaster. All four sides of the pavilion style roof are covered with wooden shingles. The large chimney stack is also of fieldstone.
d) **Sillery (2316 Chemin des Foulons).** This unusual, almost square house occupies the lot immediately adjacent to the Jesuits' House (discussed below) on the old Chemin des Foulons very near the St. Lawrence River. Its construction indicates that it is quite old, possibly dating from as early as around 1660. It is presently used as a family dwelling. It faces in a southerly direction.

**Form:**

The exterior dimensions of the house are 11.4 x 11.5 meters. There is a shed attached to the rear which was not originally part of the house. The exterior walls are about .66 m thick. On the interior there are two staircases leading to the half storey above. On the front façade there are three windows, 1.2 x .8 m., arranged asymmetrically about the door, 2 x .8 m. On the west façade there are three similar, though slightly smaller, windows; on the north and east, one window each. The house is also accessible through the rear doors. Serving the upper rooms are two hipped dormer windows on the front façade and three on the rear. There are two fireplaces with two chimneys, one in each of the two end walls; the one in the east is unusually large and its chimney emerges from the front slope of the roof. The roof is gabled and the end walls continue unbroken up to the ridge. Its somewhat large angle at the summit is 102°, and at its juncture with the walls, 39°. The ratio of its vertical height to the distance from the ground to the eaves line is 5/2.8 m or about 1.79/1. From the ridge of the roof to the front foundations the distance measures 7.8 m.
Floor Plan
Constructional Materials:

The foundations and exterior walls are made of irregularly shaped fieldstone set in a thick mortar clearly visible on the exterior (there is no plaster coating). The rather recent roof is covered with cedar shingles. The chimneys are a continuation of the fieldstone walls.

e) Château Richer (Fergusson House). Like the previous example, this small, squarish house has been extended by the addition of a shed-like structure at one side. The original portion dates from the early eighteenth century, probably around 1720. It faces in a southerly direction and is set very close to the road. It is a very typical example of the period because of its size and roof structure. It is presently occupied.

Form:

The exterior dimensions of the original portion of the house are 9.4 x 7.1 meters. On the interior a dog-leg staircase leading to the half storey above separates the space into two rooms. The exterior walls are .6 m thick. On the front façade there are two windows of 1.2 x .8 m, arranged asymmetrically about the main door, 2 x .7 m. There are two more windows, one of the same size on the main floor and one slightly smaller on the storey above, both opening on the western end wall. Also two dormer windows serve the upper portion on the front façade. There is only one large fireplace located in the east end wall; its chimney is unusually tall in comparison with other examples. The roof is gabled with verges extending slightly beyond
CHÂTEAU RICHE
[FERGUSSON HOUSE]
CHÂTEAU RICHELIEU
FERGUSSON HOUSE

West Facade

East Facade
the surface of the end walls. In addition, it is bellcast along both the south and north façades. It forms an angle of 98° at its summit, 43° and 39° at its juncture with the walls (latter two measurements based on projections rather than the actual belled angles). The ratio of its vertical height to the distance from the ground to the eaves line is 3.4/2.5 m or about 1.36/1. From the ridge of the roof to the front foundations the distance measures 5.9 m.

Constructional Materials:

The exterior walls are made of stone which has been coated with plaster. Also the upper portion of the end walls are cladded with wooden planks. The carpentry of the roof utilizes a simple tie beam trussing arrangement. The roof is covered with a substance known in Quebec as fer blanc. The chimney is also sheathed in metal.

f) Sainte-Famille, I.O. (Pichet House). This small house was considered a significant example of early Quebec housing by Marius Barbeau, A.J.H. Richardson and Michel Lessard. It dates probably from the first quarter of the eighteenth century. Presenting a rather unassuming specimen since it is now covered with imitation-brick tar

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SAINTE-FAMILLE,
[PICHET HOUSE]

Section

5 m
paper, it is presently occupied by descendants of early inhabitants of the area. However, the drawings and discussion below are based on the original house design. The example faces southeast on the Island's main highway, while the northwest facade looks toward the St. Lawrence River.

Form:

The exterior dimensions of the house 14.3 x 7.9 meters. On the interior there were originally probably no partitions. The exterior walls are .36 m thick. On the front facade there are four windows, 1.1 x .7 m, spaced regularly about the main door, 1.8 x .7 m. On the opposite façade there are four similar windows and another door although the same arrangement of window/door openings was not maintained. On the southwest facade there is a single 1.1 x .7 m window on the ground floor. There were originally no dormer windows although presently there are two on the upper storey of the front facade. There was a large central fireplace and chimney which no longer exist; now there are chimneys in each of the end walls. The roof was originally hipped in the pavilion style, although now it is gabled.\footnote{Lessard and Marquis (1972), pp. 221-224.} It formed angle of 76° at its summit, 52° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line was 5.1/3.2 m or about 1.6/1. From the ridge of the roof to the front foundations the distance measures 8.3 m.
SAINTE-FOY
[ROUTHIER HOUSE]

Floor Plan

South Facade
SAINTE-FOY
[ROUTHIER HOUSE]

North Facade

Section

5 m

7.6 m

6.2 m
SAINTE-FOY
[ROUTHIER HOUSE]

East Facade

West Facade

5 m

5 m
Constructional Materials:

The foundations of the house are stone. The walls are constructed in the colombage pierroté style. Vertical planks are pegged about .2-.3 m apart into a wooden beam placed horizontally along the foundations. The intervening spaces are filled with small stones set in a thick mortar. The walls were then cladded with vertical planks. The roof, presently covered with asphalt shingles, was originally probably covered with wooden shingles. The chimney was also fieldstone.

II. Extended Plan

a) Ste.-Foy (Routhier House) This example also dates from around 1720. It demonstrates a more complex floor plan, one in which the rectangular shape was divided into three rooms. In addition the fireplace is double and is located in the central area of the plan rather than in the end walls. A gift to the Quebec government in 1957, the house is presently unfurnished. It faces in a southerly direction and is located in a built-up suburban area of Quebec City.

Form:

The exterior dimensions of the house are 16.2 x 6.8 meters. On the interior, a dog-leg staircase near the main entrance leads up to the attic space. The exterior walls are .2 m thick. On the front facade the only door, 1.7 x .9 m, is flanked by four shuttered windows, 1.2 x .9 m, arranged asymmetrically. On the opposite facade there is no door but five similar windows; on the west facade, one window. Four slightly smaller hipped dormer windows, two each on the north and south facades, serve the upper storey. As mentioned above, a double fireplace with central chimney is
located in the wall between two of the rooms. The roof is hipped in the pavilion style and belcast along the south façade. It forms an angle of 74° at its summit, 54° and 52° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 5.1/2.8 m or about 1.82/1. From the ridge of the roof to the front foundations the distance measures 7.9 m.

Constructional Materials:

The lower portion of the exterior walls is made of fieldstone set in plaster. Horizontal wooden planks rest on this foundation; into them, vertical planks, the main element of the wall, are pegged. In addition the two end walls are clad with wooden shingles. The large chimney is fieldstone coated with plaster. The roof is also covered with wooden shingles.

b) Sante-Famille, I.O. (Pichette House) This extended rectangular house dates from about 1760; it is a typical example of the period. It is still in use as a farmhouse and is in good condition. It faces southeast on the Island's main highway, while the northwest façade looks towards the St. Lawrence River.

Form:

The exterior dimensions of the house are 18.7 x 7.8 meters. Inside partitions divide the space into a number of specialized rooms. The exterior walls are .6 m thick. Almost directly in the centre of the front façade, the main door measures 2 x 1 m; there are also six windows of 1.3 x .8 m along this side. On the opposite façade there are two doors, both 1.7 x .9 m., and three 1.3 x .8 m windows, plus a small one of .7 x .5 m.
SAINTE-FAMILLE,
[PICHETTE HOUSE]

Floor Plan

18.7 m
SAINTE-FAMILLE, I.C.
[PICHETTE HOUSE]

Southeast Facade
SAINTE-FAMILLE, I.O

[PICHETTE HOUSE]

Southwest Facade

5 m
The southwest end wall has one large window on the ground floor and two smaller ones serving the upper storey. There is only one central fireplace, but three chimneys appear on the exterior; the purpose of the two built at the gables is entirely decorative. The roof is gabled and bellcast along the front facade; it forms an angle of 74° at its summit, 53° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 4.9/2.8 m or about 1.75/1. From the ridge of the roof to the front foundations the distance measures 7.7 m.

Constructional Materials:

The exterior walls are made of fieldstone coated with a layer of plaster stucco. At the gables the end walls are cladded with wooden shingles, although the major portion of the roof is covered with asphalt tiles. The working chimney is stone covered with wooden planks above the roof.

c) Charlesbourg-Ouest (L'Heureux House) This house dates from 1684, a fact proudly declared by a sign on the front lawn. For many generations it was in the hands of the Villeneuve family; now it is owned by the L'Heureux family. Located in a semi-rural suburban area of Quebec City, it is presently occupied and in excellent condition. Its front façade, on the south side of the house, is shaded by a small porch added relatively recently. The north façade looks towards the highway.

Form:

The exterior dimensions of the house are 17.1 x 9.7 meters. Inside the house is divided into two units; one is 7.3 x 8.3 m, the other, 7.1 x 8.3 m. On the interior there are two sets of stairs leading up to the half
CHARLESBOURG-OUÉS
[L'HEUREUX HOUSE]

Floor Plan

17.1 m

South Facade

5 m
storey attic. The exterior walls as well as the interior walls separating the two main rooms are about .7 m thick. On the front façade the main door measures 2.1 x .9 m. There are also five asymmetrically placed shuttered windows, 1.1 x .8 m. Three dormer windows, .9 x .7 m, are evenly spaced along the upper storey. On the opposite façade there is no door, but similar windows: five on the ground floor and three dormers above. On the east façade there is one 1.1 x .8 m shuttered window; on the west, one window and a sheltered door, 1.5 x 1.1 m, leading down to the cellar. There is a large central fireplace built in the main interior wall. The roof is hipped in the pavilion style and bellcast over both of the longer façades; it forms an angle of 81° at its summit, 51° and 49° (projected) at its juncture with the walls. The ratio of its height to the distance from the ground to the eaves line is 6.2/3.1 or about 2/1. It has decorative finials (these particular ones are not original) at the intersection of end and side panels. From the ridge of the roof to the front foundations the distance measures 9.3 m.

Constructional Materials:

Foundations and exterior walls are made of rubble; above ground the stones are plastered. The east wall is also cladded with wooden planks. The roof is covered with asphalt shingles. The chimney is also of fieldstone.

III. Lesser Manor House Plan

a) Sillery (Jesuits' House) This house is probably the oldest in Canada: it was begun in 1636. It was damaged by fire shortly after its construction; most of the present structure dates from the 1650's. It was used as a residence for Jesuit missionaries. Located very near the St. Lawrence River, it faces in an easterly direction. It is presently owned
SILLERY
[JESUITS' HOUSE]

West Facade

5m
by the province of Quebec and is open as a museum in the summer months.

**Form:**

The exterior dimensions of the original portion of the house are 15.5 x 7.9 meters. On the interior there are two staircases near the back of the house which lead to the second storey; there is an attic - storage space above the second floor as well. The exterior walls vary in thickness from .8 to 1.0 m. On the front façade the large door, 2.2 x .9 m, is shaded by a small horizontal entablature. There are four shuttered windows, 1.2 x .6 m, on the first floor; immediately above these there are four windows, 1.0 x .7 m, serving the second floor. The result is a symmetrical façade. On the opposite side there are two smaller doors, 1.9 x .8 m, and two similar windows on the main floor; above there are five dormer windows, four serving the second floor and one serving the attic. On the north façade there is another small entrance door. Due to the presence of the small addition to the building, there are no openings in the main portion of the house along its south façade. There are four fireplaces, one on each floor in each of the end walls; the chimneys are very large. The roof is gabled with verges extending only slightly; it forms an angle of 86° at its summit, 50° and 44° at its juncture with the walls. The ratio of its vertical height to the distance from the ground to the eaves line is 4.4/5.2 m or about .85/1. From the ridge of the roof to the front foundations the distance measures 9.6 m.

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Constructional Materials:

The foundations and the exterior walls are made of fieldstone rubble set in plaster; the stone is visible on the exterior as there is no stucco coating. Along both of the end walls at roof level the stone walls are cladded with wooden shingles. The roof is covered with asphalt shingles on the front, wooden shingles on the rear. The chimneys are a continuation of the exterior walls.

b) Berthier-en-Bas (Dénéchaud Manor) This house dates from about 1730; unfortunately it is presently abandoned, overgrown with foliage and in ruins. It takes its name from an early nineteenth-century owner, though is known to have existed as the manor house for its seignurie before this time. It comprises two separately-roofed units which are fully attached; it is one of the largest houses extent from the period. It is located very close to the bank of the St. Lawrence River and faces in a northerly direction.

Form:

The exterior dimensions of the house are 18.3 x 9.8 meters; the length is divided almost exactly equally between the two units; one is 8.7 x 10.0 m, the other, 9.1 x 10.0 m. On the interior the west unit is two storey and has a large curving staircase leading up to the second floor; the east unit has only an attic space, reached by a small staircase, above the main floor. The exterior walls are only about .2 m thick. On the front façade the larger unit has a door, 2 x .9 m, flanked by two windows of 1.4 x .9 m and six dormer windows of 1.2 x .8 m; there are no dormers above. The overall effect is one of symmetry. On the south façade there are no doors. The larger unit has three windows, 1.4 x .9 m, on the main floor and six hipped
BERTHIER-EN-BA
[DÉNÉCHAUD MANOR]

Ground Floor

18.3 m

Norih Facade

5 m
- 52 - BERTHIER-EN-BAS
[DÉNÉCHAUD MANOR]

West Facade

5 m

East Facade

5 m
dormer windows above, arranged as on the opposite façade. The smaller
unit has four windows, .9 x .6 m, on the first floor and three hipped
dormer windows, 1 x .7 m, opening into the attic. The west façade (larger
unit) has two windows, 1.4 x .9 m, on the ground floor, one of 1.2 x
.9 m on the second floor and a small one, .6 x .8 m, in the attic.
The east façade (smaller unit) has a small door, 1.7 x .7 m, and one
window, 1.1 x .7 m, on the main floor. There is a large chimney located
in the partition wall between the two units whose stack emerges from
the slope of the roof on the south façade: it serves fireplaces on both
floors of the larger unit. Both roofs are gabled and the verges extend a
bit on the west end. The larger roof is slightly bellcast; it forms an
angle of 78° at its summit, 51° at its (projected) juncture with the
walls. The smaller roof forms an angle of 92° at its summit, 54° and 32°
at its juncture with the walls. The ratio of the roof's height to the
distance from the ground to the eaves line is in the larger unit 6.8/2.6 m
or about 2.6/1, and in the smaller unit, 6.6/2.3 m or about 2/1. From the
ridge of the roof to the front foundations the distance in the larger unit
measures 9.4, in the smaller unit, 6.9 m.

Constructional Materials:

The house is set on fieldstone foundations. The exterior walls are made
of wooden planks set vertically into the foundations. In addition the upper
portions of the gable walls as well as the roof are covered with wooden
shingles. The chimney is of fieldstone.

c) Batiscan (Old Presbytery) This house, well documented in the work
of Ramsay Traguair and G. A. Neilson, was built in 1696. It was originally

Ramsay Tranquair and C.A. Neilson, "The Old Presbytery at Batiscan, Quebec,"
Journal of the Royal Architectural Institute of Canada, 10, no. 1 (Jan.,
1933), 13-20.
the presbytery of the village; however, in the nineteenth century a new church and presbytery were built and the original building became a farmhouse. It is rectangular on plan; its large size is probably due to the fact that the Church built it with some consideration for the comfort of its occupants. It faces in a southerly direction, towards the St. Lawrence River. It was heavily restored in the early twentieth century.

**Form:**

The exterior dimensions of the house are 17.3 x 10.7 meters. On the interior, two sets of stairs lead up to the half storey which is used both for living space and for attic storage. The exterior walls are .8 m thick. On the front façade there are five shuttered windows, 1.5 x 1 m, on the ground floor, three dormer windows on the second storey and two more in the attic space above (the latter were not original). The main door is sheltered from view by a small porch, a nineteenth century addition. On the opposite façade there are also five similar windows on the main floor, and the same arrangement of dormer windows above; in addition there is another door, 1.9 x .6 m. On the east end there is another door, 2 x .6 m, and two window balconies which were merely window openings before restoration. On the west façade there are two more window-balconies on the upper floor, a 1.5 x 1 m window on the ground floor and two .7 m square windows in the attic. There are three fireplaces, one in each of the end walls and one in the centre of the house, and thus three chimneys on the exterior. For a time only the central one was in use, but since the restoration, all are operable. The roof is gabled and bellcast at both façades; its verges extend about .3 m at the gable ends. It forms an angle of 85° at its summit,
48° and 47° at its juncture with the walls. The ratio of its height to the distance from the ground to the eaves line is 6.2/3.7 m or about 1.68/1. From the ridge of the roof to the front foundations the distance measures 9.9 m.

Constructional Materials:

The exterior walls and foundations are made of rubble fieldstone, except for the gable on the east end which has been replaced with wood. Originally the stone gable was sheathed in wood. The chimneys are also fieldstone. Presently the roof is covered with fer blanc. Inside the floors are wooden.
FRENCH CANADIAN INVENTORY ANALYSIS

I. Basic Two-Room Plan

As mentioned in the previous chapter, all of the Quebec examples are located in the St. Lawrence River valley. The six two-room houses consist of four on the north side of the river, one on the south and one in the middle (built on the Ile d'Orleans). They all date from the late seventeenth or first quarter of the eighteenth-century; only one is presently uninhabited. The others have been remodeled somewhat but nevertheless retain their original plan form and are in use as dwelling units. Clearly, such was their original function as well. None is presently surrounded by any auxiliary agricultural buildings.

The term "two-room plan" is unspecific. This is partially due to the fact that present interior partitions do not necessarily follow the placement of original ones, if any. Thus some of the houses may have had only one room (in the modern sense) when built. However, it is probable that because of the overall size of the rectangular or square floor plan, these units could not have had more than two rooms. All of these Quebec houses seem to have quartered only humans; animals were kept in separate structures not immediately attached to the dwelling unit. Such an arrangement represents an obvious departure from the early house type of France, especially the simplest structures. Despite the harsh winter conditions and the difficulties of construction, both of which would seem to have encouraged a combination human-animal shelter, the habitant preferred the more costly but more comfortable larger living unit for his family. In all of the examples
there is interior access between the two rooms. In three of the least altered houses (A. Cap Santé, B. Beauport, E. Château Richer) the original exterior door openings indicate that one of the two rooms was not directly accessible from the outside but only from the other room. In two others (D. Sillery-2316 Chemin des Foulons and F. Sainte-Famille-Pichet) such an arrangement may also have been possible although modern alterations make this conclusion somewhat uncertain. In the sixth example, C. Beaumont, there is presently only one door. The use of these rooms as combined living/sleeping units was customary, since there was usually a heat source in each room provided by central or two gable wall fireplaces. Both rooms were not necessarily in use throughout all seasons of the year.¹ In all six of the examples there are storage attics on the second or half-storey; these are accessible by interior staircases. They were also sometimes used as additional sleeping quarters.

All but one of the houses have rectangular floor plans; the ratio of their lengths to their widths is on the average about 1½/2/1. The other example, D. Sillery-2316 Chemin des Foulons, is almost exactly square on plan. The smallest, E. Château Richer, measures 9.4 x 7.1 m, dimensions which include the widths of quite substantial exterior walls. If the dog-leg staircase is assumed to be the centre of the house's length, the larger room's area is 26.6 sq. m, that of the smaller, 21.8 sq. m. In some of the other examples, the same tendency to divide interior space into rooms of roughly equal area is observable: A. Cap Santé - 32.3 sq. m and 40.9 sq. m;

¹ Often only one room was needed during the summer months since the family spent much time outdoors. It was used primarily for cooking and certain household tasks. The other, or "winter room," could be closed off, unused except for polite occasions. See: Ramsay Traquair, "The Cottages of Quebec," McGill University Publications, Ser. XIII, no. 5 (1926), p. 5.
B. Beauport - 36.3 sq. m and 33 sq. m; C. Beaumont 45.4 sq. m and 45.4 sq. m. Such an arrangement allows for flexibility in the use of space and relative simplicity of construction. Even with the square floor plan (Sillery-2316 Chemin des Foulons), the two divisions of the house have approximately equal floor areas, 47 sq. m and 46 sq. m. This unusual shape may be explained by the house's proximity to an important structure, the Jesuits' House (discussed below), located on the adjoining lot and known to have been built at about the same time. It is likely that Sillery-2316 Chemin des Foulons was used as a service building for the missionaries' residence next door, rather than as a farmhouse like the other examples in this classification. Another example, Beauport, demonstrates a different variation in plan and thus in total area; it is the only house equipped with an original attached storage shed (separately roofed) of 7.5 sq. m which was used for agricultural purposes (it is not accessible from the main portion of the house but only from the exterior).

The smallest of the two-room houses, E. Château Richer, measures 5.9 m from the foundations to the ridge of the roof. The tallest, A. Cap Santé, is 9.6 m, and the other four examples are all around 8 m. At A. Cap Santé, B.-Beauport and F. Sainte-Famille-Pichet the height of the ceilings in the main floor rooms averages about 2.2 m; there is also a good deal of head-room in the attic storage/sleeping quarters above. These half-storey areas are large because they were used for the storage of various household objects rather than for grain; interior staircases made them very convenient for frequent access. In addition, several were served by dormer windows (discussed in greater detail below) which enhanced their usefulness.
The relationship of these houses to the terrain and buildings around them has been modified greatly since the seventeenth and eighteenth centuries. In fact, because of the modern restoration of several of them, it is difficult to determine the original layout of the sites. At B. Beauport and D. Sillery—2316 Chemin des Foulons, encroachments caused by more recent building have reduced the size of the space surrounding them. Partially as a result of this general tendency in all the examples, one cannot presently discern any open and closed courtyard arrangement of buildings so characteristic of European farms of the same period. Clearly all six of the houses under consideration were built as freestanding dwelling units and not as segments of longer structures providing animal shelter and storage for farm implements and grain. Even the auxiliary buildings themselves were not necessarily designed according to this strictly longitudinal axis; they were arranged somewhat randomly about the space near the house. However, the placement of house and freestanding farm buildings in this fashion in New France does not seem to have been influenced by the concept of the Norman open courtyard, that is, a large grass-covered space bounded by hedges and ditches which separates the peasant and his buildings from fields and roads. On the contrary, E. Château Richer is a good example of a house built almost flush with the main road; there is no yard and only a small garden surrounding it. Unfortunately none of the six sites is currently a productive farmstead; subsequent owners at A. Cap Santé, C. Beaumont and F. Sainte-Famille-Pichet have removed auxiliary buildings, employing the houses as simple family dwelling units. Consequently, the usual features surrounding these houses are small lawns and gardens.
All six of the examples face in a south or southeast direction and thus have their main doors on that side. At C. Beaumont this is the only door, though at each of the remaining five there is at least one additional entrance. The principal door is always on a longitudinal façade, is the only one on that façade, and is usually placed near the centre. Window openings are found on all sides of the houses but especially on the south or southeast in order to take advantage of the sun's light and heat. The most obvious influence on the orientation of the houses is the St. Lawrence River and the long narrow lots into which the land was divided. Although not particularly near its bank, all four of the houses on the north side face it. The other two, Beaumont and F. Sainte-Famille-Pichet, are located so far from the water that the river seems to have played no part in determining their orientation; a stronger influence explaining their southerly main entrances is the presence of a nearby road.

In a climate like that of Quebec, the size and placement of the window and door openings as well as the thickness of exterior walls are of crucial importance since these factors control the amount of natural heat and light entering the house. The constructional materials employed were also chosen with an eye towards their insulating features; this topic will be discussed below. Interestingly enough, these six houses all have a

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substantial number of large ground floor window openings: A. Cap Santé, 8; B. Beauport, 6; C. Beaumont, 9; D. Sillery-2316 Chemin des Foulons, 8; E. Château Richer, 5; F. Sainte-Famille-Richet, 9. There is no concentration of window openings on any single façade, although the longitudinal sides together exhibit a larger number, for obvious reasons.

Evidently the builders were very confident about their ability to heat and insulate the interior from the extreme winter cold. In addition, there must have been a strong desire to place so many window openings in the wall. Although cold in the winter, Quebec has a sunny climate; by opening up the insulating wall, the builder planned to receive the sun's heat and light which would help to offset low temperatures. In addition the climate of Quebec can be very warm in the summer months; several windows on three sides of a room used for both cooking and sleeping provide for cross ventilation on hot, windy days. Perhaps the most obvious feature of the placement of window and door openings in the two room houses is the builders' penchant for asymmetrical façades, especially at Beauport and Château Richer where there seems to be no reason for the irregular arrangement of ground floor windows about the main door or of the gable windows to those below. At Beaumont and Sillery-2316 Chemin des Foulons the placement of openings is more regular.

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4 Although some small sleeping alcoves, called "les cabanes," were built into corners of the rooms to provide privacy and warmth, these were not sufficient for all the members of the family. In addition they would not normally have been used in the summer months. See: Robert-Lionel Séguin, "L'Habitation traditionelle au Quebec," Les Cahiers des Dix, 37 (1972), 206.

5 Assymetrically placed window and door openings were not uncommon in early French Canadian domestic architecture. See one example in: Georges Gauthier-Larouche, (1974), p. 181.
but at each house there is an odd number of windows flanking the central door opening, producing a slightly imbalanced appearance. Only at Cap Santé (which has been remodeled) and Sainte-Famille-Pichet (which is somewhat hypothetical) is there evidence of balanced façade design. The other factor in constructing for the climate, the necessity for thick exterior walls, was not neglected. For the six examples, this dimension ranges from .35 m at Sainte-Famille Pichet to .7 m at Cap Santé, with .6 m about the average. The rather unusual thinness at Sainte-Famille-Pichet is explained by the fact that the walls are constructed of timber frame rather than stone (this point will be discussed in greater detail below). In all the other examples the thick exterior walls, despite the presence of such large windows (usually about 1.5 x .7 m), provide adequate protection from the adverse effects of temperature and precipitation.

The habitant also considered the extremes of the Quebec climate when constructing the roof. This element of the house plan, perhaps more than any other, is susceptible to damage from weathering; its shape and constructional materials determine to a great degree the severity of the effects. Four examples, A. Cap Santé, B. Beauport, D. Sillery-2316 Chemin des Foulons, and E. Château Richer, demonstrate the use of a gable structure, probably the most effective against the weather because of its simple construction. The other two, C. Beaumont and F. Sainte-Famille-Pichet, have the foursided pavilion roof structure. There is also variation in the angle at the ridge; four of the angles are similar to each other (Cap Santé - 75°, Beaumont - 81°, Beauport - 73°, Sainte-Famille Pichet - 76°), while the other two are considerably larger (Sillery-2316 Chemin des Foulons - 102°.
and Château Richer - 98°). In the first group, the steeply pitched roofs are effective in conducting rain and snow down to the eaves in order to prevent the backing up of moisture and the possibility of its seepage through the roof surface to the interior. Only one of these examples, Beaumont with the pavilion roof, demonstrates the use of bellcast eaves on one facade; however, its slight upturn is not significant enough to inhibit the movement of precipitation down the roof surface. At the other two, the large angle at the roof's summit greatly reduces the amount of headroom available in the interior half-storey space; it is probable that these areas were, in those examples, intended only for storage and not for sleeping. Their roofs are nevertheless still steep enough to encourage drainage, although this process does not occur so quickly. At Château Richer the more exaggerated bellcast roof on both the longitudinal facades, characteristics of a later period, have a tendency to promote the collecting of snow just above the eaves line; however, this was here not a serious problem. Such a roof design protects the exterior walls from the elements. Thus, rainwater and melting snow drip from the eaves directly to the ground rather than down the exterior walls. This bellcast roof is also an effective means to provide some shade for the façades, especially necessary on the front or south side. As might be expected in a climate of severe extremes, the roof is a very important element in all these houses' design; its large size and distinctive shape make it the most dominant feature of the exterior. Whether bellcast or not, it forms a very large protective cap above the walls: the ratio of its vertical height to the distance from the ground to the eaves line is anywhere from about 1.4-2 in the six examples. At Cap Santé, Beauport, 6 See the sketched chart of the evolution of the rural house type in Gauthier-Larouche (1974).
Sillery-2316 Chemin des Foulons, and Sainte-Famille-Pichet, the chimneys are centered along the ridge of the roofs. At Beaumont, Sillery-2316 Chemin des Foulons (the second stack) and Château Richer, the chimneys pass through the ridge unsymmetrically, emerging more noticeably from within one or the other of the roof slopes. Thus they are somewhat more susceptible to weather damage than the others.

The fireplaces, extremely important elements in the overall plan of these examples, present several types of evidence in the matter of their size and placement. Three of the houses, A. Cap Sante, B. Beauport and D. Sillery-2316 Chemin des Foulons, demonstrate the use of two hearths, one in each of the gable walls. At C. Beaumont there are also two hearths, but they are placed back-to-back in a central chimney. Because of the use of these houses as single family dwelling units, cooking would have been done in only one of these fireplaces. At F. Sainte-Famille-Pichet there was also a large central fireplace, but it was open on only one side; it was used for both food preparation and the heating of the entire house. Finally, at E. Château Richer the single hearth is again placed within the gable wall; obviously it was also used for both cooking and heating purposes. (Baking was generally done in an oven set apart from the house). Where dimensions are available, the fireplaces average roughly 1.1 x .7 . .9 m.

However, since there is a great deal of variety in their size over the range of the six examples, it must be remembered that these figures are simple averages and do not represent specific structures. All fireplaces and chimneys are built of fieldstone which was easily available locally.

In general, there is a high degree of uniformity in the techniques of
construction employed in these six houses. This condition may in part be explained by the availability of the same building materials across the region surveyed. As might be expected, what was used for simple house construction had to be locally obtainable at a reasonable price. In addition, the climatic conditions faced by all the builders were similar since the examples are taken from a relatively small geographic area. All but one of them have heavy mass walls; the other, timber frame construction. The type of stonework done is most clearly visible at D. Sillery-2316 Chemin des Foulons: fieldstone rubble set in a thick limestone mortar. The ratio of mortar to stone in the wall surface is quite high since rubble work lacks the strength of high quality dressed stone. In addition, the thick mortar reduces the necessity for careful coursing. However, more carefully squared stones were necessary at the corners and for window/door dressings; these are visible on the exterior. There are no proper lintels where openings were left in the wall surface; instead, builders concentrated on wedging neatly dressed stones into place with careful mortar work. The walls had to be very thick in order to minimize the risk of cracking plaster due to sub-freezing temperatures. This is the simplest kind of stone work, utilizing local materials cheaply in the most basic and most efficient manner. At A. Cap Santé, B. Beauport, C. Beaumont and E. Château Richer, the same method of wall construction was employed, except that several coats (resulting in up to 0.1 m thickness) of lime rendering (plaster stucco) were applied and periodically refinished over the stonework, making the individual pieces of rubble indistinguishable. However, the irregular wall surface indicates the nature of the construct-
ional material beneath the coating. Also, at Beauport the general state of disrepair of the exterior permits the close examination of the wall underneath the stucco: it is rubble fieldstone. The same situation is evident in a pre-restoration photograph of Cap Santé. The plaster coating was used for two reasons. First, it helped to protect the wall by preventing the jointing material from wearing away, especially at the corners and the window/door moldings. It also kept rain, snow and ice from coming into direct contact with the jointing material over the whole wall surface. Second, and perhaps more important, it provided an aesthetically more satisfying appearance than the irregular mixture of rough stone and mortar at Sillery-2316 Chemin des Foulons, creating the impression that the house may have been constructed of a more costly material. The result is a very handsome exterior. At Château Richer the weather resistant properties of the end walls are increased by the addition of weatherboard cladding above the eaves line. Wooden shingles cover the north-east gable, also above the eaves, at Beauport. As mentioned before, the interior partitions of these examples are, for the most part, modern, except at Beauport where the wall separating the two rooms is of the same thickness and construction as those on the outside. Such an arrangement made the house structurally more stable than the others by dividing its length into smaller, well-butressed units. It can safely be assumed that the others' original partitions were built of wood, thus providing at least some cross-bracing for these heavy masonry exterior walls, although hardly major structural support. On the interior, the walls were usually covered with wood in order to insulate them further. F. Sainte-Famille-Pichet.
presents evidence of the timber frame construction which was quite popular in early Quebec, despite the small number of presently extant samples. The foundations are built of rubble fieldstone set in lime mortar; they extend above ground level about .5 m. Lying horizontally along the top of the foundations is a wooden beam; into it are pegged vertical posts set about .2-.3 m apart. Thus is formed the timber frame which carries the load of the roof. Between the vertical posts the space is filled with a thick mortar strengthened with the addition of small stones which give this type of construction its name: colombage pierroté. Finally weatherboard cladding was hung over the entire wall surface to protect the timber posts and somewhat fragile mortar infill. The hipped pavilion roof with extended eaves helped to shield them as well by encouraging moisture to drip down directly from its edges. Doors and windows could easily be opened between the vertical members of the frame without weakening the structure. On the inside, the walls were also covered with wood for insulating purposes; if there were interior partitions when the house was first built, they were certainly constructed with wooden frames in order to provide cross bracing for the longitudinal walls. This simple timber frame method of building is very rudimentary, but well-suited to the extremes of climate, given the kinds of raw materials available to the habitant. Obviously, a relatively thin wall constructed of several different small-scale components (and thus greatly dependent

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8 According to Lessard and Marquis, there were no internal partitions. See: Lessard and Marquis (1972), p. 226.
upon the quality of the bonding between these elements) does not offer the
strength or the insulation value of heavy masonry, albeit rubble. Yet frame
is cheap, easy and fast to construct and employs materials readily available
to the builder while providing satisfactory protection from the weather in
winter. Although the evidence of this sampling indicates that it was not
as long-lasting as stonework, it nevertheless had other advantages.

In the matter of methods and materials of roof construction, there
is also a degree of consistency in the evidence of the six examples. In
every case the carpentry is simple and functional, employing a king post and
collar beam arrangement, sometimes with an additional tie beam. Since none
of the roofs, with the possible exception of E. Château Richer, is original,
the nature of their former covering material is somewhat uncertain. It is
clear that the earliest roofs in New France included at least a few made
of thatch,9 but there is no evidence that any of these six was among that
group. Rural houses were unaffected by the fire preventative regulations
about roofing materials passed in the towns;10 moreover, some of these
examples antedate that kind of legislation. Tile, whether flat or curved,
and slate were at first not available; thus the habitant turned to the
most common building material around him--wood. Three of the examples,
B. Beauport, C. Beaumont and D. Sillery-2316 Chemin des Foulons have wooden
shingles and two others, A. Cap Sante and F. Sainte-Famille-Pichet, probably
had them originally. Cedar was split to form fairly regularly sized shingles

9Marc-Aimé Guérin, "La Maison de chaume des basses-terres du Saint-Laurent,"
Revue canadienne de géographie, 11, n° 1 (1957), 47-50.
10André Robitaille, "Évolution de l'habitat au Canada français," Architecture,
Batiment, Construction, 21, n° 240 (avril, 1966), 34.
whose use was simplified by the fact that they could be hung successfully at most angles. Obviously the effectiveness of the roof in conducting precipitation downward was inhibited by too small an angle of inclination. Standing moisture has the tendency to cause wood to rot; for this reason the shingles had to be hung so that precipitation would be conducted off the roof's surface relatively quickly. All of the angles of inclination of these five roofs are sufficient to be effective in this regard. In addition, at Beaumont and Sillery-2316 Chemin des Foulons where there are gabled dormer windows cut above the line of the eaves, wooden shingles provide the flexibility necessary to seal the intersecting panels thoroughly because they can be fitted along them properly. Metal gutters were probably also used in the original roofs. At Château Richer the roofing material is metal because of its good conductibility, exaggerated bell-cast eaves with resulting low angle of inclination were possible. In addition, gabled dormer windows, so necessary for the adequate lighting of the attic, could be used on account of this material's even higher degree of flexibility. There are no parapets or copings, obvious moisture traps, at any of the gabled roofs; however there are barge boards at one roof panel of Beauport and at Sillery-2316 Chemin des Foulons and Château Richer where the verges are slightly extended. At Beauport the rafters are exposed at the verges, while at Cap Santé, they appear along the eaves of the north facade. However, at both houses, these elements were sufficiently protected by the roof's overhang.

The present flooring in these six examples is also wood, although originally some had rammed earth floors. Later, by placing the flooring
several steps above ground level, as at A. Cap Sante, B. Beauport, C. Beaumont, D. Sillery-2316 Chemin des Foulons and F. Sainte-Famille-Richet, could avoid the cold and damp earth surface. The wooden planks were laid across joists ranging the entire width of the house. At E. Château Richer, the house is not raised significantly above ground level, although nevertheless it was later equipped with wooden floors. Obviously, the builder had to seal the exterior walls very well along their lower portions so that moisture caused by standing snow could not seep in under the flooring. For this reason, the timber-frame-and infill construction of Sainte-Famille-Richet was set up upon stone foundations, thus avoiding the problem of the eventual rotting away of the exterior wall.

To summarize, the evidence of the six two-room examples from the St. Lawrence valley demonstrates a fair degree of consistency with regard to plan form and construction. The design of the houses was simple and functional given the lifestyle of the early habitant. The constructional techniques employed were adapted to the climatic conditions, providing relatively comfortable interior spaces while utilizing basic, readily available materials. Specific features such as the skilled rubble stonework of the exterior walls and the size and arrangement of window/door openings were obviously rather standardized. Such critical areas as that of roof construction had been sufficiently mastered so that these elements were unlikely to weaken the protective quality of the exterior. These houses were somewhat austere, very unpretentious, but hardly crude.

II. Extended Plan

Into this classification have been placed three houses which illustrate the evolution of the floor plan in terms of increased size and complexity. They bear a number of resemblances to the previous examples but demonstrate a more diversified use of space. Two of them are located in different suburban areas of Quebec City; the third, in a still-rural area, the Ile d'Orleans. Two of the three are presently occupied, while the other is a provincially-owned museum. The oldest, C. Charlesbourg-Ouest was begun in the late seventeenth century, but A. Sainte-Foy and B. Sainte-Famille-Pichette date from the eighteenth. The latter is still in use as a farmhouse, the purpose for which it was built; Charlesbourg-Ouest served as such formerly, and Sainte-Foy may have, although this is not certain. All three are presently preserved in excellent condition.

On the interior these houses are divided into more than two rooms on the ground floor. Although some of the interior partitions are modern, they generally follow the lines of the original ones; some of them in fact date from the houses' construction. A. Sainte-Foy demonstrates the simplest arrangement; the ground floor is divided into three rooms with a central fireplace: open on two sides, although food preparation was done only in the central space. At least one, if not both, of the other two was used for sleeping; one may have been a formal living room. There is interior access from them into the centre since there is only one entrance located near the middle of one of the longitudinal façades, i.e. these two rooms had no direct exterior access. Because the longer B. Sainte-Famille-Pichette
is still an operative farmhouse, its interior space is divided up in a complex fashion; there were originally at least three, possibly as many as five or six rooms. They were used for living/cooking and for sleeping, as well as for agriculturally related pursuits. Due to the placement of entrances only in the eastern two-thirds of both longitudinal façades, it was nevertheless possible to close off the western end of the interior during the summer months, forming a sitting room. *C. Charlesbourg-Ouest* has an original mass wall of the same thickness as the exterior walls, dividing the floor space into two main units, and formed primarily of the central hearth. Modern partitions having been added, it is presently a double-pile plan, entirely two rooms in depth, having an entrance on only one side. Here also a summer room can be closed off, since this door opens into only one of the units. In all three examples the multiplication of ground floor rooms results in specialization of their use: in addition to the kitchen/living unit and formal living room combination illustrated in the previous section, these houses have ground floor sleeping rooms and/or service rooms, such as dairies or pantries. The second levels are uniformly half-storey units reached by interior staircases, used principally for storage, possibly as sleeping rooms. All the houses are freestanding, that is, they are not immediately attached to any sort of auxiliary agricultural buildings.

All of the houses are rectangular on plan. At *C. Charlesbourg-Ouest* the ratio of the length to the width is about the same as at the two room examples, 1.7/1. In sharp contrast is the fact that at *A. Sainte-Foy* and at *B. Sainte-Famille-Pichette* this ratio is significantly larger, about 2.4/1. The habitant found it practical to expand his house in a longitudinal
direction given the nature of constructional materials and techniques available to him. The ground floor of Charlesbourg-Ouest was originally divided into rooms of approximately equal size, 61 sq. m and 59 sq. m, after the fashion of the previous examples. This same distinction is not so clear in the other two houses since some of the partitions are modern. Interestingly enough, however, the three rooms at Ste-Foy are also approximately the same size. Such an arrangement permits their use for several different occupations. This house is slightly smaller than Charlesbourg-Ouest, measuring only about 101 sq. m of interior space. The increased length of Ste-Famille-Pichette makes it the largest of three, measuring 143 sq. m in area. Its many rooms are of irregular size.

The heights of these houses approximate those of the previous section; at A. Ste-Foy it is 7.9 m, at B. Ste-Famille-Pichette 7.7 m, and at C. Charlesbourg-Ouest, 9.3 m. Clearly, when a larger house was built, there was no desire on the part of the builder to expand the attic storage space in any way other than horizontally since the half-storey attics of these examples are not particularly large. In fact, the use of hipped roofs at Ste-Foy and Charlesbourg-Ouest reduce the usable space in these areas. Obviously for constructional purposes in one-and-a-half storey structures, heights of around 8-9 m were the most satisfactory.

The examples present different types of evidence with regard to the area which surrounds them. At B. Ste-Famille-Pichette the house is placed on a rather narrow lot, very close to neighboring structures. Behind it are several agricultural buildings, probably constructed later than the dwelling unit. The separation of this farm from others is effected by modern fences
and driveways rather than by natural vegetation or geographical features: there is no courtyard, and in fact the buildings seem somewhat randomly arranged. At A. Sainte-Foy there is no trace of the original auxiliary buildings, if any. Instead the house occupies a large, squarish lot bounded on all sides by a nearby modern subdivision, only a block from main arterial roads. It presents a rather stark appearance since there are no gardens around it. The nature of its former relationship to the terrain or other structures nearby is unknown. C. Charlesbourg-Ouest is located on a rather large lot, again not separated from its neighbors by natural features. It is surrounded by a broad lawn on the street side, a few agricultural buildings at the rear, although it is clearly not the site of a large farming operation at the present time. In this area there are also several other houses of similar date which, although not immediately adjacent, formed the basis of an agricultural community nearby. There is again no courtyard, either open or closed, in the style of the French examples.

All three of these examples face in a south or southeast direction, that is, they have their principal entrances on that longitudinal facade. At A. Sainte-Foy and C. Charlesbourg-Ouest, rather formal houses, these are the only entrances (the small door on the west side of the latter leads to the cellar). At B. Sainte-Famille-Pichette there are two additional doors on the opposite side, providing access to the agricultural buildings at the rear. Like the previous examples these houses are equipped with window openings on almost all façades; thus they do not play a significant part in the determination of the orientation of the structures. At Sainte-Famille-
The orientation of the house is determined by its relationship to the main highway. As mentioned above, this conclusion cannot be drawn in the case of the other two due to modern encroachments on the sites; locations of the original roads are now difficult to establish. Sunlight was probably the primary reason for such an arrangement.

As noted in the previous section, the skill of the habitant-builders is clearly evident in an examination of the scale of window/door openings in relation to wall size and thickness. The same two objectives were paramount: to provide protection from the harsh realities of the winter climate and to permit the light of the sun's rays to enter the house. At these three examples the windows approximate the same large size (about 1.2 x .8 m) of the two-room houses. In addition there are many of them:

at A. Sainte-Foy, 10; at B. Sainte-Famille-Pichette, 11; at C. Charlesbourg-Ouest, 12. Thus a good deal of natural light can be supplied to the interior of the rooms. Obviously, the capturing of sunlight was of prime concern. The effectiveness of this design is indicated at Charlesbourg-Ouest where a porch, formed by an extension of the roof's bellcast eaves, was later added, at least partially to shade the front facade. Wooden shutters there and at Sainte-Foy were also helpful at shielding the houses from both sunlight and cold. Interestingly enough, the asymmetrically arranged window and door openings observed at the two-room examples seem not to have been an exception; on none of the six longitudinal sides of these extended houses is there a balanced or regular placement of openings. For example, at Sainte-Foy there are four windows on the front, three to one side of the door and one to the other; the five

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windows on the rear are not evenly spaced. Much the same situation exists at the other two: there is almost exactly the same number of windows on each longitudinal façade, but they are not regularly arranged. Sealing so many window openings was no easy task, especially at Sainte-Famille-Pichette and Charlesbourg-Ouest given the great thickness of the exterior walls (.6-.7 m). At Sainte-Foy the problems was minimized by the type of wall construction employed (to be discussed below); a good number of window openings could be opened up because the load of the roof is carried on the timber frame rather than on the wall surface.

In general, these three examples have roofs very well designed for the climatic conditions of the St. Lawrence valley. As mentioned earlier, roof shape is of crucial importance in determining its effectiveness against precipitation. Two of the houses, A. Sainte-Foy and C. Charlesbourg-Ouest, have hipped or pavilion style roofs, while the third, Sainte-Famille-Pichette, has a gable roof. The former style is more difficult to build because it involves complex centering and sealing problems at the intersection of roof panels. The result is a picturesque appearance, certainly observable at the two particular examples of this section. On the other hand, the gabled style is more practical than the hip, since it has fewer points of intersection of roof panels and is thus less susceptible to leakage. Yet whether the hipped or the gabled style is chosen, approximately the same angle of inclination es effective in promoting the swift drainage of rain or melting snow: at Sainte-Foy and at Sainte-Famille-Pichette the angle at the ridge is 74°; at Charlesbourg-Ouest it is 81°. Interestingly enough all three roofs demonstrate the use of bellcast eaves, at least on one facade. At Sainte-Foy and Sainte-Famille-Pichette the reason for this feature was primarily practical, to shield the main entrances and exterior walls from dripping
moisture (note the modern gutters at Sainte-Foy and the windows from summer sunlight along the principal facade. The effectiveness of the bellcast shape in these areas can be observed on one of the photographs. These advantages would also seem to apply at Charleshourg-Ouest, although the fact that both facades have bellcast eaves suggests that there were aesthetic considerations as well. The bellcast roof is simply very attractive visually. However, because of the type of wall construction employed (see below for further discussion), the extended, upturned eaves also serve a functional purpose. As mentioned above, the front porch formed by the extension of bellcast eaves provides shade for the facade and a pleasant open-air sitting room in summer months. As at the six two-room examples, the height and shape of these roofs make them dominant visual elements from the exterior, again forming a cap-like covering. The vertical measure of the roof is between 1.8-2 times the distance from the ground to the eaves line in these three houses. At Sainte-Foy the large, well-sealed central chimney is centered along the ridge of the roof. At Sainte-Famille-Pichette, all three chimneys are similarly placed, but centering the central (operative) one was the only difficult task; the other two are extensions of the gable walls. At Charleshourg-Ouest there is also a large central chimney, not centered along the ridge.

As implied by the arrangement of chimneys along the roof surface, each of these three examples is served by central hearths, probably originally equipped with back-to-back fireplaces. One of these was used for cooking, and both for heating purposes. At Sainte-Foy the main fireplace is very large, about 1.8 m wide; obviously extensive house plans had to be equipped with large heat sources. In fact, the habitant attached a certain

13 These gable wall chimneys were often nonfunctioning. See: Ramsay Traquair, "The Old Architecture of Quebec," Queen's Quarterly, 38 (Autumn, 1931), 595.
amount of prestige to the notion of a house with more than one expensive
(and inviting) fireplace; thus, to convey the impression of grandeur the
builder sometimes attached non-functioning chimney stacks at the tops
of the gable walls, as at B. Sainte-Famille-Pichette. 14 Although the
choice of gable wall hearths was advantageous in some ways—primarily
because the presence of the wall simplified the task of erecting and
centering the fireplace and chimney stack, the central fireplace
gradually became an acceptable alternative for two reasons. First, a central
heat source allows for the free circulation of warm air throughout an open
space rather than heat loss at the back (or exterior) side of a gable wall.
Thus it tends to promote fuel conservation. Second, the central fireplace
can be used to form the essence of an interior partition-wall, providing
stability to the structure, as at Charlesbourg-Ouest. Central fireplaces
have one other advantage: they are suitable for construction at hipped or
pavilion roof houses (like Sainte-Foy and Charlesbourg-Ouest), while gable
wall fireplaces obviously are not. These fireplaces are all constructed of
fieldstone and mortar, and the chimneys are often further sealed: plastered
as at Sainte-Foy or sheathed in wood at Sainte-Famille-Pichette. The
chimney at Charlesbourg-Ouest is brick.

As far as wall construction is concerned, there are certain similarities
with the evidence of the previous section. B. Sainte-Famille-Pichette and
C. Charlesbourg-Ouest display the same type of heavy masonry stonework.
The walls are formed of rubble fieldstone set in a thick mortar and then
coated with several layers of plaster stucco. Quoins and window/door
dressings are probably made of high quality stone but they are not visible
on the exterior. As discussed earlier, the stucco, besides providing an

14 Ibid.
attractive surface by hiding the irregular stones, protects the joining materials from weather damage. At Charlesbourg-Ouest further protection for the east wall is offered by a layer of wooden shingles attached to the masonry surface. Similarly at Sainte-Famille-Pichette the gable walls are cladded with wooden shingles, but only above the eaves line where the surface is very susceptible to weather damage. They are the same colour as the roof covering. The constructional technique for the main interior wall at Charlesbourg Ouest was similar, except that it was cladded with wooden planks and not stucco. In addition to serving as a partition, this wall provided buttressing for the longitudinal exterior walls. At A. Sainte-Foy the exterior walls are constructed very differently. The foundations consist of fieldstone laid in rudimentary courses and set in mortar; they extend above ground level to a height of approximately .4 m. Then wooden beams were set in place horizontally along the smoothed surface of the foundations; into this level were pegged vertical planks which were also mortised to each other, forming the wall surface. The load of the roof is carried on the house's skeletal frame, so that the large window opening with their frames, sills and shutters could be relatively easily put in place, without weakening the structure. Along the two end walls wooden shingles were also added (below the eaves line) in order to provide additional weatherproofing. To lessen the possibility of the walls' buckling outward under the weight of the roof, the perimeter enclosed by the wall plate at the top of the walls is smaller than that of the beams resting on the stone foundations; thus the almost vertical wall planks angle slightly inward after they have been pegged into place. This structural technique also encourages swift drainage of precipitation, especially
on the exposed end wall facades. On the interior the walls were paneled. Here, as well as at Sainte-Famille-Pichette interior partitions were built of wood. Especially at Saint-Foy these helped to provide cross-bracing for the outer wall structure.

Roofs were also constructed of simple wooden frame. At A. Sainte-Foy the king post and collar beam arrangement is further strengthened by the addition of another tie beam and vertical post rising from the floor of the attic space. For the reasons mentioned in the previous section—flexibility in use for either hipped or gabled examples, availability and cost—all three of these houses were probably originally roofed in wood. When laid at a sufficiently steep pitch (which these examples demonstrate) and without much overlapping, wooden shingles provide for good drainage. Presently they are found only at Sainte-Foy. At all the examples the dormers include some vertical continuation of the facade wall although cut above the eaves line, thus increasing their stability. At Sainte-Famille-Pichette the gabled roof is finished with a plain close verge to discourage moisture build-up.

At A. Sainte-Foy the entrance to the house is raised up several steps, giving access to wooden floors at the level where the timber frame wall construction is set upon the foundations. The entrance is also raised at C. Charlesbourg-Ouest where there are also wooden floors. At B. Sainte Famille-Pichette, because of the terrain, the main entrance is almost flush with the ground, although at the rear the back doors are somewhat higher. This house is equipped with wooden floors as well. The raised entrance is useful in preventing moisture from seeping into the houses, and thus, from damaging wooden floors and walls, especially at Sainte-Foy. These wooden
floors provided structural stability to the houses as well as a drier and more pleasant interior than would have simple rammed earth floors.

In conclusion, these three examples provide evidence of more complex design and construction than the simple two-room houses. Despite the fact that some of the building techniques employed in them were similar, their large size and diversified usage somehow lend them a sophisticated air. Certainly on plan they were carefully designed. Two of them, *Sainte-Foy* and *Charlesbourg-Ouest*, have very handsome pavilion-style roofs, difficult to construct and good evidence of the skill of their builders. The exterior wall construction at all three, although of different types, is also of excellent quality. Yet in the matter of the materials employed, the habitant was still using simple, easily available items, even in elaborate, yet functional house plans. His talent in combining and perfecting them gives this type of vernacular building its charm. In these three examples, the extended scale has proved to be no deterrent to the achievement of a harmonious appearance and a stable, useful structure.

III. Lesser Manor House Plan

The examples of this classification are all located very close to the St. Lawrence River: one in a presently suburban area of Quebec City; another on the south shore of the river about 20 miles further downstream; the third, near a small town on the north side, not far from Trois Rivières. They have been grouped together because each is a very substantial and expensive dwelling unit, clearly designed for the privileged members of early Quebec society. As such, they present a different type of evidence from that
previously treated. All three were constructed with full second storeys (with attics added above), unlike any of the previous examples. In addition, their size and scale presented complex constructional problems, to be discussed in greater detail below. Two, A. Sillery-Jesuits' House and C. Batiscan, date from the seventeenth century but the third, B. Berthier-en-Bas, was begun in the eighteenth. Sillery-Jesuits' House and Batiscan were both built as residences for the clergy: the former for missionaries, the latter as the village presbytery. Berthier-en-Bas was the manor house of its seignurie. Presently only Batiscan is occupied. Sillery-Jesuits' House is a provincially-owned museum open only part of the year, while Berthier-en-Bas has been abandoned and is in a deteriorating condition.

As might be expected from the title of the classification these houses have a significantly more complex floor plan than those of the previous section. At A. Sillery-Jesuits' House most of the interior partitions are original; they divide the main floor into several rooms. There is an entrance hall into which the main door opens the width of the dog-leg staircase at the back; it divides the ground floor into two sections, each with its own gable-wall fireplace. The larger was probably used as a parlor or formal sitting room; the smaller, as a cooking, eating and service area as the additional partitions indicate. There is also another staircase leading to the second floor where there were several sleeping rooms. Each of the ground floor sections is accessible both from the entrance hall and the exterior. The obvious difference from the two-room or extended plan is that bedrooms were quite distinct units designed
specifically for sleeping. Although in the early days of settlement ground floor rooms were used for this purpose, such was later not the custom. Thus the design of the floor plan demonstrates a diversified use of space. At B. Berthier-en-Bas the two-unit design provides a natural division of ground floor area. In both units some of the partitions are modern, some original, but the evidence indicates that the larger unit (containing the central fireplace in the partition wall) served as the living and dining areas; cooking was done in the other unit which was divided into service rooms of various functions. There are large staircases in both units leading up to an attic in the smaller one, three good-sized sleeping rooms in the larger. There is access between the units and from each of them to the exterior. The central fireplace provided the focus for the activities of the main floor especially during the winter months because the outer rooms were difficult to heat. At Batiscan the ground floor space is also divided very elaborately into rooms of several different purposes. The main door opens into an entrance hall; to the right is the service area, to the left, the living space. There is a fireplace in each gable wall as well as one in the centre, built along an interior partition. Thus, the living room hearth was not needed for cooking. The second floor, reached by two sets of staircases, is devoted to several bedrooms. At all three examples attic storage spaces are located above the second storey level.

These three houses are, once again, rectangular on plan, although
the ratio of their lengths to their widths is not as great as at the
extended plan examples. The range varies from 1.6/1 to almost 2/1. Obviously
the larger amount of floor space in these houses is due primarily to the
presence of the inhabitable second storey rather than to vasty increased
dimensions. At A. Sillery-Jesuits' House the area of the main floor is
only about 84 sq. m. At B. Berthier-en-Bas the house is really like two
separate houses joined together; the larger unit measures about 86 sq.m,
the smaller about 82 sq.m. C. Batiscan has about 143 sq.m. of interior
space on the main floor. At all three, bedrooms provide additional area.
Because these houses were not originally designed for the everyday
agricultural pursuits of the ordinary habitant, their ground floor interior
space was more often used for polite occasions (witness the entrance
vestibules in each example) rather than for labor. This is the reason
why their areas are not extremely large. Other than at Berthier-en-Bas
there is no observable similarity between the size of various individual
rooms; the space seems to have been allocated according to its intended
use rather than according to consideration of symmetry.

Because of the presence of full second storeys and attic spaces,
these houses are slightly taller than those of the two previous sections.
At A. Sillery Jesuits' House, the vertical dimension measures 9.6 m; at
B. Berthier-en-Bas (two storey section), 9.4; and at C. Batiscan, 9.9 m.
At Sillery-Jesuits' House, this dimension consists mainly of wall rather
than roof surface on the front façade. Obviously, then, the available attic
storage space is reduced with the insertion of a second storey, but such
was not a high price to pay for the opportunity to have more livable rooms,
equipped with their own fireplaces. But in order to achieve them, the builder chose not to increase the overall height of the structure but rather to rearrange certain constructional elements at the expense of the others, i.e. to continue the exterior walls up higher than in simpler houses, and correspondingly, to reduce the size of the roof. On the other hand, at Berthier-en-Bas, Batiscan and at the back facade of Sillery-Jesuits' House approximately the same height was achieved by containing the second storey within the roof and also by eliminating most of the attic storage space. Thus these examples look more like those of previous sections. Interestingly enough, houses of large scale were not built significantly taller than the simpler ones, probably because increased height was not particularly useful in light of the heat required to make it livable.

Unfortunately, most of the auxiliary buildings which might have surrounded these houses are no longer extant. At Sillery-Jesuits' House there are presently no service buildings, though possibly the neighboring house (discussed earlier) may originally have borne some relationship to the larger structure. It is somewhat isolated, bounded by another on only one side. However, in the area there are other old houses nearby; this region was settled early probably because of the presence of this mission. It presently occupies a small lot and is fairly close to the road. C. Batiscan was also not originally designed as a farmstead: agricultural buildings are a later addition. The house is located a short distance from the present centre of the village. B. Berthier-en-Bas also presents problems in determining the original nature of the site. Presently there are no auxiliary buildings, although these obviously must have existed. The house occupies a very flat lot, extremely near the water's
edge; there are overgrown hedges all around it. Slightly behind there is a very modern house. At all three, there is not enough evidence to determine the former relationship of the house to the terrain and structures around it.

The orientation of all the examples is determined by their respective relationships to the St. Lawrence. At A. Sillery-Jesuits' House, the house faces slightly southeast due to the turn of the road at that point. There are windows on both of the longitudinal façades, more on the front, in order to provide light for the middle of the rooms. B. Berthier-en-Bas faces north, unlike any of the examples previously considered. There are two longitudinal entrances at this house, both on the north; however there is a large number of windows on the south. Thus, while the house's proximity to the river determines that major orientation, the builders' awareness of the need for sunlight caused him not to neglect the south. There is a greater degree of symmetry between the two longitudinal façades at C. Batiscan with regard to the matter of window openings. However, it is obvious due to the placement of an elaborate entrance porch on the south side which door the builders considered to be the main one. In addition, the river is to the south and not far from the house.

The scale of window/door openings in relation to the wall size and thickness is here similar to that of previous examples. However, because these houses are usually wider than those examined earlier, the problem of providing light to their interior spaces was crucial. In addition, the fact that there were a great number of interior partitions which blocked
the sunlight also provided a challenge to the builders. The result was not larger windows, but more of them. At A. Sillery-Jesuits' House, the most primitive of the three, the windows are in fact smaller than the average size at the other two classifications, but there are 12 serving the first and second floors, with dormers above. At B. Berthier-en-Bas and C. Batiscan the windows are larger than those of the previous sections; also, at the former, there are 19 on the inhabitable storeys, at the latter, 21. Clearly, at Sillery-Jesuits' House and Batiscan where thick (.8 - 1 m) masonry walls were used, allowing for so many windows was a difficult task. Even at Berthier-en-Bas where the danger of weakening the wall was less severe, it was an expensive one. However, a large number of window openings helped to provide pleasant living conditions, and where owners could afford them (as may be assumed here), they were worth the effort. Finally, the evidence of these houses indicates that, in elaborate examples, window and door openings are usually very carefully placed in order to present a symmetrical façade, both in relation to each other and to the gabled windows above. This feature is in direct contrast to the evidence of the previous sections.

The shape of the roofs of these houses is affected both by the climate and by the nature of their wall construction. As at the other examples, the roof plays an important role in protecting the house from the elements, but there were also other considerations here. All three have gabled roofs; these were easier to construct than hipped roofs at their height. At A. Sillery-Jesuits' House the angle at the ridge, 84°, is larger than most of those previously considered, resulting in a slightly lower pitch. This design was necessitated by the presence of such high exterior walls, since, in order to achieve a steep pitch, the roof would
have had to be very tall. In addition, this roof shape is unusual in another way: its front slope is not as long as its rear slope. It was so designed in order that the façade wall could be continued up and the second floor windows be opened in its surface rather than through the roof, a step which would require the construction of dormers, as on the rear. The reason for the unevenness of the roof panels is that, by employing them, the builders could present an impressive exterior façade, one which conveyed the notion of grandeur. The roof is not bellcast; its extended length along the back provided for sufficient drainage there. At the front the builders preferred to sacrifice some degree of protection for the exterior walls in order to achieve the proper formal effect. As a result there is a small porch-like cover placed just above the main door to shield the entrance from precipitation. At B. Berthier-en-Bas there are actually two roofs. The one over the main unit is bellcast along both longitudinal façades, thus protecting the exterior wall surfaces, and forms an angle of 78° at its ridge, sufficient for proper drainage. At the other unit the roof is not bellced; it forms a rather unusual off-centre angle (in order that a heating vent could be cut from the chimney stack of the main unit's fireplace) of 92°. The lower pitched slope tends to promote standing moisture more readily than the other slope, which is quite adequate for conducting it downward. However, the lower pitched roof is at least not fitted with dormers which would retard drainage further. Since this unit does not contain the main entrance, the protection of its door from overhead dripping was perhaps thought to be less crucial. Unfortunately, however, the possible resulting damage to the wall
surface is potentially very serious. At C. Batiscan the roof, not the original one, is belled only slightly along both longitudinal façades; it forms an angle of 85° at its summit. The extended eaves provide excellent weather protection and shade for the exterior walls; their intent was obviously aesthetic as well. The angle, more extreme than at some of the other examples, was nevertheless sufficient for drainage, especially on account of the roofing material (see below). At Berthier-en-Bas, Batiscan and the back of Sillery-Jesuits' House, where the second floor windows are cut through the roofs as dormers, the ratio of the roof height to the exterior wall height is similar to that dimension at previous examples; it measures between 1.5 - 2.6. Thus once again the roof forms the dominant visual element of the exterior with its cap-like covering of the exterior walls. As mentioned above, the front façade wall at Sillery-Jesuits' House is very exposed. Its two enormous chimneys are located in the gable walls, centered along the ridge; they do not extend very far above the line of the roof. At Berthier-en-Bas the single chimney stack is quite tall, possibly because of the potential fire hazard from sparks igniting a timber house. The two gable wall chimney stacks at Batiscan are also centered along the ridge.

The fireplace arrangement at A. Sillery-Jesuits' House is the most regular of the three in terms of corresponding with earlier evidence. That is, there are two major fireplaces about 1 m wide, located
in the gable walls and opening into the parlor and the kitchen; both were used for heating. The reason the chimneys are so large is that they also serve fireplaces on the second floor so that the bedrooms could also be heated. These were relatively easy to construct since they formed part of the wall. This arrangement is duplicated at C. Batiscan, except that the fireplaces were somewhat smaller. However, interestingly enough, they were not adequate or convenient for the heating of the entire house. At a later date another large fireplace was added near the centre in order to provide increased circulation of warm air through the middle section. Also, holes were cut in the chimneys just beneath the ceilings so that pipes could be fitted into them in order to conduct heat to other rooms. This arrangement was obviously the way of the future since it is found at B. Berthier-en-Bas a later house. Here there is a single central fireplace, built in the wall between the two units; a heat pipe leads from its chimney into the smaller unit. Thus the effectiveness of one fireplace could be increased; its large size is due to the demand for heat in all parts of the house.

At A. Sillery-Jesuits' House and C. Batiscan the exterior walls are constructed in the fashion of the majority of French Canadian houses previously treated. Essentially they are rubble, though of somewhat higher quality at Sillery-Jesuits' House, i.e. stones are very uniform and set in little mortar. Also stones used at the window/door moldings and as quoins appear to be dressed. However, portions of the exterior gable walls (the non-chimney sections) are cladded with wooden
shingles for further weather protection. At **Batiscan** the only portion of the exterior walls not made of rubble is the east gable above the eaves line; when some of the restorations were done it was replaced with wooden planks set vertically.\(^{15}\) At **Berthier-en-Bas** the constructional technique employed is frame. Along the top of the fieldstone foundations is set the first of a series of squared-off logs laid horizontally, thus forming the essence of the wall. These beams were joined with mud and mortar. On the outside vertical planks have been attached for aesthetic reasons. As in an example of an earlier section, the load of the roof is carried on the skeletal timber frame rather than on the wall surface as it is at **Sillery-Jesuits' House** and **Batiscan**. This is a lighter structure but one which is well made and well suited to the climate. The upper portions of the gable walls at the main unit and at the east façade of the smaller unit are cladded with wooden shingles in order to provide further protection against the wind and water which are very damaging at this location. As previously mentioned, the windows are large, something which was quite possible in frame construction, since the openings did not significantly weaken

\(^{15}\) Traquair and Neilson, p. 18.
the wall surface. All three of the examples are paneled with wood on the interior of the main walls. In addition, partition walls are made of wood; at *Sillery-Jesuits'* House the planks are hung on a simple wattle-and-daub core. These partitions are consequently very stable.

The roof structure of all three houses is well-built. The smallest roof, *A. Sillery-Jesuits'* House, is supported by a king post and collar beam arrangement which is strengthened by the addition of vertical struts near the intersection of roof and wall. At *B. Berthier-en-Bas* the two roofs are more complex. The larger one has no king post but two sets of tie beams; one of which centers the ceiling of the second storey; there are also double rafters. The smaller has a large vertical post rising from the attic floor to the ridgepole, tie beams and another vertical member near the intersection of roof and wall. There are also three sets of rafters. However, this roof is modern. At *C. Batsican* the roof is also not original, but it is of a later date than the previous example's. It consists simply of a king post springing from the floor of the attic to the ridgepole, supported by a tie beam. At all three houses the roof structure received additional support from the interior partition walls of the second storeys. For the same reasons as at previous examples, these three were probably originally roofed with wooden shingles. Presently wooden shingles are found along the back slope of *Sillery-Jesuits'* House and at *Berthier-en-Bas*; obviously they were well suited to a roof surface which contains many hipped and gabled dormer windows since these additions were so necessary to
light the second storeys. The front slope of Sillery-Jesuits' House has recently been covered with asphalt shingles. At C. Batiscan the roof is covered with flexible fer-blanc; it is also suitable for adapting to the unusual shapes and intersections which dormer windows necessitate. This substance is an excellent sealant, providing good protection from precipitation to the interior; in addition it is relatively easy to work with. It conducts moisture downward quickly and effectively; therefore it is also suitable for use with bellcast eaves. Here, as at the west gable of Berthier-en-Bas, the verges of the roof are extended (and fitted with barge boards) in order to prevent excess moisture from dripping off the edge of the roof onto the exterior end wall surface. At Sillery-Jesuits' House and at the other roof edges of Berthier-en-Bas, the intersection of roof and wall is formed by means of plain close verges with no barge boards.

As in previous sections, all of these examples have entrances set slightly up from ground level and wooden floors. In addition, each has a substantial cellar used for storage. Again, the wooden floors help to lessen the effects of the cold climate upon the interior spaces. They also form a useful structural purpose, that of bracing for the interior partitions and thus for the exterior walls.

The major similarity between these three examples lies in their overall scale. All three are substantial and were constructed in a more elaborate manner than the houses of the previous section. In addition, they were designed in a formal style as befitted their owners, the elite members of the society. Thus these examples present evidence of symmetrically constructed window and door openings on main façades,
numerous fireplaces with internal heating ducts, complex second storey design and expensive methods of exterior wall construction. However, the basic materials of building and the skill with which they were employed were not much different from those used in the simple examples. Certain adaptations to climatic conditions, such as the hellcast roof shape, follow the lines of these houses as well. The result is that, although the design of A. Sillery-Jesuits' House, B. Berthier-en-Bas and C. Batiscan is more sophisticated, they nevertheless retain a kind of rustic charm. There is nothing deceptive or pretentious about the structures; their basic methods and materials of construction are not hidden, but clearly evident on the exterior. They are very handsome and refined residences.

IV. Conclusion

The examples of early French Canadian domestic architecture have been examined according to the nature of their floor plans. However, it is also obvious that these classifications tend to reflect the socio-economic condition of the settlers who inhabited them. The simplicity of the two-room examples suggests the spartan standard of living of the small peasant farmer who, along with the members of his nuclear family, managed to grow enough to feed themselves. The extended plan houses are evidence of larger-scale farming operations which could support more people and resulted in a more prosperous life style for them. The lesser manor house plans were the dwellings of those not directly involved in the tilling of the soil but who nevertheless lived off its fruits. As has been shown above, each house was constructed according to the specific needs and relative wealth of its inhabitants. Although many of
them have been modified over the course of time, they nevertheless can be employed as indicators of the economic status of their inhabitants.

As might have been expected, the evolution of the floor plan of the French Canadian farmhouse is clearly demonstrated by these examples. In summary, there is increasing diversification in the use of space. Not only were there more rooms in the latter examples, but they were employed for specific rather than for many different purposes. For example, there developed separate rooms for such activities as cooking and sleeping. As a result, individual family members were afforded an increasing degree of privacy. In addition, the use of internal heating ducts leading from the chimneys to other rooms throughout the house lessened the necessity for the main hearth to be the focus of the dwelling unit.

Another important development in the evolution of the floor plan implied by this evidence is that all animals and farm implements had been moved out into auxiliary structures. The dwelling unit was used exclusively for that purpose. Consequently, the examples which were used as farms had additional buildings, but these and the surrounding space were not organized according to a standard layout.

In the matter of scale and dimensions, the French Canadian examples present contrasting evidence. Here there does not seem to be a great deal of evolution, if one considers the increased house height and area, reduced thickness of walls, exposed façade walls or expanded window/door openings to be progress. In fact, in all of these areas, there is not much change from the two-room to the lesser manor houses. This condition may be in part explained by the fact that, in some of these areas, later
remodelling operations have obscured the original dimensions, tending to standardize all of them according to present-day models. However, this justification does not explain all the similarities, especially those of height and wall thickness. The fact of the matter is that the very first steps of the evolution of plan form are not indicated by these examples. Prior to them, some experimentation with building materials had established the scale necessary to provide adequate protection against the elements and determined the most effective use (and tolerance) of these materials. Consequently, for example, exterior walls of rubble masonry were found to be most satisfactorily built at about 8m thickness, because this dimension resulted in a waterproofed interior and stonework which was within the capabilities of the builders' skill. Similarly roof heights were sufficient at about 7-9 m. The size of windows is the most nearly uniform dimension at all these houses; obviously the builders had found the maximum size opening which could successfully be installed and maintained. In addition, the largest number of window opening were always placed on the houses' south or southeast façades, so that their efficiency could be aided by the natural light of the sun.

As far as the methods and materials of construction are concerned, there is also considerable uniformity at these examples. Rubble walls are built in almost exactly the same manner everywhere they are employed, except that occasionally they are coated with plaster stucco, which again is not an original phenomenon. The cap-like effect of especially hipped, but sometimes gabled, roofs due to their length and angle of inclination has often been noted: there was a fairly standardized way of dealing with the
frequent precipitation of Quebec in order to protect the walls of the structures adequately. Even in the matter of the roof covering material, there were only two usual solutions: at first, wooden shingles; later fer-blanc. Where frame construction was employed for exterior walls (one in each of the three sections), the same technique was followed: that of setting the wooden members up on stone foundations and covering them with another layer of wood in order to protect the somewhat perishable material from moisture damage. Also, there were only two places for fireplaces, either in gable walls or near the centre of the structure.

It has been noted that gradually central fireplaces came to be preferred because they resulted in an efficient use of heat, and thus fuel. In at least one house of all three classifications central hearths can be found.

The high degree of uniformity in the construction and resulting appearance of the early French Canadian farmhouses is caused partially by the limited number of supplies which the builders had available to them. In fact, there simply were not many efficient building materials which could be obtained, even for the expensive structures. Instead the challenge to the builders' skill lay in the ability to combine the materials which were available—primarily wood and fieldstone. As has been remarked throughout the discussion, the houses are very handsome witnesses to the talents of the habitant. They are constructed of the simple materials, but nevertheless are very successful structurally as well as aesthetically. Yet clearly there is another important reason for the shared characteristics of these examples: the common architectural heritage upon which they were all based. The early
Quebec farmhouse has a distinct style recognizable at a glance. Its design reflects the design in France from which it developed, with some modifications.
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