# AN ABSTRACT OF THE THESIS OF

James Michael Hébert for the Degree of Master of Arts in Applied Anthropology presented on April 13, 2007.
Title: Culture Built Upon the Land: A Predictive Model of Nineteenth-Century Canadien/Métis Farmsteads.

Abstract approved:

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The objective of this thesis is to provide a predictive model for the archaeological investigation of the first farmsteads in the Pacific Northwest, established in the early- and mid-nineteenth century by *Canadien* and *Métis* families retiring from their service in the fur trade. Past studies of this population have either failed to thoroughly discuss or relied on stereotyped interpretations of this unique ethnic group due to an over-reliance on and uncritical use of English-language sources. The inherent bias of many Anglophone sources has lead to the misinterpretation and ignorance of the unique character of these early settlers and, thus, a lack of thorough investigation into their contribution to Pacific Northwest history. My hypothesis is that the Canadien and Francophone Métis men patterned their settlements on a mental template derived from seventeenth-century European settlement in the Saint-Lawrence River Valley. I have used both English- and French-language primary and secondary sources from archives in the United States and Canada circa 1600-1900. First, I identified and described the core features of Canadien and Métis farmsteads and communities and explicated their social and material context. Second, I created a model of the imprint of

these elements in the archaeological record. This model attempts to illustrate that culturally informed historical research can be applied to archaeological investigation as both a guide to understanding the material record and a means to test and to confirm assertions about cultural identity, continuity and material culture.

Culture Built Upon the Land: A Predictive Model of Nineteenth-Century Canadien/Métis Farmsteads

by
James Michael Hébert

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APPROVED:


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Major Professor, representing Applied Anthropology




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Chair of the Department of Anthropology




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Dean of the Graduate School




I understand that my thesis will become part of the permanent collection of Oregon State University libraries.  My signature below authorizes release of my thesis to any reader upon request.




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James Michael Hébert, Author

# ACKNOWLEDGMENTS

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# CULTURE BUILT UPON THE LAND: A PREDICTIVE MODEL OF NINETEENTH-CENTURY CANADIEN/MÉTIS FARMSTEADS

## INTRODUCTION

During the late-eighteenth and early-nineteenth centuries, the *Canadiens*[1] and *Métis*[2] constituted a valuable class of servants employed in the North American fur trade (Brown 1980: 5-6; Peterson 1981: 29-67; Pollard 1990: 93-94). In the Pacific Northwest, the Hudson's Bay Company's regional entrêpot at Fort Vancouver (Erigero 1992: 38; Kardas 1971: 8; Tayor 1992: 5) housed a large community of families headed by Canadien and Métis *engagés* and their Native American and Métisse wives (Dunn 1844: 104). After ending their engagements, some of this returned to their regions of origin, but many settled to form agricultural satellite communities around the Fort. One of the most successful settlements was established at "French Prairie," located in Oregon's Willamette Valley (Blanchet 1847: 9-12; Erigero 1992: 30, 44, Hussey 1967: 53-55; Lee and Frost: 1973[1844]: 125; Simpson 1973[1841]: 90). This Francophone population formed the first permanent settlement in Oregon and provided vital assistance to settlers streaming across the Oregon Trail in later decades (Applegate 1990[1934]: 148; Lee and Frost 1973[1844]: 125).

Often referred to as "the French," the Canadiens and Métis were distinct population from other ethnic groups employed in the fur trade as well as from the American immigrants and they formed a cohesive community based on their common language, persistent Catholicism, perceived shared

history and unique traditions.  Nonetheless, they have been ignored, misrepresented or stereotyped by contemporary observers and many researchers who have depicted them as one-dimensional characters lacking in ambition, simple in thought, careless and indolent with an interest only in leisure pursuits such as drinking, smoking, dancing, and singing (Kardas 1971: 129, 130).  In current research, this bias has survived partially because this largely illiterate community left very few conventional, documentary sources for researchers to access.  Furthermore, an over-reliance on and uncritical use of English language sources, both primary and secondary, originating from outside of Canadiens/Métis society have lead researchers to portray them with little cultural complexity and to confuse race with ethnicity (Cross 2000: 5-12)[3].

This thesis takes one small step toward finding the voices of the Canadiens and Métis by attempting to understand how they used material culture to express themselves.  I propose that the Canadiens and Métis attempted to recreate both the individual landholdings and the riverine communities that they had left behind in eastern Canada in new regions along the fur trade routes in the Great Lakes, the Southeast, the Northern Great Plains and the Pacific Northwest.  The purpose of this project is to illustrate that the cultural identity of the Canadiens and Métis was "built" upon the land; the character of individual farmsteads and their arrangement into larger settlements represented a material manifestation of cultural identity and continuity. Therefore, I have described key elements of the cultural landscape they created including how and where they formed communities and how they built, placed and used their structures within individual properties.  Additionally, I have attempted to model the traces these features may have left in the archaeological record.  The results of this inductive research should inform future

archaeological investigation of Canadien and Métis settlements at French Prairie and elsewhere.

This ethnoarchaeological project combines research in historic documents, ethnographies, oral interviews, visual surveys, architectural and archaeological reports, and material culture studies to craft a model and guide for the archaeological investigation of the Canadiens/Métis farmsteads and larger communities. I have performed research in both French- and English-language sources from libraries, archives and museums in Canada and the United States. Through careful use of these sources, I have created a boilerplate of the archetypical core features of Canadiens/Métis settlements and farmsteads, including the pattern of communities and the placement and arrangement of structures on individual properties. I have also delineated the primary social and cultural functions of each feature and the relationships between features.

This thesis should be viewed as a part of the process in the development of an effective archaeological program focused on the investigation of the historic presence of the Canadien and Métis population in the Pacific Northwest as well as in other regions in North America. This endeavor also provides an opportunity to recognize the historic presence of the Canadiens/Métis in the Pacific Northwest and to enhance our understanding of a group present before the Americans came across the plains in covered wagons. Engaging in this research has provided an exciting opportunity for networking with Francophone researchers in Québec who have been studying the *le fait Français* "the French fact" of North America ethnographically, historically, politically and archaeologically for decades. There is a wealth of information and data that has been created through active and ongoing research by Francophone individuals and institutions that remains largely unutilized by their Anglophone counterparts. I hope to play a part in breaking down this

linguistic barrier by including these works in this project and by creating

relationships with the individuals involved in this important field of study.

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[1] The term "Canadien" is used in this thesis instead of "French-Canadian" to refer to nineteenth-century, French-speaking creoles born, raised or ancestrally linked to the original European settlers of the Saint-Lawrence Valley. Historical documents indicate nineteenth-century Francophones in Canada used this term almost exclusively to identify themselves. "Canadien" is the preferred term for this population among historians and other researchers in French-speaking Canada and Québec today.

[2] The term "Métis" in this thesis refers to all of the descendants of Canadiens and Native Americans. This population arose in the Great Lakes region and in the Canadian western Provinces of Manitoba, Saskatchewan and Alberta during the seventeenth and eighteenth centuries along the fur trade routes. In some instances, Métis communities were distinct from their Canadiens neighbors and in others they were fully integrated.

[3] For a thorough discussion of the biases in Anglo-Canadian history, see Laurence Cros' excellent historiography, La Représentation du Canada dans les Ecrits des Historiens Anglophones Canadiens (2000).

# THEORY

> "Buildings, like writing or speech, can be correctly read or understood only if the coded meanings can be accurately interpreted by the users. All of the built environment can than be treated as a semiotic system in which all aspects of a building communicate information to the observer about the environment, society, and accepted behavior" (Sanders 1990: 46).

> "It is the task of the archaeologist to recognize the mental template behind the creation of the archaeological record" (Kreiger 1944: 272).

It is important to use theory to explain how ethnicity and culture can be defined, interpreted, and understood. A theoretical discussion of ethnicity can explain and defend the use of the Canadien and the Métis as an ideal subject population and to explain why it is a valid expectation that some of the core features of their identity were carried with them across the continent to the Pacific Northwest. In the context of this thesis, I will focus on their settlement pattern and built environment as powerful and enduring core attributes or features of their culture. This is at the heart of the model-building process and as a result, it is important to understand the theoretical underpinnings of this assertion.

What does theory say about how ethnicity and culture are defined, interpreted, and understood? Is culture the same as ethnicity? What is the relationship between ethnicity and the cultural transformation of the landscape, i.e. settlement and the built environment? Theory helps us explain the process for cultural systems. Theory is useful for discussing the possibility for seeing the historic actions or correlates of ethnicities or populations in the evidence found during excavation. In addition, theory offers support for the use of

documentation by historic archaeologists when attempting to understand and explain the background and context for their fieldwork endeavors and for creating models for testing.

Barth suggests that "biological self-perpetuation" is an important criterion for identification of an ethnic group or population (1969: 10-11). If his assertion is understood correctly, he is suggesting that a group must be comprised of a distinct genetic heredity and that the genetic heredity binds them as strongly as other characteristics that help form them as a group. As Castille points out many individuals believe that ethnicity suggests an endogamous population, but states that this is not true.

> "The range of physical types acceptable as members of a people can be truly enormous without compromising the sense of common identity or altering the recognition of the group as a separate entity by outsiders" (1981: XVI).

Castille further states that "No matter how isolated a group is they are not completely genetically isolated. Isolation is one of degree" (ibid). In agreement with Castille, the Métis and the Canadien were not a biologically isolated population. The Métis had a diverse ancestry; the Canadiens, several Native American groups, English, and Scottish ancestors. The Canadiens were also of a diverse background including French, Basque, Spanish, Sephardic Jew, Irish, and Native American.

Self-identification has been accepted by many anthropologists as a legitimate approach for initially determining who forms or constitutes an ethnic group or population (Just 1989: 74). Ethnicity has been defined as a process through which individuals in a group identify themselves in contrast to others and with each other through characteristics such as language, religion, territory, culture and historical experience (Francis 1947: 397; Wallman 1977:

532). Spicer states that what is important to identity and to group unity is the "common understandings concerning the meaning of a set of symbols" (1980: 347). A set of symbols that hold meaning for an ethnic group and by others outside of their ethnic group are formed by experience over time, "The persistence of a people rests on a set of meanings about actual events of history, as uniquely experienced by the people stored as it were in a stock of symbols" (ibid: 11).

Ethnic groups or populations are self-perpetuating. Generation after generation, they pass on their sense of identity as well as their behavioral ways of achieving things or their "style." The concept of intergenerational cultural transmission is a widely accepted concept; people within self-defined groups pass on their culture, values and worldview to their children. Bourdieu calls the passing on and internalization of ethnic identity "habitus" (1977:72). Habitus dictates that culture is passed on generation to generation. So, what is culture? Tylor wrote that "culture or civilization taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and other capabilities and habits acquired by man as a member of society" (1871: xiii).

The Métis and the Canadiens lived within a larger English-speaking and mostly Protestant political and social context and authority, yet they persevered. They held onto their language and religion and they retained much of their visual expressions of identity through material culture. Living in a context where a dominant group asserts its power can create a sense of solidarity and group identity. Castille states that,

> ". . . enduring peoples are those who have developed some
> successful mechanisms to resist the efforts of the larger society
> to incorporate them, and their special characteristics are directly
> related to . . . boundary maintenance" (1981: XIX).

Peach suggests:

> "Ethnic boundaries function to determine and signal membership, and are maintained though continual expression–this expression is generally attributed to the use of ethnic markers . . . features that people look for and exhibit to show identification" (1993: 98-99).

Special characteristics, ethnic markers and boundary maintenance may be expressed through material culture.  In "Ethnicity and Ethnic Markers: A Fur Trade Example," Peach looked at "the possibility of identifying certain artifact types as markers of ethnicity (for the Métis) within the archaeological record" (ibid: 98).  She examined pictorial documents and contemporary documents, data from excavated fur trade posts and lithic pipe samples recovered from excavations and surface collections.  Peach specifically focused on the possibility that the "Micmac" or the "calumet" style pipe would serve as a marker of Métis ethnicity in the archaeological record.  She found that in historic documentary records that the Canadiens and the Métis were equally associated with the use of this pipe, and uniformly, after looking at the archaeological evidence she found that it was impossible to find confirmation of exclusive Métis use of the pipe. Instead she found that, like many other material objects, there was ample evidence of mutual use of the pipe by the Métis and the Canadiens.  "An association of lithic pipe use and manufacture by the French Canadians and Métis is quite distinct [from other groups]" (ibid: 120).  Peach's work lends validity to the assertion that the Métis and the Canadiens formed together a cultural grouping and that they shared a mental template for cultural expression that may extend to how they approach creation of the cultural landscape and the built environment placed on that landscape.

The cultural landscape and the built environment are a visible expression of a population.  These material elements are visible manifestations of culture and the mental template from which people express themselves, build community and engage in activities.  The cultural landscape and the built environment are subsets of the cultural whole; they are important components of the cultural system.  Rapoport proposes,

> "Creation of the ideal environment is expressed through the specific organization of space . . . and is closely related to the concept of the Ethnic Domain.  This can be defined as the ideal environment made visible; it is basically nonphysical in inception and is given manifest form through buildings" (1969: 49).

Culture process or processualism is a theoretical stance that explains culture as being made up of interconnected systems that function to maintain a balance between each other and with the environment.  This process of adaptation results in a stable system or entity or a "culture."  Artifacts are representations of these functional and adaptive systems.  Processualism is a way of approaching the material correlates of past human behavior in a way that allows us to understand the systems or processes that comprise a dynamic culture.  Binford has named three functional categories that make up a culture: technomic, socio-technic and ideo-technic, which represent the environment and the social and ideological relationships within a culture (1962: 219). Binford made room in his culture construct for expression of identity in the material record.  Cross-cutting the three categories are residual stylistic attributes that promote and reflect group solidarity (ibid.).  Binford suggests that, on a purely subconscious level, cultures through traditional learning and adaptation to the environment leave particular types of artifacts that can be

identified by their style and can, as a result, identify the group that made and used them (1965: 208).

Sackett refers to these stylistic attributes as "ethnic iconology" and he refers to stylistic variation as "isochrestic variation" (1977: 377). Groups or populations have a wide variety of ways in which to do something and their choices are stylistic representations of their identity. Style can be found in all aspects of material culture. Sackett wrote that "a butchering technique may potentially convey as much ethnically stylistic variation as a pottery decoration" (1986: 630) and style "is a highly specific and characteristic manner of doing something, which, by its very nature is peculiar to a specific time and place" (1982: 63). Beaudry proposes that style is not just a choice among available options but can be a means of conscious communication that expresses identity.

> "Style . . . communicates subculture, and is instrumental in group definition and boundary maintenance. Ethnic or class subcultures wield style as a tool to identify those who "belong" (1991: 155-156).

Beaudry further states,

> "The relationship of behavior to the material world is far from passive; artifacts are tangible incarnations of social relationships embodying the attitudes and behaviors of the past" (ibid: 150).

To develop a model for material elements that represent the actions of a particular historic group, we need to understand the context and the form of the objects, the material used and the function associated with the objects. In this way, a model for the archaeological footprints of those features and objects will allow us to connect the "static" present with a "dynamic" past. By looking

for regularities that agree with as well as those differences that disagree with the model, a clearer understanding for how a culture or an ethnic group adapts to new contexts and new pressures can be investigated (Binford 1968; Flannery 1972: 105).  The cultural practices of an ethnic group have material correlates in the archaeological record,

> "Social expressions of culture, such as groups, family structures, institutions, social networks, status relations, and many others, often have settings associated with them or are reflected in the built environment.  Culture is a theoretical construct.  No one ever has seen or ever will see or observe culture–only its effects and products" (Rapoport 1990: 10).

Cordell and Yannie advocate concentrating on materials that may represent core features of an historic population,

> " . . . rather than looking at the totality of remains, archaeologists may choose to emphasize those aspects of material culture that are expected to relate to communication and interaction, thus delineating the stylistic attributes of materials carrying information content relative to ethnic unity and identity" (1991: 98).

Middle-range theory is made up of methods used for linking statics and dynamics—the static record left as a result of past activities of a dynamic culture group. (Johnson 1999: 49).  One method of linking the static with dynamic is through historical analogy.  "An analogy is the use of information derived from one context . . . to explain data found in another context" (ibid: 48).  Binford suggested using the "ethnographic present" to form an analogy (1983a: 24).  The use of ethnographic and historic texts that pertain to a particular population can also be used to form a direct analogy (Johnson 1999: 155; Orser and Fagan 1995: 51).  Historic archaeologists can take advantage of

this type of data to interpret past behavior and to understand the context of the archaeological record.

> "Context is where meaning is located and constituted and provides the key to its interpretation" and "analysis of cultural texts gives us insight into people's attitudes toward the world around them—an integral component of the recovery of meaning as well as of explanation of the archaeological record" (Beaudry 1991: 160).

The goal and purpose of this thesis is to create a model and a context for the settlement system and the built environment of the Canadien and Métis at French Prairie and elsewhere during the Nineteenth Century. Research using ethnographic and historic documentation on Canadien and Métis life ways during the historic period in North America can be used to form a direct analogy. The analogy or model formed as a result this work can be tested through future archaeological investigation at French Prairie. As Binford says, "It is only through the testing of hypotheses logically related to a series of theoretical propositions that we can increase or decrease the explanatory value of our propositions" (1968a: 268-269). Flannery agrees, "To be useful a model need only organize a body of disorganized data in such a way that hypotheses can conveniently be tested, accepted, modified or rejected" (1972: 107).

# MATERIALS AND METHODS

> "Historical archaeology is text-aided archaeology, to the point
> that documents are a primary source for the field.  Documents
> and texts of all kinds support and supplement archaeological
> information to such an extent that historical archaeologists must
> be as adroit at archival research and documentary interpretation
> as they are at site research and artifact discovery" (Orser 1995:
> 16).

The diversity of documents and materials used during research for this thesis include: books, reports, journals, manuscripts, photographs, satellite images, written communication and oral consultation.  The success for fulfilling the goals of this thesis rests on a heavy reliance on French-language sources and materials.  English-language materials were also consulted, but they were viewed with a critical eye. The use of French-language documents expanded the range of information that is available for research.  Using a body of documents from Francophone Canada and Québec has introduced a different voice and a new perspective.  In particular, utilizing the work of Québécois researchers and academics was a rewarding exercise in inter-linguistic studies.

There are many reasons it was important to include French-language primary and secondary sources alongside English-language sources.  Most important among them was to gain an insider's view of Canadien and Métis society, since North American French was the predominant language of these communities.  Additionally, Anglo-Canadian research is conducted in a highly-charged political environment which poses serious obstacles to objectivity; the question of a French-Canadian identity is inextricably linked to the national Canadian debate over Québec's political sovereignty (Cros 9-10, 12).  For

these reasons, French-language sources—particularly those produced in Québec and French-speaking Canada—add balance to my research.

The nature of the research required for this project necessitated going to where the bulk of the French language documents are located. Research for this thesis was conducted in the Province of Manitoba during the summer of 2002 at the University of Manitoba at Winnipeg library, and in the Province of Québec during fall of 2002 and winter 2003 at the Bibliothèque de l'Université Laval à Québec, the Bibliothèque de l'Université du Québec à Trois-Rivières, and the Bibliotèque et Archives Nationales du Québec. In addition to libraries and archives this research required traveling to historic sites to gather documentary information and to make visual surveys of architectural features and materials. For example, I visited Métis sites in Manitoba and Canadien sites in the Québec countryside. In addition, I relied upon digital archival repositories, the Oregon State University library and the network of libraries participating in the interlibrary loan system. I also engaged in written communication with Bob Camardo, the owner of the historic François Vertefeuille House located at Prairie du Chien, Wisconsin, Dennis Au, an historic architect in Illinois and with Diane Paulette Payment, an historian with Parks Canada, Winnipeg, Manitoba. Furthermore, I discussed my thesis with two experts in Canadien material culture and history, Drs. Réginald Auger and Marcel Moussette at the Université Laval à Québec.

The data gathered for this work will be used to create a useful model or guide for understanding rural Francophone settlement and their built environment during the early- to mid-nineteenth century. This requires an understanding of not only the details of construction and settlement, but also the history, the spatial patterning, and the social and functional meaning attached to structures. Once these elements are understood and described, past archaeological reports and future excavations will take on new meaning. This

project will provide the background for future excavation and I am hopeful that it will be a counter-point for another generation of research questions and observed differences in the field.

**RESULTS**

The objective of this thesis was to create a model that identifies and explicates the material expression of the cultural uniqueness of nineteenth-century Canadien and Métis populations in the context of their agricultural settlements. By assuming that individuals in this population shared a mental template of how to build a rural community, use an individual lot or property, and build structures, I proposed and expected to discern a pattern of culturally influenced behavior and core and unique elements. In this way, I attempted to model the archaeological data that may be present at Canadien and Métis farmsteads at French Prairie and elsewhere in order to make such investigations more informed and productive.

The data chapters describe in detail the overall settlement system, the structures found on an individual property and, in addition, the structures and features that meet the criteria of a core and unique element. The core elements identified and detailed in the following chapters are:

1. *Le rang* or "French long-lot" settlement system; a unique approach to rural settlement sharply contrasting with the Anglo-American settlement pattern.
2. The house (*la maison*) with the attached *cuisine d'été* or *bas côté* (summer kitchen) built in the *pièce-sur-pièce en coulisse* (a distinctive Canadien/Métis construction method) and affiliated styles, *la cave* (cellar) below the floorboards, and *la cheminée* (the chimney).
3. *Les Latrines* (privies) usually built distant from the house and near structures like the barn.

4. *Le fournil* often built in the unique pièce-sur-pièce en coulisse style, was also identified as a core element of the Canadien farm as it evolved from exclusive use as a bake house to a summer residence.

5. *Le caveau* (*aux legumes*) (root cellar) was typically built exterior to the house. This structure is not unique to the Canadien and Métis, but was ubiquitous on their farmsteads.

6. *Le four à pain* or *four à terre* (bread oven), usually built exterior to the house, is of particular social and cultural importance to the Canadiens and Métis. For this reason, its presence is a cultural marker at sites of unknown origin and its absence at known Canadien and Métis sites should spawn new research questions.

7. *La grange* and *grange-étable* (barns and stables) were often built in the pièce-sur-pièce en coulisse style and would be diagnostic if identified.

8. *Le jardin potager* (kitchen garden) and the presence of many fruit and flowering trees were an important part of the Canadien and Métis cultural landscape, particularly with regard to defining gender roles (le jardin potager), foodways and cultural beliefs about health and well-being. The identification of the presence of certain types of plants and trees and knowledge of the arrangement of gardens, orchards, flowerbeds and other cultivated features within farmsteads is key to identifying and understanding Canadien and Métis sites.

9. Finally, *les clôtures* (fences) were uniformly constructed in a particular style and used to define property (rang) boundaries as well as specific features within lots.

# LE RANG (FRENCH LONG-LOT SETTLEMENT SYSTEM)

 "The aligned habitation which originated in the countryside and
even in the towns constitutes one of the major cultural traits for
many regions of Canada; it has impacted the rural landscape,
language and social life; as during past colonization, it
continues still today to be a symbol" (Hamelin 1993: 9).
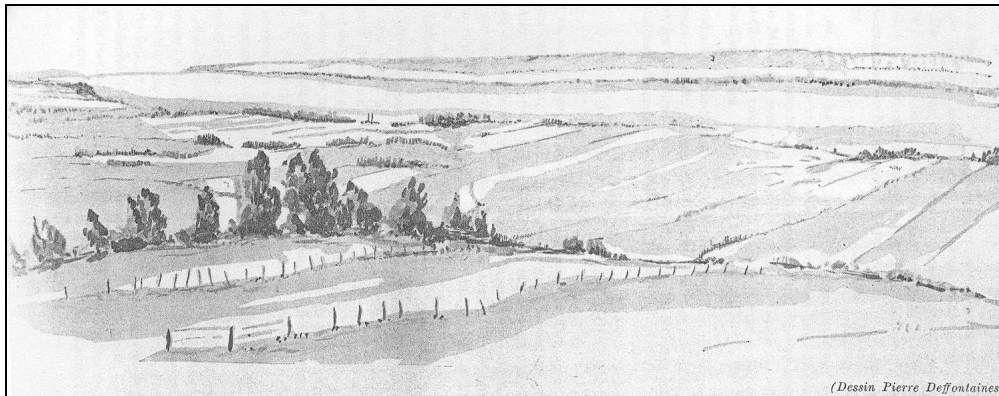


**Figure 1.** Le rang or French long-lot land concessions extend from an
unspecified river in Québec (Deffontaines 1953: 24).

Nineteenth-century Canadiens lived on a settled landscape that had
been actively cultivated by their Euro-Canadian ancestors since the early
seventeenth century.  Their approach to arranging their communities was
called le rang or French long-lot settlement system.  The rang refers
simultaneously to both the individual property holding as well as the cluster of
holdings that form a *voisinage* or neighborhood.  This system of settlement
was shared by other Francophone settlers of North America, including those in
the Louisiana territory and Acadia (Hamelin 1993: 79-81).

In contrast to their Anglophone neighbors, when the Francophones of North America saw a river with arable land extending from it, they saw a future community composed of long, ribbon-like farmsteads aligned one next to the other, like piano keys along and extending from the river.  According to Louis-Edmond Hamelin, a Québécois geographer and linguist, the French long-lot settlement system is an important part of the Canadien sense of self and psyche both past and present.  Hamelin identified five principal elements that formed and molded the fundamental character of the historic Canadien population: the French language, the Catholic religion, a sense of unlimited space, and the structuring of agriculture using the rang, and the winter (ibid: 9).

The physical form and location of the rang provided three main functions.  First, the rang or long-lot had psychological significance.  The rang was a familiar layout for personal property holdings and communities and, therefore, was aesthetically appealing.  The rang/long-lot "represented the formula for permanent settlement" (ibid: 9). Second, the rang had a social function, facilitating the building of the type of community important to the rural Canadien and Métis (ibid: 55).  Third, the rang system had an economic function, providing each settler access to transportation by way of the river that running along the front of each property (Deffontaines 1953: 3; Hamelin 1993: 55).  In Québec, settlement occurred along the Saint Lawrence River and its tributaries.  Likewise, at the Red River settlement in Manitoba and in the Willamette Valley, Oregon, settlers were linked to each other and to forts by way of the Red and Willamette Rivers.

Like the Native Americans that the French settlers encountered, the rivers provided for transportation, food, and commerce.  Francophone settlement in North America took place through a process of steps.  The Saint Lawrence River settlement serves as a good example.  This river was referred to as the *chemin d'eau* or the "water route" or road referring to the river's

function as a route for travel (Deffontaines 1953: 3; Hamelin 1993: 55). The early use of the rivers for transport is so engrained in the psyche of the *Québécois* (the descendents of the settlers) that the verb used for getting out a car is the same as the verb that is used for getting out of a canoe, i.e. *débarquer*. This is in contrast to the verb used today for getting out of a car in France, i.e. *descendre* (Deffontaines 1953: 4).

## HISTORY

> "To a habitant there is nothing strange about a property that is
> long and narrow. To him the word field means long and
> narrow. Wide fields are considered strange" (Minor 1939: 46).

The earliest settlements in the Saint Lawrence River Valley and in Acadia were small, fortified group settlements, such as those of and Samuel Champlain. It is believed that the reason for this settlement arrangement was an immediate need for security (Hamelin 1993: 51, 52). During the seventeenth century, however, the rang settlement system was implemented and quickly spread among the inhabitants or *habitants*. The habitants began to reject the security of concentrated circular settlements and chose instead a life spread out along the rivers, apparently preferring the relative freedom and autonomy of this settlement style.

The first documented French long-lots are noted in 1626 and belonged to the farmer Louis Hébert, recognized as the first French farmer in Québec. In 1660, the Jesuit Relations note that all of the rural habitations outside of Québec City were indefensible and elongated, one next to the other over a distance of 8 to 10 leagues or about 25 miles along the "grand river" (Saint Lawrence River) (ibid: 52). Initially, these settlements were organized

according to the feudal seigniorial system.  A seigniorial land holding was an allotment of land held, managed and taxed by a "*seigneur*" or lord.  These landholdings were created on both sides of a river.  Once established individual land concessions were laid within the allotment perpendicular to and extending from the river (Deffontaines 1953: 8; Hamelin 1997: 55).

Despite the feudal foundation for settlement, the rang was, in a very real sense, egalitarian because each farming family is provided with similar access to resources: fishing, a water outlet for travel, a road for travel, land for farming, and trees for timber, fuel and construction (Minor 1939: 46).  If the land had been laid out in the English manner, where landholdings do not equally traverse the land from a river, one farmer would have the river beach, another farmer the lowland, and another the hilly land and trees (ibid).  A visual comparison of Canadien and Métis settlement at French Prairie, Oregon with Anglo-Canadian and American settlers illustrates this difference (Figure 2).
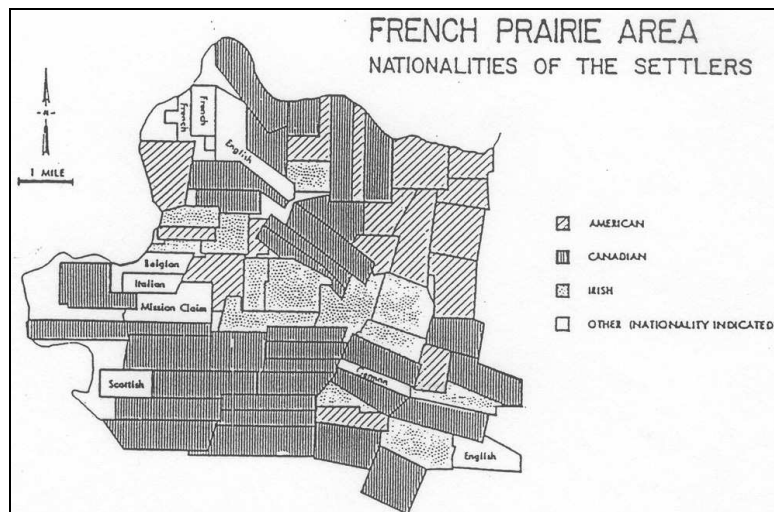


**FIGURE 2.**  Contrasting shapes – Canadien and Anglophone settlement at French Prairie Oregon (Brauner 1989: 32).

# CREATION OF A RANG COMMUNITY

In Québec, individual long-lot farmsteads were settled in clusters of four neighbors connected by tradition or kinship. These units were also referred to as rangs and as la voisinage. As more settlers were attracted to the available land concessions, more houses were built and a sense of permanence began to take hold. The voisinage system of neighboring was also referred to as *le premier voisin* and *les quatre voisins.* Voisinage cemented relationships and insulated communities into what Louisiana Acadian researchers have referred to as *le Petit Monde* (Ancelet 1991: 21, 50-51; Bouchard 1926: 131; Deffontaines1953: 15; Minor 1939: 48-49; Provencher 1980: 41).

Eventually, the rangs were linked to a nearby Catholic parish and as the settlement became larger they formed their own parishes. Soon, a better road would replace the path connecting neighbors and neighborhoods and a number of establishments were built in the middle of the rang, such as a grist mill. In this way, a bonding and linking of the families across the rang grew that lead to a larger sense of community and neighborliness (Hamelin 1993: 55).

As the large rivers became crowded, settlers expanded and placed settlements along small rivers and the tributaries of the large rivers, facilitating the interior colonization of the landscape. Frequently, the individual lot was subdivided into new rangs to provide land for adult children (ibid: 66). This also facilitated another method of expansion called the "double rang."

To create a double rang, a road was built across the far end of all the concessions opposite the river, and additional concessions were laid out from the road. Houses were built along the road in the same manner as houses on the original rangs were built along the river. Next, houses near the river in the original concessions were moved or rebuilt near the road. This created

opposite land concessions that span from both sides of the road, with houses that face each other (Deffontaines 1953: 9-10; Hamelin 1993: 12-14).

The same sort of expansion of settlement to small tributaries from the larger rivers also took place at French Prairie, Oregon. Ribbon-like lots were closely situated along the Willamette and its tributaries and adjacent farmsteads were frequently connected by tradition and kinship. For example, Joseph Gervais was widely acknowledged to have been the one of the earliest settlers along the Willamette providing shelter and assistance to his neighbors during their initial settlement. Eventually, members of the Gervais family were connected to their neighbors through marriage and fictive kin relationships (Brauner 1989: 27; Munnick 1979: A-36). See figures 3, 4 and 5.
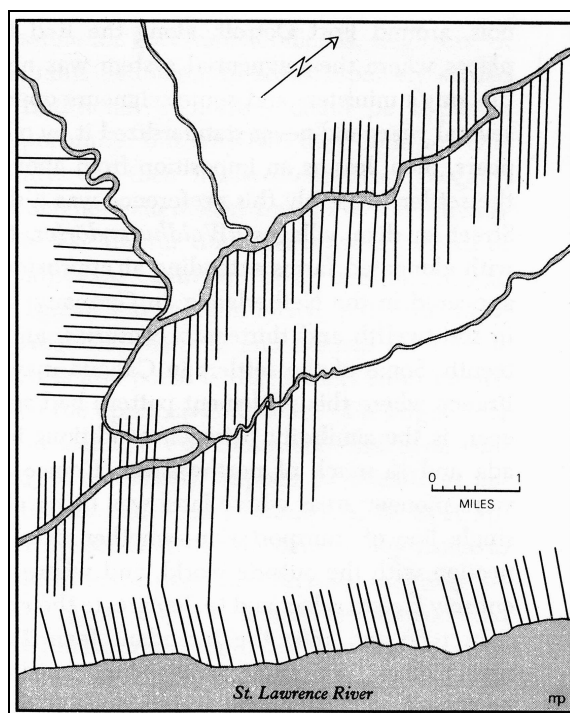
**FIGURE 3.** Rang settlement along interior waterways (Harris and Warkentin 1991: 39).
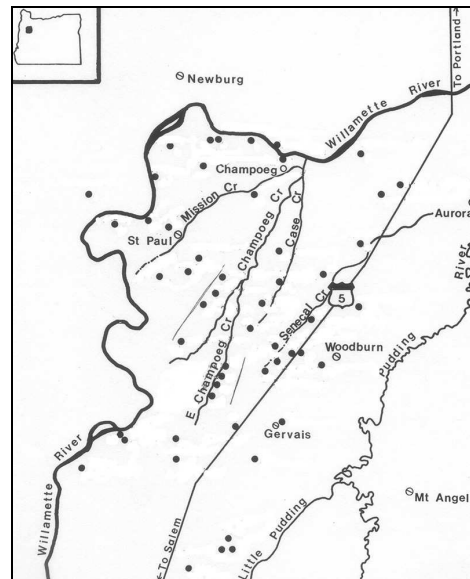
**FIGURE 4.** Canadien/Métis settlement at French Prairie, Oregon (Brauner 1989: 27).
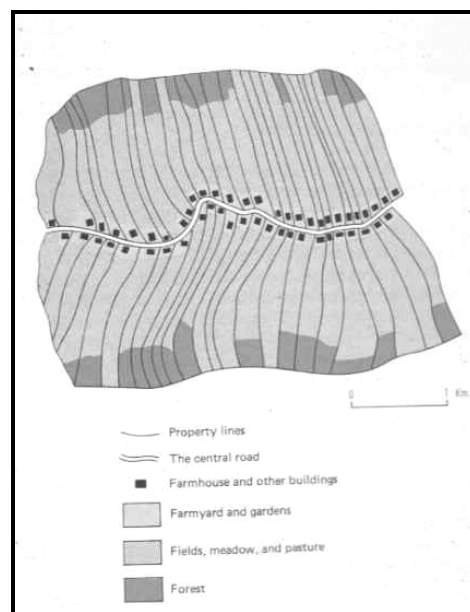


**FIGURE 5.** Double Rang settlement extending from both sides of a road. (Michigan State University – Geography of Michigan and the Great Lakes Region: http://www.geo.msu.edu/geo333/long_lots.html)

# LA MAISON (HOUSE)

"The house is an institution, not just a structure, created for a
complex set of purposes.  Because building a house is a cultural
phenomenon, its form and organization are greatly influenced
by the cultural milieu" (Rapoport 1969: 46).



**FIGURE 6.**  Prairie du Chien.  Watercolor by Seth Eastman, circa 1846-1848.
(Minnesota Historical Society)

There are many first-hand accounts of how the Canadien and Métis
built their houses.  An excellent overview was put into writing in 1832 by an
American traveler, Sherman Hall.  Hall visited the Lac du Flambeau region of
western Wisconsin where he observed in great detail the way in which the
domestic structures of the Canadien and Métis settlers were fashioned.

"When a building is to be put up, the timber of the sills, beams
& posts is cut and squared into suitable sticks, usually with a
common axe . . . The sills & beams are generally locked, or
halfed [sic] together at the corners of the building . . . A mortise
is made in the sill for a post wherever it is needed & another in
the beam.  A groove is made in each post from top to bottom
about 2 inches in width, and three or four inches deep.  Timbers
are then hewed six or seven inches thick and the ends cut till
they are fitted to the groove in the post, and of sufficient length
to reach from one post to another.  They are then introduced one
after another till the walls of the building are completed.  These
timbers answer every purpose answered by studs, braces, and
boarding in the English mode of building. Wherever a window
or a door is required, posts are erected, into which the ends of
the timbers are introduced, instead of the main posts, and thus
the required hole is made in the wall . . . The cracks between the
timbers in the walls are plastered with hard clay which abounds
in this country and are then covered with cedar bark in the
manner of the roof, if the building is intended for a house"
(Nute 1955: 189-191).

The Francophone settlers of Lac du Flambeau and elsewhere were the
inheritors of French architectural knowledge adapted to a North American
context resulting in a Canadien and Métis vernacular form.  Typically, a house
was one to one and one-half stories, included at least one chimney, possibly a
bread oven, and an annex on a separate foundation or without a foundation.
Each part of a house will be discussed separately and in detail, from bottom to
top.

## LE SOLAGE AND LA SOLE (FOUNDATION AND SILL)

"A well set house was always a priority for the Québécois house builder.  The craftsman knew very well that in order to avoid disaster, the carré (the sill structure) must be placed on foundations or at least placed on solid ground" (Lessard and Vilandré 1974: 103).

A foundation or *le solage* was built with readily available material and usually measured approximately three *pieds* (French feet) high.  Most foundations were made of fieldstone held together with *mortier,* a mortar made from a mixture of lime, sand and water—and occasionally the stones were held together with clay (Figure 7).  In addition to a mortared stone foundation, or *solage de pierre*, a variety of materials could be used, such as flat field stones without any mortar or clay, worked rock, and wooden blocks or beams.  During the nineteenth century, brick was also used to build foundations, but, as a rule, wood and stone remained the preferred material by the people of the countryside (Lessard and Vilandré 1974: 104, 106, 108, 117, 120; Moogk 1977: 40).



**FIGURE 7.**  Solage de pierre, Château-Richer, Québec (Gauthier-Larouche 1974: 89).

If the ground was not level, it was necessary to dig a trench within which was placed the foundation material.  This allowed the builder to create the desired height and volume and to set the foundation below the frost line ensuring a stable footing (Gauthier-Larouche 1974: 107; Moogk 1977: 40).

The sill or *la sole* on which the frame of the house was constructed usually sat upon the foundation.  Occasionally, however, the sill was placed directly on the ground and served both purposes.  Wooden sills consisted of partially or completely squared logs.  In Batiscan, Québec, November 1776, a Hessian Officer writes in a letter about the use of wooden foundations under the village's homes.  He describes a foundation of four logs on which the house constructed.  The logs form a square that matches the shape of the house and they are assembled at the corners with a half-lap joint.

> "The foundations of the wooden houses consist of four beams
> on which rest the wooden structure of the house (formed by the
> sill).  These pieces are laid in a way that forms a square; the
> corners are joined" (Gauthier-Larouche 1974:120, my
> translation).

In 1832, Sherman Hall described the joinery for a house at Lac du Flambeau, Wisconsin, "The sills & beams are generally locked, or halfed [sic] together at the corners of the building" (Nute 1955: 189).  See figure 8.
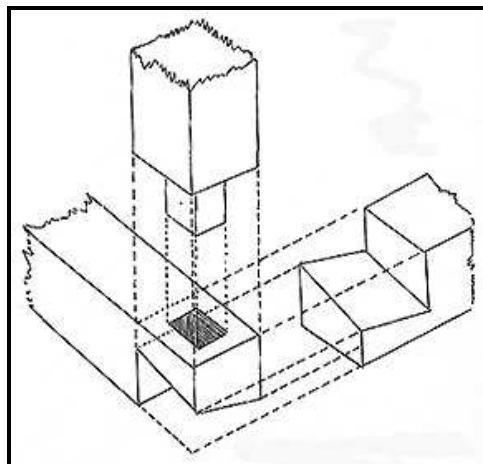
**FIGURE 8.** Half-lapped corner of a sill (Gauthier-Larouche 1974: 78).

An architectural survey of the Louis David Riel House of St. Vital, Manitoba found that the original foundation of the house was formed of stones held together with mortar and the sill had half-lapped corners. The determination was made because some of the remaining material was discovered underneath the more recently placed concrete foundation (Elder 1973: 38, 75). Archaeological investigations of Métis structures at Batoche, Saskatchewan also confirm the use of both field stones for a foundation, and also for the placement of sills directly on the ground without any foundation (Donahue 1977: 5).

## LES MURS EXTÉRIEUR (EXTERIOR WALLS)

This section discusses how walls were built during the initial settlement of New France and describes the changes that took place in wall construction as settlers adapted to their new social and natural environment. The result of this process of evolution was a new and uniquely North American method of

manufacture known as pièce-sur-pièce.  Pièce-sur-pièce structures represent a construction method and style that no longer corresponded to a "French" mental template, but instead a *créole* vernacular architecture of the newly formed Canadien and Métis populations.  In addition, this section will address the treatment of external and internal wall surfaces and the methods employed for constructing partition walls.

## Evolution of *La Charpente* (Frame) from France to New France

By the seventeenth century and the period of the initial settlement of New France, French forests had been largely depleted.  As a result, the materials used to construct houses in France reflected the lack of timber.  The French house had changed from a structure for which wood was the main building material to a structure built with a *colombage pierroté* and *colombage bousillé* frame or la charpente.  Colombage pierroté is a mixture of heavy earth or clay, chopped straw or hay, and small stones, and colombage bousillé, or *bousillage entre poteaux*, as it was called in the Louisiana and Illinois territories, is a material composed of heavy earth or clay, and chopped straw or hay.  Other names for this construction method can be found in historic documents that recorded building contracts in New France: *pieux-sur-sole* (posts on a sill), *pieux debouts* (posts standing on end), and *madriers debouts* (beams standing on end) (Lessard and Vilandré 1974: 113).  This method of construction was heavily used in the northwestern region of France, the area from which the majority of the early colonists had originated.  Change took time and, although New France had abundant forests, the colonists at first used familiar constructions styles such as the colombage wall method (Lessard and Vilandré 1974: 112-113, 115, 117; Moogk 1975: 23-25; Ross 1999: 5).

The colombage wall was formed in the following way. Squared logs were placed vertically (a timber oriented in this way is referred to as a *coulisse*) between two squared, horizontal logs: *la sablière* at the top and *la sole* or the sill at the bottom. Normally, the squared logs that formed the horizontal sole and the sablière were from 10 to 20 *pouces* (French inch) in thickness. The sole was placed on a foundation wall built of rubble stone or rocks that would elevate the house three pieds above the ground, or on occasion, it was placed directly on the ground (Lessard and Vilandré 1974: 117). Once in position, the ends of each vertical timber were held in place by a tenon-and-groove joinery method and then secured with a wooden peg or metal spike called a *cheville*.

> "With a hand axe and then a mallet and chisel each tongue-like tenon had been cut at the end of the uprights to match the hollow mortises in the length of the sill and plate . . . After the sills were laid out on the foundations the posts were seated in their mortises and a slightly oversized, hardwood peg was driven into a hole that went through the entire joint to secure it" (Moogk 1977: 41).

The vertical coulisses were spaced anywhere from eight to as much as four pieds apart. The spaces between the uprights were completely filled with the colombage pierroté mixture or the colombage bousillé mixture which, once in place, was left to dry (Lessard and Marquis 1972: 689-670; Lessard and Vilandré 1974: 115). See Figure 9 for an example of a wall constructed with colombage pierroté.
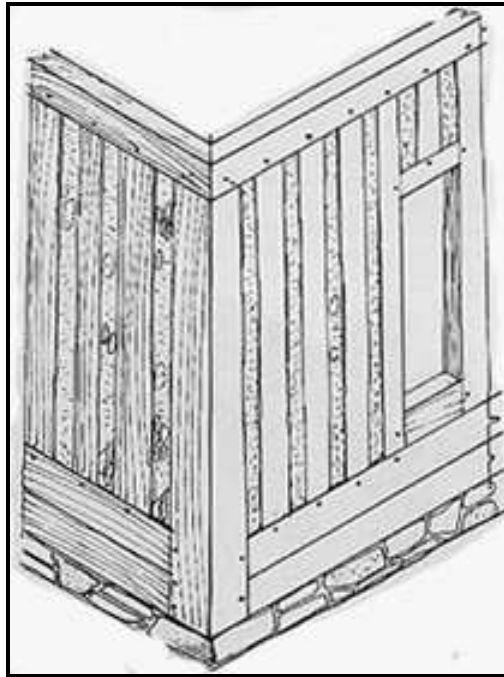
**FIGURE 9.** Wall with colombage pierroté fill (Lessard and Vilandré 1974: 110).

The colombage style structure was built in Québec mainly from the seventeenth century through the first part of the eighteenth century, although some builders continued to construct such houses as recently as 1770 (ibid: 116). There are good examples of colombage pierroté buildings from the eighteenth century still standing today. One of these structures, La Maison Lamontagne (Figure 10) built in 1750, has been preserved and stands in the town of Rimouski-Est, Québec (Malenfant 2001: 60).
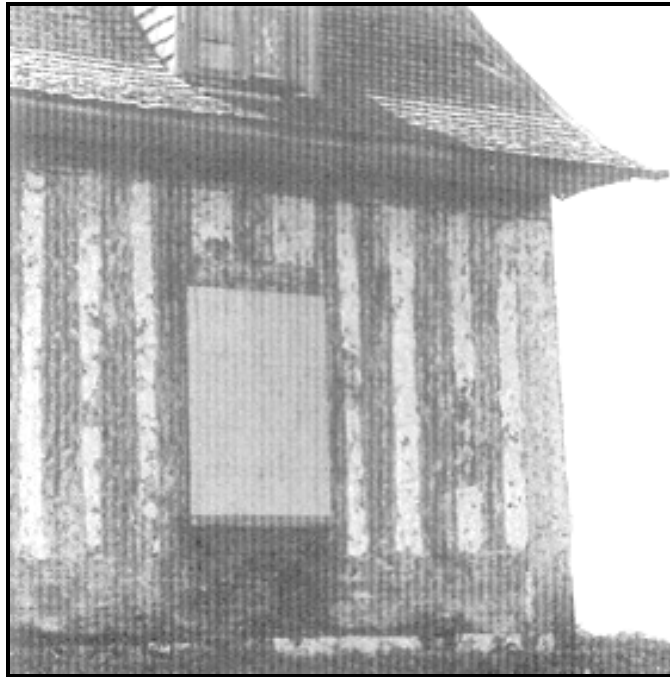
**FIGURE 10.** Maison Lamontagne, Rimouski, Québec, circa 1750 (Lessard and Vilandré 1974: 334).

Another surviving structure is a church located at Petite-Rivières-Saint-François, Québec; it was also built during the eighteenth century (ibid: 326). It has been noted that this French method for constructing walls was also used in the Illinois, Missouri and Louisiana region where it remained a popular method much longer than in Québec (Au 1991: 11; Moogk 1977: 27-28).

## First Style Change—Vertical Construction

The settlers of New France over time moved toward an all-timber frame. There are three causal factors for a change in construction style. First, the pierroté and bousillé fill placed between vertical timbers proved over time

to be maladaptive to the conditions of New France where the winter was very cold and the superior insulating qualities of thick wood became apparent. Second, the fill material was not able to stand up over time to Québec's weather conditions; as the materials repeatedly froze and unfroze, the fill would weaken and degrade, and fall from between the vertical posts allowing the elements and the cold to enter the house.  Many historic records confirm a great deal of wall mending taking place during the seventeenth century.  Third, in contrast to France, timber was not a scarce resource in New France and was readily available and, as a result, the construction of all-wood buildings became a viable option (Lessard and Vilandré 1974: 116; Moogk 1977: 29).

How the change in construction methodology took place is an interesting process which occurred in two phases.  The first change was a simple yet significant transition which began to transform the way houses were constructed from a purely French architectural tradition to one that was becoming uniquely Canadien; instead of placing pierroté and bousillé into the empty spaces between the vertical timbers, builders began filling the space with additional vertically oriented squared timbers to form a solid wall of wood. Identical to the colombage style wall, the vertical timbers fit between a sablière and a sole.  The very small spaces between the logs were chinked with moss, straw, and clay (Moogk 1977: 29-30).

The new wall style made of squared timbers worked rather well by allowing for water to run down and off the wall, but still, over time, the chinking would degrade and fall from the frame as a result of temperature changes, rain, wind, and the expansion and contraction and settling of the logs (ibid: 32).  Figure 11 illustrates a wall of vertical timbers.
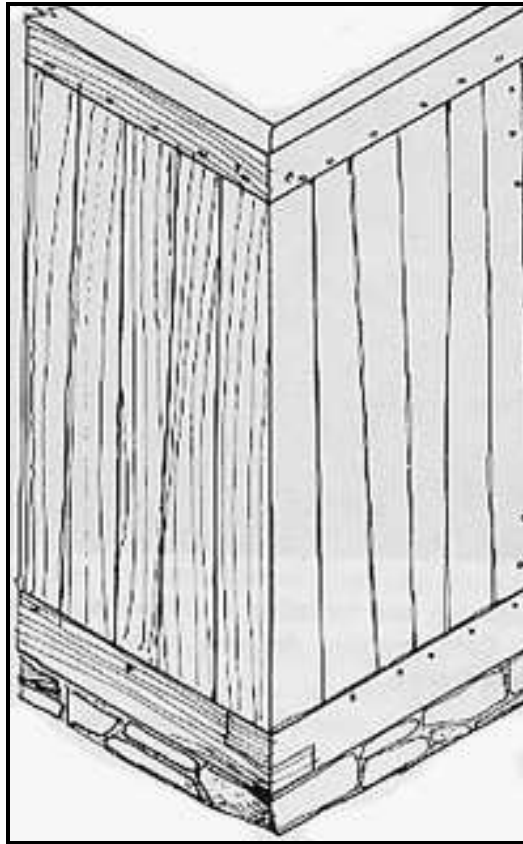
**FIGURE 11.** Wall of vertical squared timbers (Lessard and Vilandré 1974: 110).

## Final Style Change—Pièce-sur-Pièce (Uniquely Canadien and Métis Construction Method)

The next practical transition in Canadien architectural creativity represented a shift from timbers all placed in a vertical orientation to a style in which the majority of the timbers were placed in a horizontal orientation, while still retaining some important characteristics from the two earlier styles (the colombage style and all-vertical timbers style). This innovation has become

what is recognized as an entirely Canadien style for building structures. Timbers were flattened on two opposing sides or squared on all four sides and they were placed horizontally within the wall, between intermittent vertical coulisses, in a technique known as pièce-sur-pièce. It is not completely known why this change took place, but it is thought that one reason for this change was to lessen the problem of chinking degradation experienced by vertical construction. The new horizontal orientation of the squared logs still required chinking but unlike the logs in a vertically oriented wall, the chinking rested between the logs with the logs acting as a ledge where the chinking material was held in place by gravity (Moogk 1977: 32).

Horizontal pièce-sur-pièce construction represents a true reflection of Canadien identity and it became the preferred method for constructing wooden houses. Pièce-sur-pièce construction began to be used at some point during the seventeenth century and had become popular during the eighteenth century and the first half of the nineteenth century (Lessard and Vilandré 1974: 117). The pièce-sur-pièce technique was not limited to building houses and was versatile enough for use in other structures as well, such as the *fournil* or bake house and the *cuisine d'été/bas côté* or summer kitchen (Dupont 1974: 30).

There are two different styles of the pièce-sur-pièce construction method: *en coulisse* and *en queue d'aronde* or *en tête-de-chien.* Both of the latter terms refer to dovetail joinery. Pièce-sur-pièce en coulisse construction can be described as the "purest form" consisting of horizontal timbers placed between vertically oriented squared posts positioned at the four corners of a structure and at various points within the wall and secured between the sablière and the sole with a tenon-and-groove joint. There are three reasons for retaining the vertical coulisse within an overall horizontal construction method. First, the vertical posts are a known quantity and represent a workable tradition that builders were familiar with, i.e. the colombage method. Second, the posts

provide an anchoring point for the placement of windows and doors.  Third, the posts serve to break-up the wall into sections at intermediate points allowing for the use of shorter horizontal logs rather than needing to use logs that extend along the whole length of the wall.  In general, the coulisses were spaced by multiples of five pieds with an average distance of ten pieds (Julio (de) 1996: 48; Moogk 1977: 30).

Historic documents refer to the pièce-sur-pièce en coulisse construction method in various other ways including: *bois en coulisse*, *poteaux en coulisse*, *madriers en coulisse*, *poteaux entourées de pieux*, *charpente entourée de madriers*, *poteaux entourées de madriers*, *en poteaux et close de pieux*, *en pieux sur pieux*, *en bois de charpente* (Lessard and Vilandré 1974: 117).

This method for building a wall was simple and effective.  First, the four timbers forming the sill for all four walls were connected at their corners generally with a half-lap joint and mortises were cut at the locations were the coulisse were intended to be placed.  Second, each coulisse had a long groove cut into two sides (these grooves are meant to receive the tenon that will be cut into the ends of the horizontal logs), and a tenon was formed on both ends.  Third, the coulisses were placed vertically into the openings in the sole.  Fourth, the horizontal logs with prepared ends were stacked into place one on top of the other between two coulisses forming a solid wall.  Once in place, holes were drilled into the area of the tenon-and-groove joint and wooden chevilles (Figure 13) were then pounded into the holes, securing the connection.  Finally, the sablière was prepared in the same way as the sill and then fitted over the tenoned tops of the coulisse and secured (Julio (de) 1996: 46-47; Moogk 1977: 30).  Figure 12 represents a classic pièce-sur-pièce en coulisse house.

**FIGURE 12.** Pièce-sur-pièce en coulisse house, Chambly, Québec, circa 1830 (Lessard and Vilandré 1974: 113).



**FIGURE 13.** Cheville joins a coulisse to horizontal timbers (ibid: 404).

The pièce-sur-pièce en queue d'aronde construction is the same as "en coulisse" with one exception. Like en coulisse, the intermediate vertical posts

are still positioned at points along the wall, but the corner posts are removed and in their place the corners of the horizontal timbers meet and are joined with a dove-tailed joint. The connection between the horizontal logs and the intermediate posts is still formed with a tenon-and-groove joint (Lessard and Vilandré 1974: 118; Moogk 1977: 30). Figure 14 is a photograph of a still standing pièce-sur-pièce en queue d'aronde house with a central coulisse. The left portion of this structure (the side with both a door and a window connected to a coulisse) is the original house. The addition, built sometime more recently, does not represent the original construction. Figure 15 is s detailed illustration of a pièce-sur-pièce en queue d'aronde wall with a coulisse.



**FIGURE 14.** François Vertefeuille House, Prairie du Chien, Wisconsin, circa 1805 (Julio (de) 1996: 46).
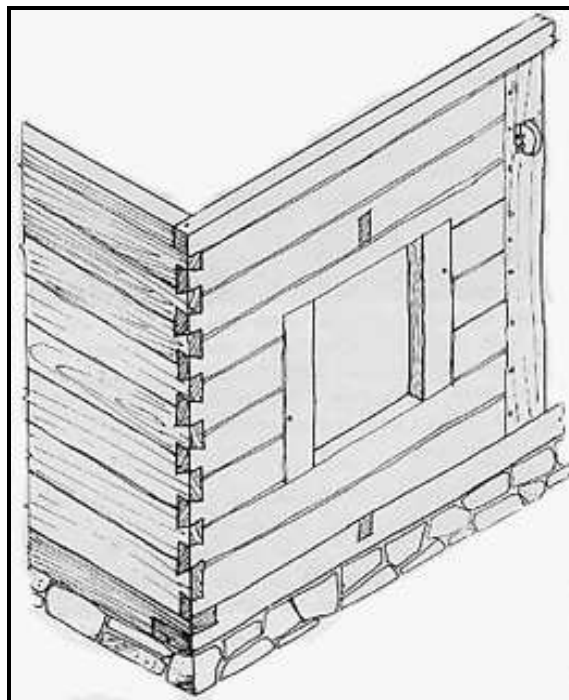
**FIGURE 15.**  Pièce-sur-pièce en queue d'aronde (Lessard and Vilandré 1974: 111).

It is important to note that during the nineteenth century the horizontal squared log method for constructing a wall was also employed in Upper Canada or English Canada, but with an important difference. The English never used the intermediary coulisse to break up the walls or to provide a frame for building windows or doors as the traditional Canadien style dictates. Instead, they used squared logs that were long enough to extend across the breadth of the wall and then they dovetailed the corners.  When a log encountered a window or a door, the ends merely butted up against the window or door frame (Lessard and Vilandré 1974: 118-118; Moogk 1975: 122).

After the diffusion of this style of architecture from the Saint-Lawrence River Valley into the Canadian west during the eighteenth and nineteenth

centuries, new designations for pièce-sur-pièce construction were formulated, notably: the "Métis" style, the "French" style, the "Canadian" style, the "Hudson's Bay" style, the "Red River Frame" and the "Manitoba Frame" (Elder 1976: 105; Lessard and Vilandré 1974: 117; Moogk 1977: 32; Peach 1993: 101, 117; Taylor 1992: 80).

The spaces between the horizontal logs needed to be filled with an insulating material that would make the structure weather proof. Various local materials have been used by the Canadien and the Métis to accomplish this goal including mud, clay, bark (cedar, hemlock, and spruce), grass, *bauge* (a material similar to bousillé made from heavy earth or clay mixed with chopped straw/hay), moss, cow dung, and *crépis* (a thick paste-like mixture of sand and lime). These chinking materials have been confirmed through archaeological investigation and historic house studies and renovations (Dawson 1960: 24, Elder 1973: 188-195: Lessard and Vilandré 1974: 117; McLeod 1983: 151-155; Moogk 1977: 32). This method has also been found in Canadien and Metis construction outside Canada. During a study of the historic François Vertefeuille House, Mary Antoine de Julio noted that crépis was used to fill the spaces between the logs (1996: 480).

Along with using a chinking material to fill the spaces between logs the exterior walls were sometimes covered with boards, *bardeau* or shingles or bark (Figure 16) (Dawson 1960: 24-25; Doucet 1980: 12; Lessard and Vilandré 1974: 120; Moogk 1977: 43; Seguin 1973: 343, 344; Varin 1992: 45). In 1832, Sherman Hall described the treatment of exterior walls at Lac du Flambeau, Wisconsin,

> "the cracks between the timbers in the walls are plastered with a
> hard clay which abounds in this country and are then covered
> with cedar bark in the manner of the roof" (Nute 1955: 190).
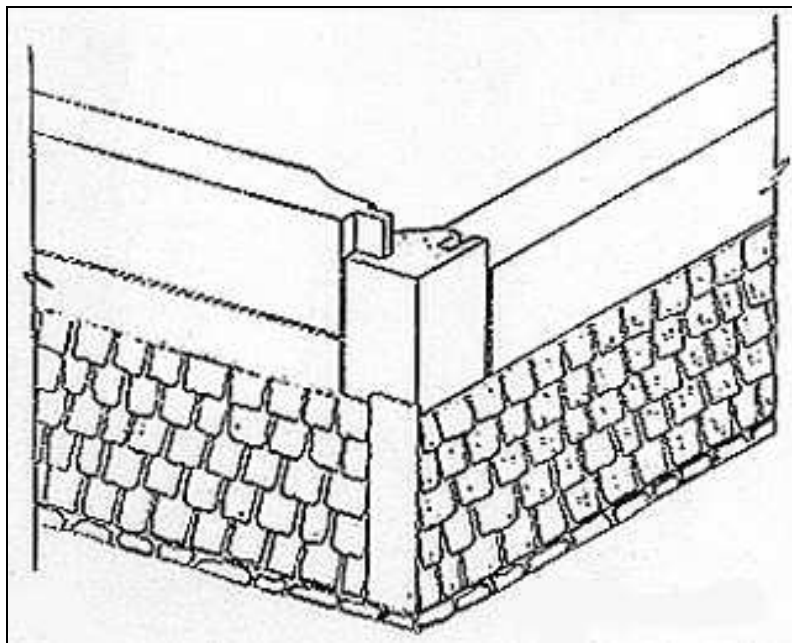
**FIGURE 16.** Pièce-sur-pièce en coulisse wall with bardeau (Doucet 1980: 13).

Exterior walls were often white-washed with *lait de chaux*. Lait de chaux literally means "milk made of lime"; it is made from a mixture of water and lime powder until it looks like and has the consistency of milk. Along with being aesthetically pleasing, it was believed to protect the wood. In 1806, the chinking and white-washing of Québec homes was described as follows by John Lambert,

> "the spaces in the walls are filled with clay or mud and the walls
> both inside and out are washed with lime dissolved in water.
> The lime is said to preserve the wood from vermin and weather"
> (Séguin 1973: 343).

Researchers note that the spaces between the horizontal logs of the Louis David Riel House were filled with mud and then the walls were covered

with a layer of mud and white-washed with lait de chaux. At a later date horizontal boards were placed over the walls, and then these boards were also white-washed (Elder 1976: 105). Figure 17 is an architectural drawing of the Louis David Riel House showing horizontal boards covering the horizontal timbers below them. Note the vertical furring strips placed as a base for attaching the siding with nails.
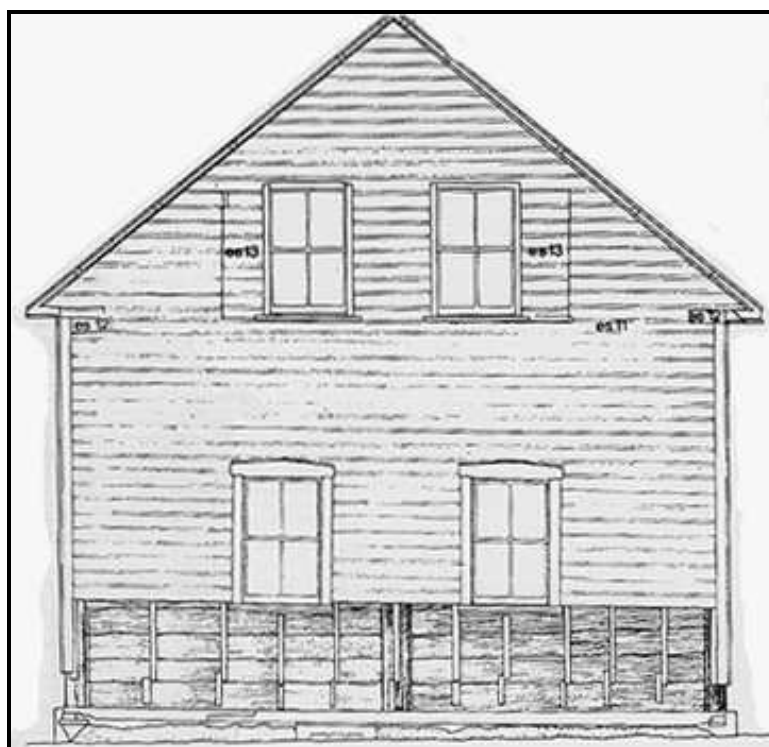


**FIGURE 17.** Louis David Riel House. Horizontal siding over vertical furring strips (ibid: 61).

When lime is not available to make lait de chaux, white clay can be used to whitewash the walls (Crepeau 1995: 96). In 1805, James Lockwood, an American Fur Company employee visited Prairie du Chien and noted that white clay was applied to the walls and then the walls were covered with bark

or oak riven.  The exterior walls were "plastered over with clay, and white-washed with a white earth found in the vicinity and then covered with bark, or clap-board riven from oak" (Julio (de) 1996: 51).

The Canadien and the Métis seemed to enjoy the addition of color to the exterior surfaces of their structures; it was applied to doors, to the wood moldings around doors and windows, as well as to the eaves (Minor 1939: 25; Morin 1972: 66; Morisset 1959: 16).  David Burley states that the Métis in Saskatchewan showed a "preference for strong reds and dark greens" because green and red chips of paint have been found repeatedly associated with the woodwork of their homes (1992: 138).  These colors as well as other were used by their Canadien both inside and outside of the Saint Lawrence River Valley.

> "The habitant has a good eye for colour and will produce the most astonishing effects . . . The wooden gable ends are in some districts normally coloured a dull strong red, the walls are washed white or pink; the woodwork is of all colours, blue, yellow, green or purple, the whole conspiring to produce contrasts of the most startling kind . . . the brighter the colours are the better they look" (Traquair 1947: 61).

Anthropologist Horace Minor noted a continued use of color on houses by the rural Canadiens of the 1930s.  For the typical rural house, "the front is painted white and the outline of doors and windows are painted in color" (1939: 25).

## Poteaux or Pieux en Terre (Posts in the Ground)

Before continuing with discussions of other features associated with the pièce-sur-pièce model, it is important to present an overview of another construction technique for structures that was used in early Acadia and

occasionally, in early New France, it was an alternative construction style called *pôteaux en terre* or *pieux en terre* (posts in the ground (Lessard and Vilandré 1974: 113 (Harris and Warkentin 1991: 29; Gauthier-Larouche 1974: 67). This method did not become standard as did the pièce-sur-pièce method, but should be mentioned and described to gain a full understanding of early French and then Canadien architectural tradition.

Generally, the posts measured six pouces in circumference and were placed vertically next to each other in a trench dug to a depth of around 24 pouces. The trench was filled with earth and an upper sill or sablière held the walls together at their top (ibid). The spaces between the posts were filled with a clay and grass mixture (*bousillage*) and could be covered with wooden siding to protect the clay from the elements (Ancelet 1991: 116). See figure 18.
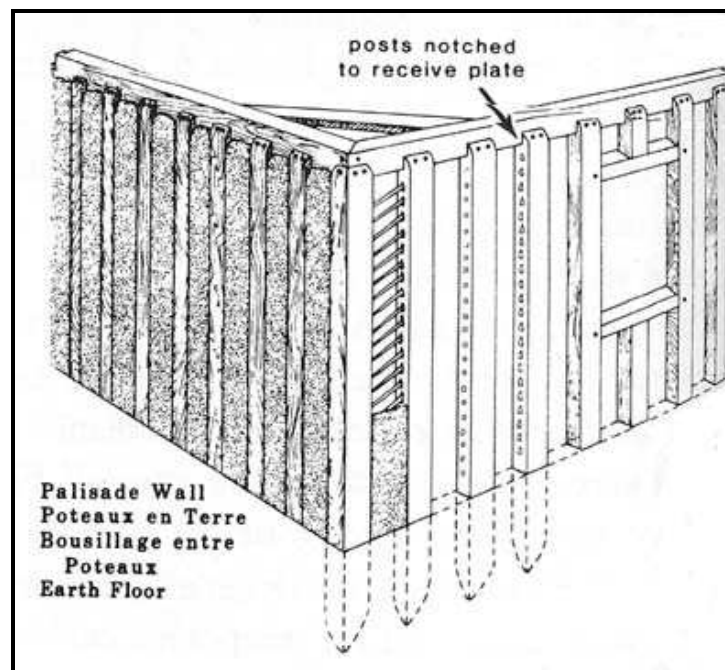


**FIGURE 18.** Poteaux en terre with bousillage fill and siding (Ancelet 1991: 116).

It is possible that pôteaux en terre construction was used for expedient low-cost structures well into the nineteenth century. There is documentary evidence that this method was used during precarious economic times, such as the period following the English conquest of Québec (1759-1765). For example, an inventory of the property of a Jean Gagnon of Beaupré, Québec in 1760 reveals a house, a kitchen and a barn built in the pôteaux en terre method with roofs of hay or straw (Gauthier-Larouche 1974: 68). There is also some evidence that this style may be present at French Prairie (Brauner, 2007: Personal Communication).

## LES MURS INTÉRIEURS AND LES CLOISONS (INTERIOR WALLS AND PARTITION WALLS)

Interior walls were usually covered with crépis and lait de chaux and then, in many cases, painted (Donahue 1977: 5). It was also not uncommon to cover the walls with vertical boards (Lessard and Vilandré 1974: 235; Moogk 1977: 43). Plaster, either crépis or a clay based mixture, was applied directly between and over the logs. To provide a good surface for the plaster sometimes it was applied over a lattice work or lath formed of long thin branches attached to the wall or over small wooden spikes (usually oak) pounded into the wall, referred to as *le picotis de chevillettes* (Au 1991: 60; Elder 1973: 122; Lessard and Marquis 1972: 93; Varin 1985a: 28). See Figure 19 for an example of wooden lattice and Figure 20 for an example of le picotis de chevillettes.

**FIGURE 19.** Lattice nailed to an interior wall as a foundation for the application of plaster (Au 1991: 60).



**FIGURE 20.** Le picotis de chevillettes (Lessard and Marquis 1972: 93).

The spaces between the logs and the surfaces of the interior walls of the Louis David Riel House were filled with and covered with a mixture of lime, straw and clay to form a paste. This paste was applied on the wall up to a thickness of two inches. Local informants said the clay used to create this material came from the Seine River in Manitoba and was called *la terre de blanc* or white clay. The Seine River runs just under one mile east of the Louis David Riel House (Elder 1973: 37). Rather than using branches to hold the plaster or clay in place, some of the walls were prepared with a lath formed of cut boards (ibid: 122, 125)

The purpose of *les cloisons* or partition walls was to break up the interior space of a structure into two or more rooms. Partitions were often built of vertically placed boards and then, like the load bearing walls, they were covered with crépis, lait de chaux, and paint (Gauthier-Larouche 1974: 260; Lessard and Vilandré 1974: 228; Séguin 1973: 328). Either through preference or because boards were not readily available a partition wall could be fabricated from vertically placed branches spaced just enough from each other to allow the application of thick plaster. Once applied the plaster is smoothed to create a nice even surface. The vertical branches fit into a horizontal wooden frame with a tenon-and-groove joint for stability (James Hébert, 2002: Visual Survey. Figure 21 shows a partition wall structure before the plaster is applied.

**FIGURE 21.** Partition wall with vertically placed branches forming a tenon and groove joint. Convent of the Grey Nuns, Saint-Boniface, Manitoba, circa 1846-1851. (James Hébert, August 2002: Photograph)


## LA CHEMINÉE AND L'ÂTRE (CHIMNEE AND HEARTH)


The Canadiens built chimneys, *la cheminée*, and hearths, *l'âtre*, as a feature of the house or annex (the cuisine d'été/bas côté), and the fournil (Boily-Blanchette 1976: 11; Boily and Blanchette 1979: 28; Morin 1972: 64; Provencher and Blanchet 1980: 124). The location and number of chimneys in a structure was variable. A chimney could be positioned at the end, at the

middle, or at both ends of a structure.  They could be formed against the outside surface of a wall, the inside surface of a wall, or within the structure of a wall (Gauthier-Larouche 1974: 146-151).

There were a variety of ways to construct a chimney; they could be built of stones or bricks held together with mortar or clay, or they could be built of branches or lumber held together with clay (Lessard and Vilandré 1974: 118; Moogk 1977: 36; Nute 1955: 191; Séguin 1969: 178).  The latter method is referred to as a clay and stick chimney or a *cheminée à quatre bâton* (Landry 1932: 27).  Stone masonry chimneys and hearths (Figure 22) were constructed and used from the beginning of French colonization and during the nineteenth century bricks began to be used when available (Bonnette 1991: 4).



**FIGURE 22.**  Hearth built of stone (Moussette 1983: 125).

The availability of stones and the skills required to work and use them did not eliminate the building of chimneys in other forms, for example, the cheminée à quatre bâton. The cheminée à quatre bâton was an expedient form that could be built quickly and out of normally readily available materials. This form of chimney was not only built in Québec but was also built by Francophones who settled outside of Québec. Samuel Strickland, an Anglophone settler in Ontario during the mid-nineteenth century, provides an excellent description of the clay and stick chimney built by Canadien settlers. He was not impressed with their style of chimney; he preferred a stone chimney because of the greater chance for fire with a clay and stick chimney. The following is his description of the cheminée à quatre bâton. The term "cat" refers to a mixture of clay and straw formed into rolls or squares:

> "Four upright poles are placed in the corner of the shanty, where the fire-place is intended to be built: these poles are bored with an auger about a foot apart. Rings or steps, like those of a ladder, connect those poles together: a space is left open on the front side of this four-sided ladder from the floor, three feet upwards, leaving sufficient space for the fire-place. The clay-cats are then kneaded strongly round the rings and all the interstices well filled up; some well-tempered clay is plastered inside the chimney, which, as the work progresses, soon hardens and reddens inside by the heat of the fire. This kind of chimney draws well and throws out a great heat" (Strickland 1853: 181).

There is an eye-witness account for the use of clay chimneys in the upper Midwest during the mid-nineteenth century. Two travelers to Wisconsin, John Warner Barber and Henry Howe, came upon a cabin owned by a Mr. Piché,

"Our Indian guide had joined us at an early hour, and after conducting us carefully out of the wood, about nine o'clock brought us to Piche's, a log-cabin on a rising ground, looking off over the broad prairie to the east.  There was no temptation to a halt, except that of warming ourselves at a bright fire that was burning in the clay chimney" (Barber and Howe 1861: 1209).

## LE TOIT (ROOF)

The roof or *le toit* structure was generally framed of lumber with the joints held secure with wooden chevilles (Moogk 1977: 42; Varin 2001a: 59). The slope of the roof changed over time from the first years of New France settlement to the mid-nineteenth century.  At first the slope was from fifty to sixty degrees and by the middle of the nineteenth century it was generally at forty-five degrees (Gauthier-Larouche 1974: 189; Lessard and Vilandré 1974: 209).

As stated previously, a pièce-sur-pièce structure has a sablière placed across the tops of the vertical coulisses.  It is on the sablière that the roof frame is built.  The structure of the framing was reinforced with horizontal timbers, and sometimes with crossed timbers called the *Croix de Saint-André* (Figure 23).  Peter Moogk gives a brief description;

"The heaviest task was the lifting of the long wall plates (the sablières) whose mortises would fit over the tenons on the top of the posts and secure the entire wall.  Once in place, the plate would serve as a base for the roof trusses.  The trusses could be assembled on the ground and then raised with ropes and poles. They were joined together by longitudinal braces and purlins

and the sometimes received additional support from diagonal
wind braces known as Croix de Saint-André (Moogk 1975: 41-
42).
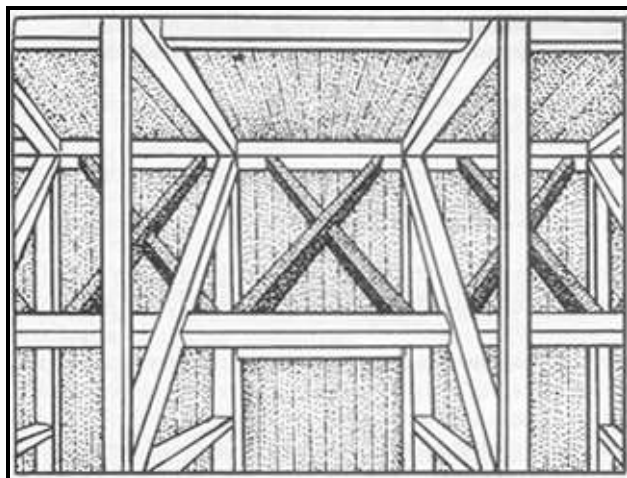


**FIGURE 23.** Croix de Saint-André (Moogk 1977: 42).

At the edge of the roof a Canadien carpenter would build a bell-cast
eave called a *coyau*. The coyau is a uniquely Canadien feature in North
American architecture (Julio (de) 1996: 48; Lessard and Vilandré 1974: 119).
The function of the coyau is not clear; it may merely be a residual
representation of cultural style or taste left over from a time in the past when it
did have a known function.

The coyau was brought from France to New France and, at that time, it
had a very subtle shape. By the mid-nineteenth century however, the coyau
had become much more pronounced (Lessard and Vilandré 1974: 208-209).
This feature is still extremely common across Québec today in stark contrast to
neighboring Provinces and States where it appears to be nonexistent (James
Hébert, August through September 2002: Visual Survey). A coyau is formed
by the addition of curved lumber to the ends of the rafters which is then
overlaid with the roofing material as is shown in figures 24 and 25.
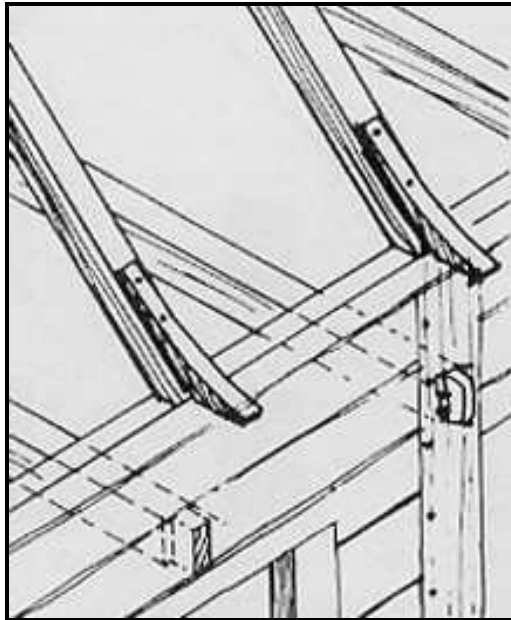
**FIGURE 24.** A coyau affixed to a rafter (Lessard and Vilandré 1974: 209).



**FIGURE 25.** Pièce-sur-pièce house with a pronounced coyau (ibid: 119).

The roof was covered with a variety of materials including overlapping boards placed parallel to the eves, with bardeaux or shingles nailed to boards, bark, and grasses (mainly straw, hay and wild grasses) (Dawson 1960: 24; Moogk 1977: 32, 34, 36, 42; Nute 1955: 190; Taylor V1 1992: 81).  According to Robert-Lionel Séguin, the choice and use of bark as a roofing material was learned from the Native American inhabitants of Canada (1963: viii).

In 1832, Sherman Hall described the use of bark roofs at Lac du Flambeau,

> "For shingling cedar barks are used.  These barks are taken
> from the white cedar which is plenty in this part of the country,
> in the early part of summer.  A single piece about 4 to 5 feet in
> length is pealed from each tree which is left standing.  It is a
> smooth bark, not thick, rather stringy, and not brittle when dry.
> These barks are put upon the timbers of the roof in the manner
> of shingles, and are secured by narrow strips of boards which
> are laid across them and spiked to the timbers.  A roof of this
> kind will last several years" (Nute 1955: 190).

Louis Labonté, Jr. described a bark roof on the home of Canadien Joseph Gervais at French Prairie, Oregon.  Labonté's description is remarkably similar to Hall's,

> "The roof was made of poles as rafters, and the shingling was of
> carefully laid strips or sheets of ash bark, imbricated . . . [with]
> cross planks to hold them in place" (Lyman 1909: 174).

Pole and grass roofs were not only used to cover outbuildings and barns, but it was not uncommon for the roofs of houses to be covered with grasses (Figure 26) (Gauthier-Larouche 1974: 259; Séguin 1969: 168).  During the eighteenth and nineteenth centuries a large proportion of rural structures of

all types used this form of roof and its use gradually ended early in the twentieth century (Lessard and Vilandré 1974: 222; Séguin 1969: 170). For this type of roof, poles were used as rafters and the grasses were bunched and cut flat on the ends with an axe and then woven between the poles (Lessard and Vilandré 1974: 578-579; Séguin 1969: 169). Sometime before 1820, Joseph Samsom notes the use of grass roofs on the houses within the Yamachiche region of Québec.

> "Passing through the Lake, and among the woody Islands of St. Pierre, the weather being hazy, we almost lost sight of the main land; and then it again came in view, we were still tantalized with the perpetual repetition of house after house, or rather hut after hut, for the log hovels of the habitants, square hewn and neatly white-washed as they are, even to the roofs, which are clap-boarded and sometimes thatched with a species of long grass, which grows on some of these islands, calle l'herveà – lieu or wild grass" (1820: 15).
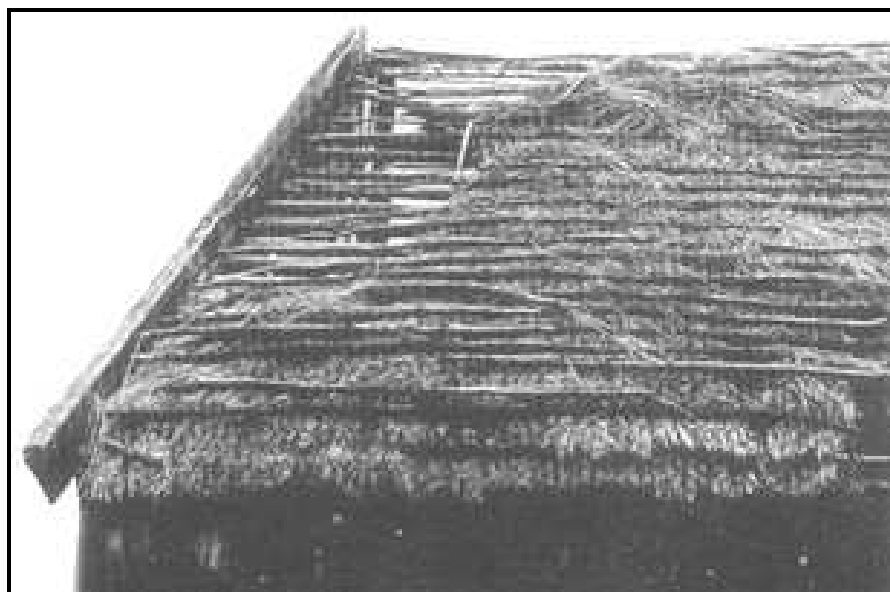


**FIGURE 26.** Grass and pole roof (Lessard and Marquis 1972: 578).

## LES FENÊTRES AND LES PORTS (WINDOWS AND DOORS)

In a pièce-sur-pièce structure the windows (*les fenêtres)* and doors (*les portes)* where usually connected to the edge of a centrally located coulisse. In 1832, Sherman Hall, watched as Canadiens built their homes at Lac du Flambeau, Wisconsin, "Wherever a window or a door is required, posts are erected, into which the ends of the timbers are introduced…thus the required hole is made in the wall" (Knute 1955: 190).

Windows were not only attached alongside a coulisse but were placed within the gabled ends of the *grenier* or attic.  Each of the four walls of the François Vertefeuille House had a single window attached to a coulisse and each gabled end had a single window (Julio (de) 1996: 48-50).  The Louis David Riel House has two windows on the front wall and one on each side of the door (James Hébert, August 2002: Visual Survey).  The Riel house reflects the notion of symmetry that was beginning to dominate the aesthetics of home construction during the mid-nineteenth century (Lessard and Vilandré 1974: 232).  Earlier architecture in Québec tended toward asymmetry, lacking central doors framed by windows on either side (ibid: 179).   This was also true in French Louisiana during the colonial period (Carl Braseaux, 1999: Personal Communication).

There were two styles of window used by the Canadiens: the *fenêtres à battants* and the *fenêtres à guillotine*. (Bonnette 1988a: 3 and 1988b: 3; Varin 2001: 58).  The fenêtres à battants was the traditional form brought to North America from France.  This style refers to a window that has two parts that open out.  The fenêtres à guillotine is a style of window that slides up and down to open and close. This style came originally from Holland and England and was introduced into Québec during the nineteenth century (Bonnette

1988b: 3).   It is interesting to note that the outward-opening French style window was retained and used in the François Vertefeuille House at Prairie du Chien, Wisconsin (Julio (de) 1996: 49).  A nineteenth-century Métis house at St. Norbert Provincial Hertiage Park in Winnipeg, Manitoba (Figure 69) has both styles; the fenêtres à battants on the main structure and the fenêtres à guillotine on the cuisine d'été/bas côté.

Windows were often covered with a shutter and sometimes a double window was built to protect the structure from the wind and the cold.  Double windows where usually spaced approximately six pouces distant from each other (Lessard and Vilandré 1974: 181-182; Séguin 1973: 343).  Windows were framed with lumber and various hinges and locks were used (Bonnette 1988a: 4).  See Figures 27-29 for illustrations of window hardware.
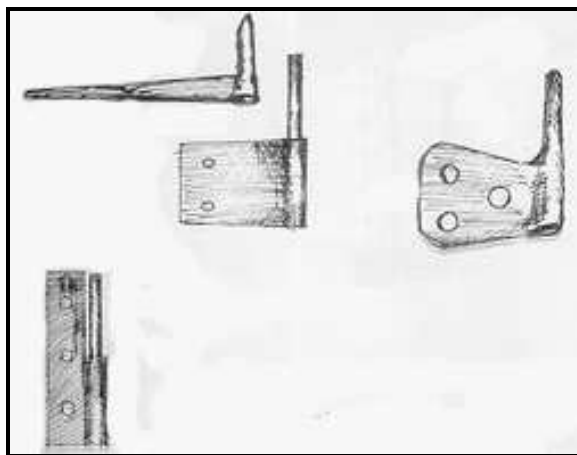


**FIGURE 27.**  Hinges used for fenêtres à battants and shutters (Lessard and Villandré 1974: 179).
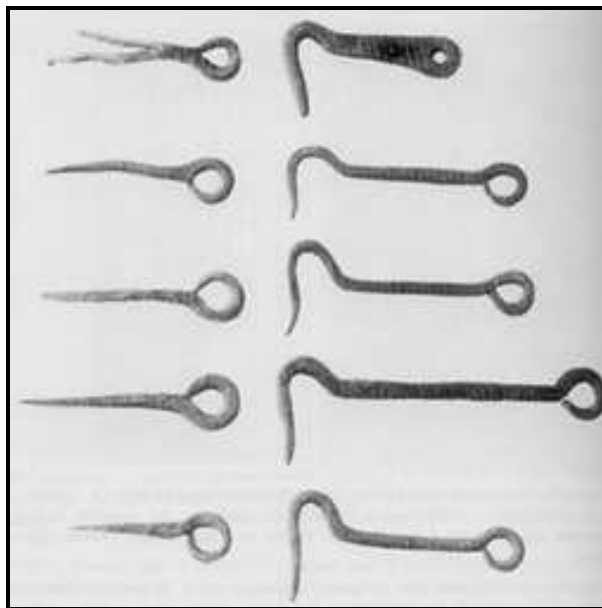
**FIGURE 28.** Latches for shutters (ibid: 182).
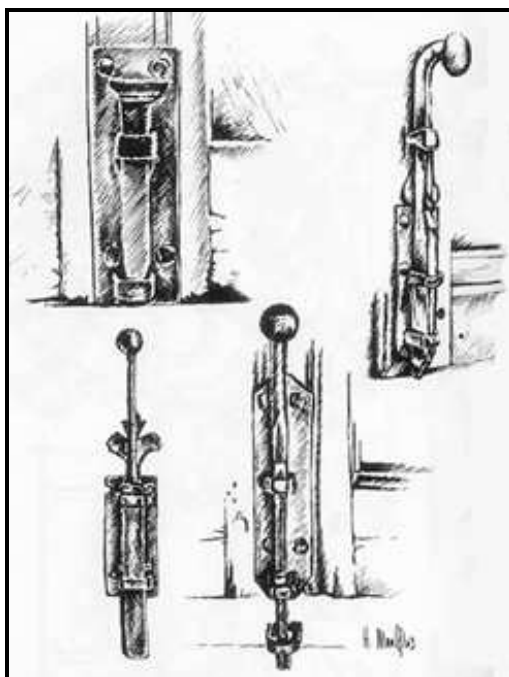


**FIGURE 29.** Latches for the fenêtres à battants (Lessard and Marquis 1972: 152).

When window glass was not available other materials were used to fill the window frame and to let light into the structure.  These materials include: leather (dried deerskin), and oiled paper (Dupont 1995: 82; Moogk 1977: 38; Nute 1955: 191).

Doors, like the windows, were placed alongside a coulisse.  Sometimes a second, shorter coulisse was placed on the other side of a door or a window.  When this is done the second coulisse is connected to the sole but does not generally extend up to the sablière.  In the case of the François Vertefeuille House the door does have a second coulisse:

"The front door utilizes the central coulisse as the south side of the opening.  Each of the four facades of the house contained a single window.  Each window, like the front door, used the central coulisse as one side of the opening.  The door however, was framed by a second coulisse, while the windows were not." (Julio (de) 1996: 48).

According to Lessard and Vilandré Canadien houses had doors that were generally the same width as early French style houses but with a different height.  "In French style houses, the size was (2'6" x 6'2") and for the model Québécois, they tend to have a standard size of around (2'6" x 6'8")" (1974: 235, my translation).  The hardware for doors included hinges, handles, and sometimes locks.  Figure 30 shows examples of door hinges used during the nineteenth century and figures 31 and 32 show examples of a door latch and a door sliding bolt.

**FIGURE 30.** Nineteenth-Century door hinges (ibid: 173).
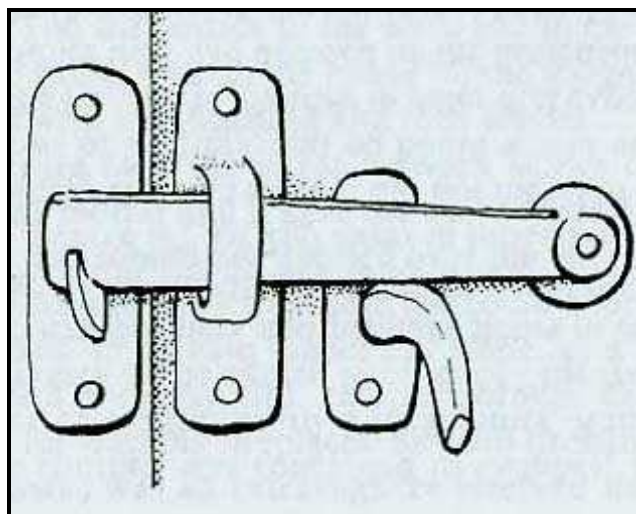


**FIGURE 31.** Inside view of a door latch (Moogk 1975: 84).
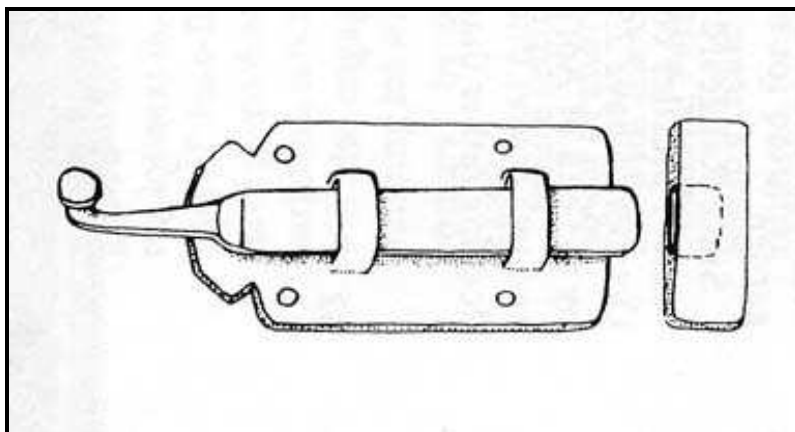
**FIGURE 32.**  Short sliding bolt (Moogk 1975: 84).

## LE PLANCHER AND LE PLAFOND (FLOOR AND CEILING)

There were three methods used to construct a floor (*le plancher*): boards over joists, split logs over joists, and a compacted earthen floor.  The boards over joists method used boards as wide as 8 cm butted up next to each other and nailed across the joists.  Mortar was often placed in the spaces between the floor boards.  The joists were large, 18-20 cm thick x 25-30 cm wide, and they were spaced at intervals of between 1.5 m to 2.75 m (Séguin 1973: 327).  Dennis Au puts the distance between the joists at the François Vertefeuille House as variable; 2 ft 10 in, 3 ft, and 3 ft 6 in (1991: 27).  Floors were often finished yellow paint (Traquair 1947: 1947).

Floors could also be made from small diameter logs split and laid over the joists.  There were two ways to do this. One method was to lay them with the flat side down and then to fill in the spaces between the rounded logs with clay to make a flat surface. A second method was to lay them with the flat

sides up.  For the latter, the joist needed to be carved for receiving the round side of the floor logs (Séguin 1968: 57).

It was common for the ends of joists to be placed into notches cut into the sole of a structure.  In the François Vertefeuille House, the joists were placed in notches in the sole timbers so that the top of the joist was even with the sole top (Au 1991: 26-27).  In the Louis David Riel House, the joists run across the width of the structure and, for additional support, a long thick beam was placed underneath and crossing them at their middle; the beam runs along the longitudinal axis of the structure (Elder 1973: 26, 70).  The excavation of the Louis David Riel House "annex" shows joists laid directly on the ground "that were not tied in to the fabric of the building" (Forsman 1977: 9-10).

An expedient and temporary pièce-sur-pièce structure can be built entirely without boards using a log frame, a straw or bark roof and an earthen floor (Moogk 1975: 34).  Dirt floors have been noted outside of Québec among the Métis of the Canadian Prairie Provinces, and among the historic Ontario Francophones (Charette 1980: 43; Dupont 1995; 81).

*Le plafond* or ceiling of the first floor also served as the floor for the grenier or attic room above.  In order to create a functional space in the grenier, the ceiling joists were sometimes placed low in the walls which created a lower ceiling for the first floor and a taller space within the grenier (Traquair 1947: 42).  The extra wall space created for the grenier is referred to as a "knee wall" (Au 1991: 28; Julio (de) 1996: 48).  In agreement with the Canadien and Métis use of color for the interior and the exterior of a structure, the ceilings were often painted blue (Traquair 1947: 59, 61).  The ceiling joists run across the width of the structure and the ceiling boards ran along the longitudinal axis of the structure (James Hébert, August 2002: Visual Survey), see figure 33.

**FIGURE 33.** Ceiling joists, Convent of the Grey Nuns, Saint-Boniface, Manitoba, circa 1846-1851 (James Hébert, August 2003: Photograph).

The ends of the ceiling joists were often secured by running them through an opening cut into the coulisse and through the horizontal timbers of the wall structure. The beams can protrude or be left flush with the outside of the wall. If they protrude, they are secured with a cheville (Figure 34) (Lessard and Vilandré 1974: 209, 337). Dennis Au states that this technique for securing the ceiling joists was common for pièce-sur-pièce houses and it is present at the François Vertefeuille House (1991: 27). This represents proof of the technique in Wisconsin among the Métis and Canadien settlers.



**FIGURE 34.** Ceiling joists. One joist is left flush within a horizontal wall timber and the other protrudes through a coulisse and is secured with a cheville (Lessard and Vilandré 1974: 209).

# LES ESCALIERS AND LE GRENIER (STAIRS AND ATTIC)

Houses were usually one and one half stories: *le rez-de-chaussée* or the first floor and the grenier or the attic (Dorais 1966: 536).  The grenier was an important and functional space within the house.  It was used to store household items like spinning wheels and it was used for additional sleeping space (Dawson 1960: 24-25).   The presence of a grenier and its use for both storage and sleeping are found in descriptions both of Canadien houses in Oregon (Lyman 1909: 174) and Acadian houses in Louisiana, where it was referred to as *le garconniere* or the "boy's room" (Ross 1999: 12).

The grenier was accessed by way of stairs (Doucet 1980: 13; Léondoff 1973: 123; Séguin 1973: 330).  Staircases (Figure 35) were usually straight and either open or enclosed with a door (Léondoff 1973: 123) and typically opened into the main floor through the kitchen (Dupont 1995: 78).
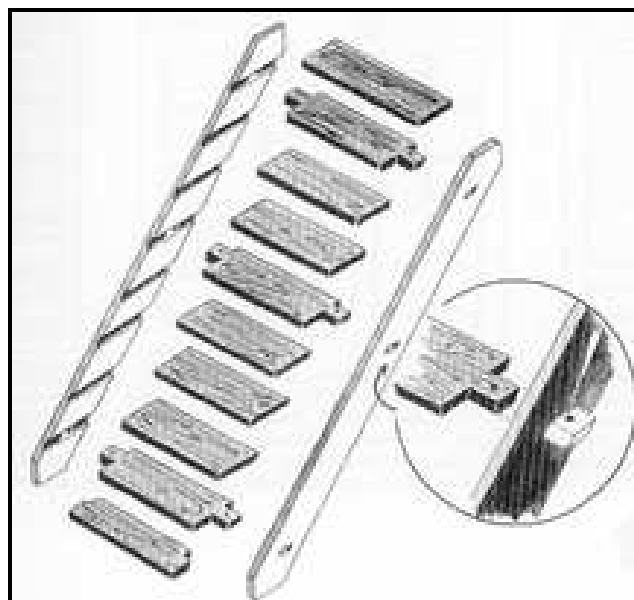


**FIGURE 35.**  Plan for a straight stair (Lessard and Marquis 1972: 121).

## LA CAVE (CELLAR)

La cave was a cellar built below the floor of a house or the cuisine d'été or bas côté of a traditional Canadien or Métis home (Dawson 1960: 25; Donahue 1980: 5; Forsman 1977: 7; Gauthier-Larouche 1974: 166: Lavoie 1976: 89). The primary function of the cave was for the storage of vegetables, but meats, animal skins, tobacco, wine, tools, and a variety of household objects and valuables also found their way into the cave (Dawson 1960: 26; Gauthier-Larouche 1974:165-66, 104; Lessard and Marquis 1972: 625; Provencher 1984:47). The cave should not be confused with the *caveau* or *caveau à légumes* (sometimes pronounced *cavreau*) which is a vegetable cellar that was built external to the house as a stand alone structure.

In 1870, Alexander Begg was in the Red River area of Manitoba during the Métis rebellion. In his journal, he provided evidence for the existence of the cave under Métis homes. He wrote that some Métis had hidden in their caves to avoid capture after a battle between the Métis and British troops. He further writes that they had covered themselves up with potatoes, again, highlighting the primary function of a cave to store vegetables (Begg 1956: 340).

The cave was a common feature of a house during the nineteenth century and was often simply a pit dug into the earthen surface below the floor of the house (in many cases no more than 4 pieds deep) with boards or logs reinforcing the earthen walls (Dawson 1960: 25; de Julio 1996: 46; Lessard and Vilandré 1974: 104; Mcleod 1988: 5-6). A French envoy charged with surveying the Pacific Northwest by his government alludes to this simple cave in his account of his visit to home of Canadien Antoine Masta at French

Prairie, "At my approach, he had thrown [his treasure] precipitously under the floor of his house" (Saint-Amant 1854: 197, my translation).

The ceiling of the cave was the underside of the floor and the floor's joists. Some care could be taken in the construction and treatment of the cave's ceiling and walls. The ceiling would be whitewashed with lime to create a very white and solid appearance. The walls were, particularly during the nineteenth century, covered with wood boards and then, like the ceiling, whitewashed with lime. On occasion the walls were painted red. The floor was generally formed of compacted earth (Lessard and Vilandré 1974: 108).

Sometimes the cave would be built as a much more substantial feature. Most of the horizontal area under the house would be excavated to create a large room, much like a basement. A partition wall made of stone was sometimes built to divide the cave into two parts or rooms and to help support the floor joists. The partition wall was generally placed in the middle of the cave and oriented longitudinally. Occasionally, one side would be dug out to the height of a person and was used for additional purposes beyond storage such as cleaning clothes, baking, and butchering (Provencher 1984: 50-52; Gauthier-Larouche 1974: 104; Séguin 1973: 329, 352). Provencher mentions that, after the fall *boucherie* or butchering, that the *saloirs* or salting-tubs used to cure pork were stored in the cave (1986: 49).

When the cave was large, the chimney of the house sometimes was extended down through the first floor and into the cave. In this case, a four à pain could be built in the cave and placed against the chimney to vent the smoke created from baking (Barbeau 1942: 58; Lessard and Vilandré 1974: 104). The *puit* or water well is also known to have been occasionally dug below the house, most commonly during the seventeenth century (Séguin 1973: 358).

# OTHER DOMESTIC STRUCTURES

## LES LATRINES (PRIVIES)

Les latrines or privies are important components of a home site, particularly for archaeological investigations. Unfortunately, there is little information about privies on Canadien and Métis farmsteads in the literature. A few archaeological reports and ethnographies do confirm their existence in rural and urban contexts and provide some information on their history, form and their location on a property.

In early Québec, two laws were passed requiring that a latrine be constructed at the same time as the house. The first law was enacted in 1676 and a second law was put into effect in 1706 and imposed a stiff monetary penalty for non-compliance (Séguin 1973: 359-360). A privy was ordinarily located near *hangars* or outbuildings. For example, privies may be erected near the barn or the fournil and were of simple board construction with bark roofs (ibid: 360). See figure 36 for an image of a privy at the Delorme site.

**FIGURE 36.** Latrine (background to the left) Delorme House Site, circa 1920 (Mcleod 1982: 273).

## STRUCTURES AND THE SEASONS—LE FOURNIL, (BAKEHOUSE) AND LA CUISINE D'ÉTÉ/LE BAS CÔTÉ (SUMMER KITCHEN)

> "There are varied geographical settings and ways of using resources, widely differing ways of shaping buildings and cities, fields and roads—of organizing the spaces in which people live. Some of these differences are based on the natural givens— possibilities provided by the setting and the limits set by it . . . within these kinds of limits different groups of people make choices reflecting their conception of the good life, their values and world view. They try to give shape to a vision of an ideal environment" (Rapoport 1972: 3).

Like other features of the historic cultural landscape, the fournil (bake house) and the cuisine d'été/bas côté (summer kitchen), were important elements of the Canadien built environment. As a material manifestation of

culture and ethnicity, they were commonly found throughout the settled rural environment of Francophone North America, including Québec and Acadia as well as the territory of Louisiana (Doucet 1980: 19; Morin 1972: 63). The practice spread west with migration and these structures were built and used by the Métis (Donahue 1980: 6; Forsman 1977: 11; Payment 1990: 54; Payment 2004: personal communication). In some cases this structure has remained an important part of the cultural landscape (Ancelet 1991: 16; Boily-Blanchette 1976: 1; Gutierrez 1992: 73; Hébert, 1999 and 2002: Visual Survey; Ross 1999: 2).

As an element of food preparation, the early French settlers brought the concept of the fournil to North America as an important part of their mental template on how to approach the formation of a rural home-site and community. The term fournil refers to a separate structure with a primary function as a bake house, the root 'four' meaning "oven." Women prepared the dough and left it to rise in the fournil and then transferred the dough to a four à pain or bread oven (Boily-Blanchette 1976: 6; Morin 1972: 63; Séguin 1973: 351). However, over time, the function changed as the colonists adapted to new conditions. First, the form was modified to create a new structure that formed an annex to the house called the cuisine d'été or bas côté. Second, the fournil and, likewise, the cuisine d'été and bas côté no longer served purely as a bake house, but took on a new and important social function, becoming the center of domestic life during the summer (Boily-Blanchette 1976: 5).

> "Over time a supplementary function was given to this building which, originally, only served as a place for the oven and to which, little by little, it played the role of a place to retire to for the summer" (ibid: 5-6, my translation).

The transition from the house to the fournil or the cuisine d'été/bas-côté was seasonal; it took place after completion of *le grand ménage* (a complete cleaning of the house in the spring).  During the period just before the onset of warm weather and over a period of several weeks, women and girls completely and thoroughly cleaned the house and all the furniture.  The family would then move into the fournil or the cuisine d'été/bas-côté until the end of the summer season and the start of cold weather (Minor 1939: 146).

During the winter, life centered on the kitchen inside the house because it provided warmth and space to socialize "The kitchen, it is the primary room, and the largest part of our life" (LeMay 1898: 34, my translation).  During the rest of the year, life centered on the fournil or the cuisine d'été/bas-côté which provided sunlight, fresh air and cool temperatures.

> "Because the kitchen is the center of social life in the house,
> airy summer kitchens, which do not retain the heat of the stove,
> began to be built on the sides or backs of the houses.  Too
> exposed to retain a comfortable temperature, these annex
> kitchens were evacuated in winter" (Minor 1939: 25).

Moving out of the house at the end of the winter apparently had a positive psychological effect on people, which is one explanation for why this tradition has continued in some parts of rural Québec well into the twentieth century (Boily-Blanchette 1976: 1).  "From the moment that it was nice out, we would have a good day . . . we would go to the fournil," (Morin 1972: 63).

At first, the cuisine d'été/bas-côté had the same function as the fournil, as a bake house (Boily-Blanchette 1976: 5).  However, whereas the fournil was built completely separate from the house, the cuisine d'été/bas-côté was built against the house and attached through a wall or through a short, enclosed passageway generally two-steps long (Boily-Blanchette 1976: 4-5; Dupont

1995: 76; Morin 1972: 63).  The rise of the cuisine d'été/bas-côté did not give rise to a disappearance of the fournil, but was instead a localized preference. Cuisine d'été is a descriptive name that refers to the structure's seasonal use. The alternative name, bas-côté, describes a structure with the same function but which generally rests lower than the house and lacks a foundation.

> "Annexed to the house, the kitchen is built without a foundation
> . . . therefore it is necessary to descend one or two steps to
> access it, it is called a bas côté" (Provencher 1980: 125).

The following two drawings (Figures 37 and 38) of the "Maison Henri Noel" built in 1825 at Bernières, Québec clearly show an attached summer kitchen.  Because it is attached with the same height of foundation as the house, it is not a bas côté but a cuisine d'été.  The house was constructed in the piece-sur-piece en coulisse method and measures 43 x 30 pieds (13.97 x 9.75 m), and the cuisine d'été measures 22 x 16 pieds (7.15 x 5.2 m), and the passageway connecting the house to the summer kitchen measures 4.5 pieds (1.46 m) long.
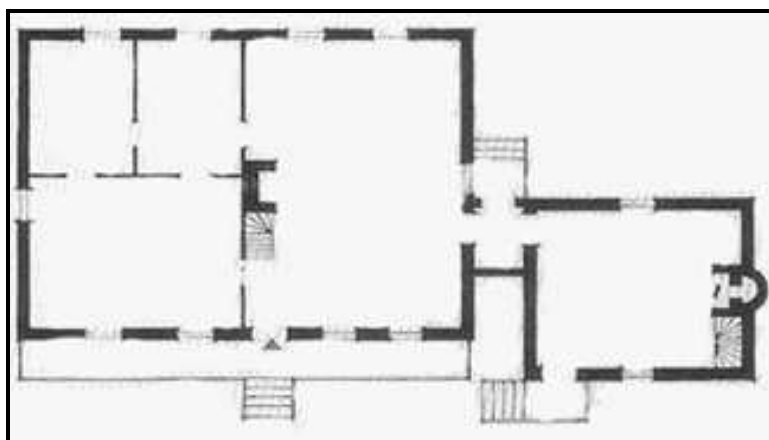


**FIGURE 37.**  Henri Noel House, circa 1825, with cuisine d'été–plan view (Lessard and Marquis 1972: 297).
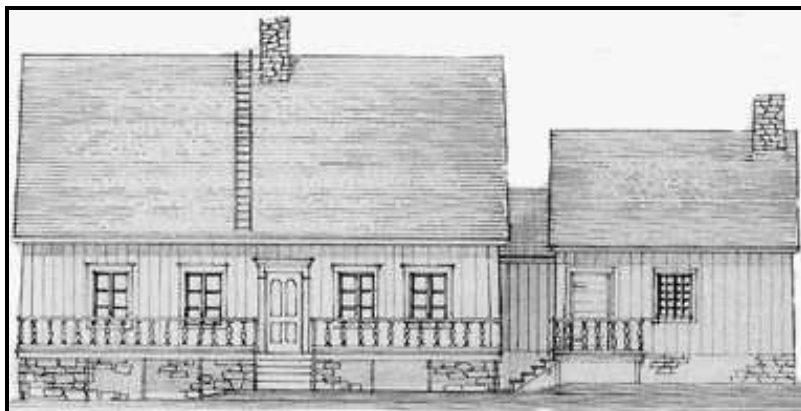
**FIGURE 38.**  Henri Noel House, circa 1825, with cuisine d'été (ibid: 297).

The summer kitchen has continued to have a strong association with the culture and identity of the Québécois.  It has often been kept as an element of modern housing in both the rural and the suburban settings.  In the modern context it does not serve the same function, but is used as an additional space in the house (James Hébert, 2002: Visual Survey).  Figure 39 provides a good example of a modern Québec home with a cuisine d'été.  Interestingly this home not only has a cuisine d'été but also has a coyau. Addtionally, the builder has created the impression that the house is a pièce-sur-pièce structure through the choice of molded siding.

**FIGURE 39.** Modern house in Québec with cuisine d'été, (James Hébert, September 2003: Photograph)

Colonial Louisiana architecture also provides good examples of how the style of the built environment can be passed on over the generations and evolves over time.  In Louisiana, the cuisine d'été has maintained a similar function.  Although families today no longer move into them for the summer, they are used for cooking during the summer and are designed with large screened windows to maximize airflow and maintain a cooler temperature than the house.  Often called a "men's kitchen," it is used by the man of the house for cooking and entertaining.  An informant living in the rural countryside outside of Lafayette, Louisiana relates the following:

> "As soon as a man can afford it, he builds himself his own
> kitchen.  I've seen it all over the region.  He builds it himself
> and usually attaches it to the back of the house.  Some are
> screened in; some are made of wood or brick, with large
> windows that are opened in the summertime" (Gutierrez 1992:
> 73).

# LE CAVEAU A LEGUMES (ROOT CELLAR)

> "A growing concern among archaeologists in the manipulation
> of social space within domestic compounds has brought about
> another change in focus, resulting in careful attention to
> archaeological data pertaining to landscape treatment and to the
> configuration of features and open spaces comprising the
> homelot surrounding a domicile" (Beaudry 1986: 39).

For the Canadien the caveau à légumes was a common structure built separate from and near to a house, and it functioned as a storage place for vegetables, fruit (including preserves), herbs, dairy products, and salted meats. The Métis caveau served the same function as the Canadien caveau; to provide a place to preserve produce over the winter (Payment 1990: 54). Some researchers suggest that the concept and, to a great extent, the design for building a caveau was not imported from France with the initial colonists to North America. It was, in fact, a borrowed Native American innovation long used as an adaptive strategy for preserving and protecting produce from the damage caused by extreme temperature (Laberge 1995: 19; Lamontagne 1983: 69; Lessard 1985: 19, 166; Lessard and Marquis 1972: 625; Séguin 1973: 357).

Séguin sites the observations of Marc Lescarbot who, in 1612, described the use of the caveau by Native Americans. He recounts that, after harvest, people would dig holes into the sides of hills to store their corn. Over the opening of the hole were placed woven mats. It did not take long for the observant and adaptive French colonists to begin making their own version of a caveau to store their perishables (1973: 357-358).

Georges Gauthier-Larouche provides further insight into the early use of the caveau by Native Americans. He refers to the writings of another early eyewitness, the Jesuit Father, Joseph-François Lafiteau. Lafiteau provides significant information on Native American material culture. In 1724, Lafiteau

recounted how Native American women stored within the caveau pumpkins and various other fruits from their fields that would not have otherwise survived the winter cold.  He points out that this method of food storage prevented the produce from freezing and other damage.  In addition, he describes the physical characteristics of the caveau.  They were composed of large holes dug into the ground that measured four to five pieds deep.  A woven bark lining was placed inside the hole, onto which was placed the produce, and then over the produce was poured soil. "Ce sont de grands trous en terre, de 4 à 5 pieds de profondeur, nattés en-dedans avec des écorces et couverts de terre par-dessus" (Gauthier-Larouche 1974:166).

According to ethnologist Marius Barbeau after 1650, among the standard structures associated with a rural home in Québec were the "caveaux aux légumes" (1942: 56).  The Canadien-built caveau was and is a very simple and straightforward structure.  It was usually constructed into the side of a small hill or ridge (Figure 42), but could also be built on flatter terrain by building up soil around the structure's frame to create an artificial mound (Figure 43) (Lavoie 1976: 83-84).  They could also be entirely built below ground in the form of a pit which was entered through an entrance built at the surface of the earth (Gauthier-Larouche 1974: 168).  The latter design was more in line with the traditionally built Native American structure.

The interior of a caveau á legumes was partitioned (Figure 41) into different areas or sections referred to as the *carrés*.  The types of produce stored in a caveau included potatoes, apples, carrots, and celery.   It was not uncommon for a barrel to be placed in the caveau to hold the carrots which were covered with hay or sawdust.  Apples were covered with turf.  From the ceiling were hung onions, garlic, ears of corn, and herbs.  In addition, shelves were built along the walls for the placement of butter and eggs, jars of fruit preserves, herbs, and sauces like marinades and catsup.  Salt pork, used in

traditional dishes like pea soup and pork and beans, was placed inside casks or earthenware jars (Gauthier-Larouche 1974: 168; Lessard and Marquis 1972: 625, 631; Provencher 1984: 52-53; Séguin 1973: 358).

The walls were typically constructed out of stone and mortar, and the front wall was often covered with a thick layer of crépis and the side and back walls were whitewashed with lait de chaux (Lavoie 1976: 82; Lessard and Marquis 1972: 631). The roof and the sidewalls of the structure were covered with earth to provide insulation, leaving only the front wall exposed (Lavoie 1976: 69, 74). Occasionally the walls were built of wood using the pièce-sur-pièce style of wall construction commonly used for homes, barns and other structures (Lessard and Marquis 1972: 631). Placed central to the façade or front wall, the entrance was usually a double door with a space left between them, like a short hallway (Gauthier-Larouche 1974: 168).

The roof was pitched, sloping down on two sides from the center, and the structure of the roof was composed of a large central beam extending from the back of the caveau to its front. Additionally, beams were placed on either side of the central beam about half-way between the peak and the lowest edge and lower than the central beam causing the roof to slope (ibid: 166). Boards were placed across the beams to form the rest of the roof. See figures 40-42.

**FIGURE 40.** Caveau Roof—interior view. Note how the beams extend into the masonry wall (Lavoie 1976: 71).



**FIGURE 41.** Caveau, Québec (http://www.pbase.com/motrem/automne)
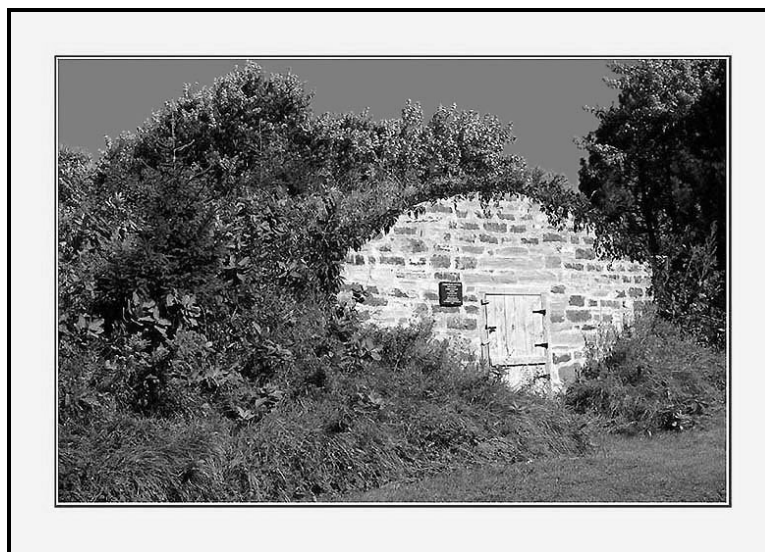
**FIGURE 42.** Caveau on a level landscape (Lessard and Marquis 1972: 628).

In 1976, ethnographer Jean Lavoie conducted a study in which he detailed the construction, use, and placement of the caveau in the Côte-de-Beaupré region of Québec. He examines many examples, both from the nineteenth and twentieth centuries and provides evidence that confirms much of the historic documentation provided by other researchers. Situated along the Saint Lawrence River, the study area provides a good example for how a caveau is built and used within a typical settlement area. According to Lavoie's informants, in addition to using the term caveau, refer to the structure as a "*cave à légumes*" and a "*cave d'en avant*." The former name refers to its function as a place to store vegetables and the latter name refers to its location at the front of the house (1976: 68).

The construction material for the walls was normally stone, but wood could also used with the eventual downside being moisture damage to the walls. Some flexibility in materials is in evidence; since about 1920 cement has also been used on occasion to construct the walls, although, stone has

continued to be the preferred building material.  This is perhaps because of habitual preference as well as the availability of stones in the Côte de Beaupré region (ibid: 73-74).

The stone walls are crafted with a method that combines three separate walls of stone to form a single wall; that is to say there is an internal, an external and a middle layer (all vertical).  The external and internal layers are made of large stones held together with a mortar made from sand, lime, and water.  The middle layer is composed of *pierrotage*, a mixture of small stones and mortar that is poured in the space left between the internal and external layers (ibid: 82).  Historic architect François Varin confirms that in Québec a masonry wall is usually built in this way.  Rather than using the term pierrotage he refers to the middle layer as *en blocage* (1984: 29-30).  Figure 43 details the anatomy of this style of wall.
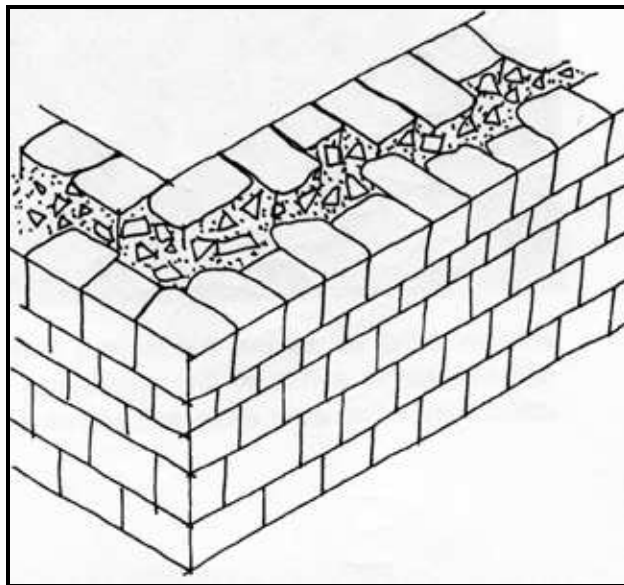


**FIGURE 43.**  Three-layer stone wall with  pierrotage or en blocage fill (ibid: 29).

Lavoie refers to the vaulted or slanted roof as the *caveau à pignon*. The logs used for the structure of the roof can be round or squared and could be 15-20 cm in diameter. One beam was placed at the peak and another was placed at the middle of each slope halfway between the peak and the tops of the two side walls. The stone walls were built around the beams so that their ends were placed within the front and back walls. Cedar boards measuring five to six pouces in diameter were placed over the logs (Figure 44). Occasionally, round logs were used instead of boards (1976: 80).
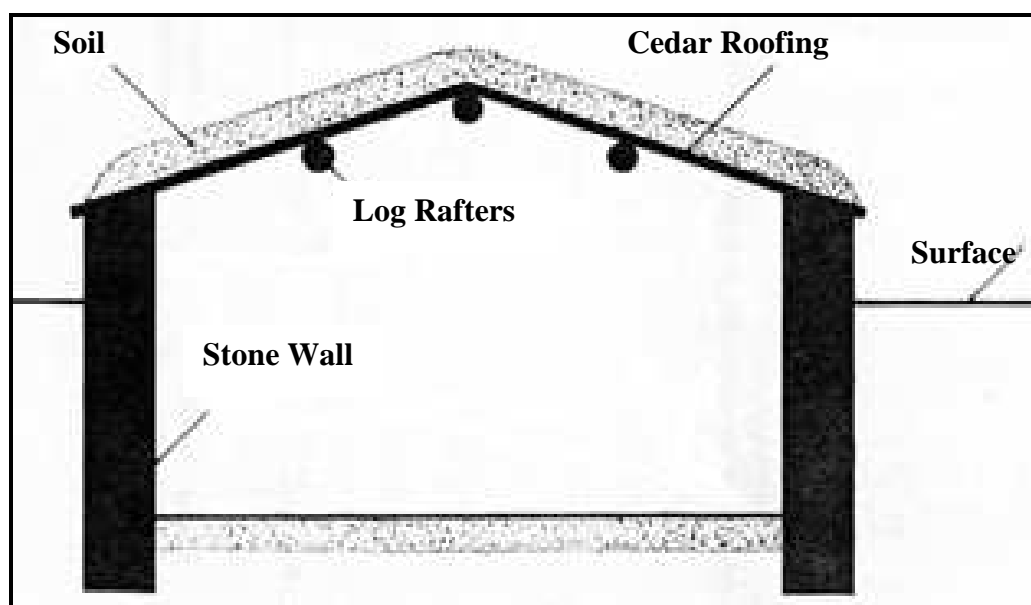


**FIGURE 44.** Diagram of the caveau structure (Lavoie 1976: 90).

Sixty-four percent of the caveau samples in Lavoie's study area had compacted earthen floors and one-third had floors made of either cement (twentieth century) or flat stones. Whether or not the floors were of earth or some other material, the provisions were never stored directly on the floor. Instead, stones or wood were placed upon the floor to create raised platforms.

Placed on top of the platforms were rectangular boxes or containers built of wooden boards. The containers held and separated the various types of produce and were designed to be easily resized (ibid: 78, 80). The reason for placing the produce in contained areas on top of stone or wooden platforms was to limit contact with moisture and to increase the circulation of air around the produce (ibid: 80, 82).

To further increase the circulation of air, an opening was occasionally placed on the front wall just below the center or peak of the roof. The opening was covered with a wooden or metal grill, over which was placed a cloth to inhibit the penetration of the caveau by insects and mice. Before closing the door a handful of ash or burned wood was placed just inside the door in an attempt to reduce the humidity within the structure. The ash and burned wood was intended to extract moisture from the air. Toward the end of winter as the weather began to warm, many of the more perishable items in the caveau, such as milk and cheese, were removed and placed inside the cave beneath the house (Laberge 1995: 19-21).

## LES GRANGES, LES ÉTABLES AND LES ÉCURIES (BARNS, STABLES AND PIGSTIES)

Canadien barns (*les granges*) were usually constructed by carpenters who resided in the various Francophone communities (Séguin 1963: 96). Barns could also be a community effort where family, friends and neighbors would build a barn together (ibid: 113). Oral interviews with former French Prairie residents indicate that master Canadien or Métis barn and home builders were operating on French Prairie well into the twentieth century (Les Belleque 2002: Personal Communication).

## From France to New France

In France during the period of settlement in New France (the seventeenth and eighteenth centuries), there were two distinct ways to arrange a rural home site, *la maison-bloc* (the family house and the barn were under the same roof) and la *maison-cour* (the outbuildings of various types were built separate from and surrounding the family house).  The former arrangement was the choice of the poor and the latter was the choice of the wealthy (Gauthier-Larouche 1974: 44; Séguin 1963: 1).  In New France, the settlers of the Saint Lawrence valley preferred the maison-cour.  Understanding that their economic situation was far better than it had been in France, they chose from the start to construct a built environment that reflected their improved economic situation.  In the New World, "they were masters of the soil" (Séguin 1963, my translation).

At first, the barn, stable (*l'étable*) and the pigsty (*l'écurie*) were separate structures built around the house. By the nineteenth century, the Canadien farmer began to build a single structure (still separate from the house) within which all the animals, grains and grasses were placed under the same roof.  This new structure was called *la grange-étable* (Dupont 1995: 75; Gauthier-Larouche 1974: 266; Séguin 1963: 3). Dorais states that the la grange-étable was used to store the hay as well as to house the cows and horses (1966: 538).  A change in shape was necessary as a single structure began to take on the various functions that had previously been performed by a variety of structures.  The early barn was square, but the grange-étable was elongated into the shape of a rectangle.  Within the grange-étable were several spaces separated by partitions (Séguin 1963: 11).

## Le Murs and Le Toit (Walls and Roof)

In many ways, the construction of a grange-étable was similar to that of a house. The grange-étable could be built using a variety of wall and roofing materials and styles. Among the wooden wall types were the pièce-sur-pièce en queue-d'aronde, pièce-sur-pièce en coulisse and *la poteaux*. La poteaux is a wall of vertically placed poles or posts that can either rest on a sole, or be dug into the ground, generally to a depth of about 5 pieds (Séguin 1963: 61). Walls could also be constructed of stone (ibid: 3), and sometimes a wall was covered with thatch in the manner of a roof (ibid: 33). The walls of a barn were white-washed and the series of doors and window frames or shutters were painted red (Dawson 1960: 26). Morisset adds that in the past barns were usually white-washed and the edge of the roof, door, and windows were painted red (1959: 16).

Roofs were covered with boards, thatched with hay or local native grasses called *l'herbe-au-lieu*, or bark. L'herbe-au-lieu is also described as *foin de grève* or hay that grows along the shoreline. The material was gathered from river shores and the edges of marshes (Séguin 1963: 42). A thatched roof if made well was expected to last at least eighty years (ibid: 96). If a roof was made of boards it was often covered with bardeau or shingles (ibid: 48). See Figures 45-46.
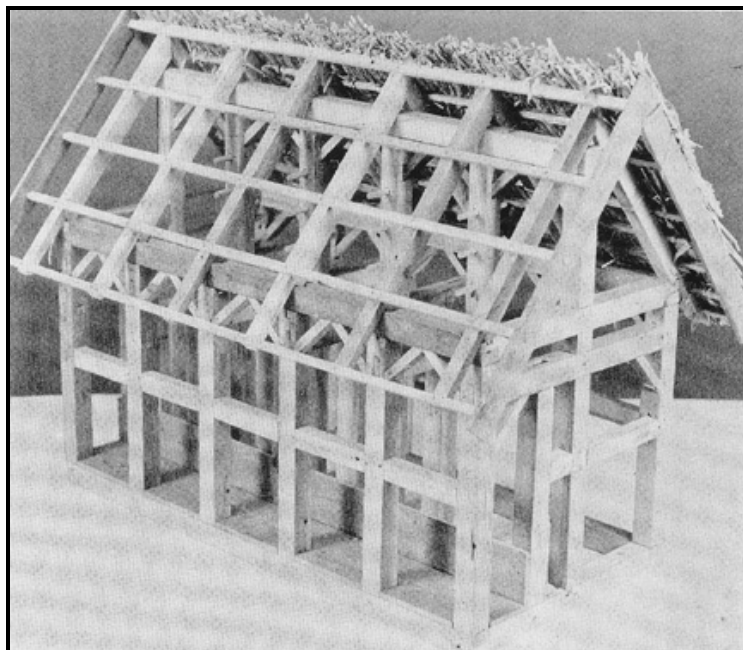
**FIGURE 45.** Barn with a thatched roof and vertical post walls, Rang Saint-Georges, Rigaud, Québec (Canadian Museum of Civilization).



**FIGURE 46.** Barn with a thatched roof and walls, Jagu Farm, Missillac, Vendée, Québec (Canadian Museum of Civilization).

# LE FOUR À PAIN/ LE FOUR À TERRE (BREAD OVEN)

> "The bread oven is not merely a bread oven . . . Far from being simply an object, the bread oven reflects a technique, a physical environment, a standard of living, a spatial organization, indeed a whole way of life" (Boily and Blanchette 1979: 3)

The knowledge for how to make le four à pain and to bake bread was brought to North America by the French colonists of New France and bread has always been the most important food item for the Canadiens.  Evidence for the earliest reliance on bread by colonists was observed in 1636; each laborer ate two, six or seven pound loaves of bread per week, and in 1716 it was observed that each colonist ate two pounds of bread per day (Boily and Blanchette 1979: 76).  The four à pain was also built and used during the early settlement of Acadia and throughout the territory of Louisiana (Boily and Blanchette 1979: 5-6; Crépeau 1995: 97; Kniffen 1960: 28-29; Tupperville School 2004).

The four à pain was a common, important, and recognizable feature of the Canadien rural landscape; when passing a home, the outdoor four à pain was easy to spot in its usual location up against to or near the house.  There are several locations that a four à pain could be built: connected to a chimney including inside or outside the house, to the fournil, or to the cuisine d'été/bas coté.  It was also built detached from a structure as a freestanding oven (Lemieux 1981: 44-46; Lessard and Vilandre 1974: 120, 144; Morin 1972: 63; Morisset 1959: 16-18; Séguin 1969: 176-178).  A visitor to early nineteenth-century Québec, traveling from Point Lévi to Rivière du Loup, noted that the outdoor clay oven was a common feature located near and at the front of the house,  "whilst the baking takes place in a clay oven raised on four posts in front of the house" (Alexander 1849: 56).

One reason for choosing to build an outdoor oven was fear of fire spreading to structures. While visiting Francophone "Lower Canada" (Québec), John Lambert described this style of oven and confirmed this concern among the inhabitants,

> "Their ovens are built of wicker-work, plastered inside and out with a thick coating of clay or mortar. Some are built of bricks or stones, but the former are more general. They are situate at a short distance from the house, to prevent accidents from fire, and are raised about four feet from the ground, covered with a roof of boards, supported by four posts, to keep off the rain" (1813: 157-158).

The clay oven was, as Bouchard notes, made of easily attainable materials, and the overall design for the outdoor clay oven was conductive to producing very good and inexpensive bread (1918: 406).

> "We notice that the best ovens are those wholly constructed of clay and then allowed to harden gradually, in stages, until a very hot fire vitrifies the clay. In these ovens the bread bakes easily, perfectly, and for little cost, especially when the dome is not too high, when care has been taken to make the sides of the dome sufficiently thick, and when the cracks have been adequately repaired" (Diderot and l'Alembert 1782: 152).

Plentiful and inexpensive materials and the production of good bread are likely the reasons why the knowledge for how to build the clay oven was "passed on from one generation to the next" (Seguin 1969: 179).

Although direct observations and descriptions for the use of the four à pain have not been specifically recorded for the migratory Métis living in Alberta, Saskatchewan, and Manitoba, the Métis were known to bake in an oven and to eat bread once they settled agriculturally (Payment 1990: 50-51).

Bread ovens were present during the nineteenth century in western Canada. One traveler to Manitoba and Saskatchewan recounted that "Mr. J. M. Bouché" baked and sold bread to *les hivernants* or Métis traders wintering-over on the prairie, "Met at Prairie portage J. M. Bouché, who has built a hut and an oven to bake bread to sell to the winterers en passant for dressed leather, buffalo robes, etc" (Henry 1897: 219).

## Function of le Four à Pain

The four à pain served a variety of needs. The oven was versatile; it was not only used to bake bread for the subsistence of large families and for forming relationships through sharing with neighbors, but also was used to cook other traditional dishes such as *les fèves au lard* (pork and beans), *les tartes* (fruit pies), *les tourtières* (meat pies), *les gâteaux* (cakes) and other pastries. Additionally, the Canadiens used the oven to brown flour for roux, smoke meat (sawdust was placed in the oven and the meat was hung at the door), and to dry herbs. Weavers also dried and softened their flax in the oven to make it easier to process and carpenters used the oven to dry their lumber (Boily and Blanchette 1979: 32; Croteau 1983: 94; Dupont 1974: 36; Gauthier 1979: 45; Lemieux 1981: 47-48).

Bread also had many domestic uses. Bread was used to make pudding, fed to animals (pigs and poultry), and used medicinally. Burnt crusts were used to cure diarrhea in animals, a poultice of bread dough, molasses and butter was applied to insect bites, and an infusion of bread crumbs was thought to speed up delivery of a child (Boily and Blanchette 1979: 94). Bread was also used to make various drinks, including alcohol and a faux coffee beverage. Lucien Bouchard of Baie-Saint-Paul, Québec remembered,

"Old people used to make wine with the crusts of burnt bread, raisins, oranges, yeast and sugar. They left it to ferment for three weeks to a month in a pot covered with a cloth until it was ready to drink. It was something like portar. Women used to drink it for energy" (Boily and Blanchette 1979: 94).

Mrs. Ernest Lajoie of Saint-Urbain, Québec added, "Burnt bread would be used for making coffee, and some would make porter by adding hops, yeast, molasses, sugar, and water" (ibid: 94).

## Social Significance of Bread

The four à pain was a central component in the social lives of the Canadiens. As Mrs Wilfrid Lavoie of Sainte-Jeanne-d'Arc, Québec stated, "We were brought up in the shadow of the oven" (ibid: 97). The use of bread has always been an important element of the Canadien way of life and there is a great deal of ritualistic behavior associated with the building of the four à pain, the baking of the bread, and the eating of the bread that reflects gender roles, identity, religion, and community.

As evidence for the long-lasting and continued importance of the four à pain to Canadien/Québécois identity, it has become a contemporary symbol. People have built and placed "ornamental" ovens in their yards, and have constructed floats that feature a four à pain for use in the many parades associated with the annual Saint-Jean-Baptiste Day or *la Fête Nationale* (Boily and Blanchette 1979: 35; Gauthier 1979: 45). During the cultural revitalization of the 1970s, the four à pain has been and continues to be a symbol of Québécois heritage and is portrayed in art (Figure 47).

 "…the bread oven may be considered as an element of
nationalism.  It is very frequently used as a characteristic
symbol of the people's way of life.  A look at paintings and
sculptures, as well as other works of art, reveals that artists
often choose the oven as a central theme" (Boily and Blanchette
1979: 35).



**FIGURE 47.**  Le four à pain (detail), 1979 Cotton Cloth Quilted, appliquéd by
Monique Cliché –Spénard. (Courtesy of le Musée Canadien des Civilisations).

The construction of a clay four à pain often required a skilled
craftsman, although the knowledge for how to build an oven was not beyond
the skills of a farmer and was often passed on generation to generation (Boily
and Blanchette 1979: 40; Séguin 1969: 179).  As a part of the learning process,
children paid close attention to the building of an oven and they would often
construct their own miniature ovens.  The small ovens would be fired up and
their mothers would put bread dough into little cans for them to bake (Boily
and Blanchette 1979: 34).

At the first firing, a priest would often be called on to bless a new oven and neighbors would be invited to a celebration with singing, children's games, and dancing (Dupont 1974: 80-81; Gauthier 1979: 451). Félix-Antoine Savard of Charlevoix, Québec reminisced that "mud-splattered children clapped their hands" as the first bread was removed (Boily and Blanchette 1979: 44). The builder would place clay forms representing beavers and ducks or other animals and birds on the front ridge of the oven to amuse the children and then, at the first firing of the oven he would bless or christen it by smashing the clay figures. Savard remembered,

> "When the oven builder finished his construction, he took some
> clay into his hands and modeled it into the form of a duck on
> the top of the oven, that is to say above the doors … and
> everyone says: look, the duck flies, he baptized the oven"
> (Dumont 1974: 80-81, my translation).

Neighbors shared bread, helping to form relationships and to solidify community (Deffontaines 1953: 15). Shared bread was called the *pain du voisin* or "neighbor's bread" (Bouchard 1926: 80). Leaven dough was also shared, "Sometimes leaven dough would be borrowed from neighbors, it provided for a friendly visit" (Boily and Blanchette 1979: 81).

The making and eating of bread was a gendered and ritualized activity. Just as a priest blesses and breaks the Eucharist during mass, the father or grandfather of the family wipes and cleans his knife blade on the part of his shirt over his heart and then makes the sign of the cross over the loaf with the knife before slicing the bread at a meal. Then he would cut and distribute the slices to the children in order of age, from oldest to youngest, and it was considered an insult for an individual at the table to break his or her own bread (Boily and Blanchette 1979: 92; Dupont 1974: 84).

The mother of the family also blessed the bread by making the sign of the cross over the loaves before placing them in the oven. The tradition of women blessing the uncooked bread also was common among the Franco-Americans of northern Maine. Julie D. Albert of Madawaska, Maine in 1969 remembered "There used to be a lovely tradition of tracing a cross on the loaves before baking" (Dupont 1974: 84).

## The Making of le Four à Pain

The outdoor clay oven is composed of several different parts (Gauthier 1979: 42). "The base, which provides a foundation for the hearth, then the doors, the dome, and, finally, the shelter that protects the whole thing" (Boily and Blanchette 1979: 47).



**FIGURE 48.** Polycarpe Bouchard 1937, master oven builder (Courtesy of the Marius Barbeau Collection, Image Number 83518, © Canadian Museum of Civilization).

## La Base (Base)

The base was generally made out of stones and mortar or of logs with a stone fill.  Bricks, if available, could also be used to form the base.  The base was built upon cleared and leveled ground and the hearth was built upon the base (Gauthier 1979: 42-43; Lessard and Vilandre 1974: 255-256; Lemieux 1981: 13).

A base was formed out of a round or squared log frame filled with sand and field or river stones flat enough to stack, or the stones could be worked to create flat surfaces for stacking.  The logs were crossed at the corners to form a rectangular structure or cage with saddle-notched corner joints.  Saddle-notches could be made on two opposite sides of the log or on just one side of the log (Lemieux 1981: 14).  The stones were placed within and up to the top of the frame, creating a relatively flat surface on which to build the hearth and the sand was poured into the spaces between the stones (Boily and Blanchette 1979: 12).  See Figures 49-51 for examples of base styles.
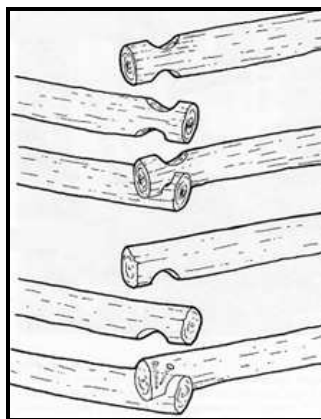


**FIGURE 49.**  Joinery methods for a log base, double-notch and single-notch (Courtesy of le Centre Franco-Ontarien de Folklore).
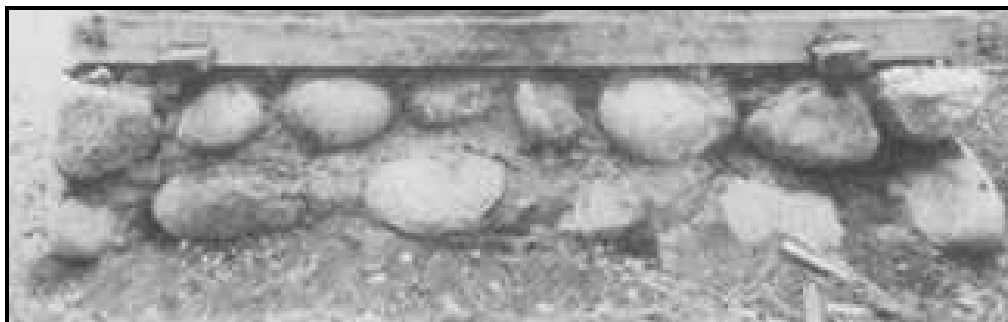
**FIGURE 50.** Stone base (Image number 81097, © Canadian Museum of Civilization).



**FIGURE 51.** Base with embedded upright log rounds. (Courtesy of the Jean-François Blanchette Collection).

## L'Âtre (Hearth)

The key to a good hearth and dome was the clay; it was important that the clay for the hearth and the dome be of a quality that will harden. The best clay has a blue color and was gathered from the exposed area of a riverbed just above the waterline (Bouchard 1918: 47; Bouchard 1926: 81; Gauthier 1979:

43) or could be found within a wet depression in a field (Dupont 1974: 41; Séguin 1969: 179). "blue clay from steep riverbeds or riverbanks that have rich and heavy soil …The ideal clay breaks like soap, is granular, blue, crumbly, sticky, and tough" (Boily and Blanchette 1979: 12). Clay was prepared by leaving it exposed outdoors to cure over the winter; this was thought to make the clay stronger (Dupont 1974: 15; Lemieux 1981: 15). In further preparation, the clay was combined with binding materials and then mixed and kneaded usually by stomping by humans or horses. The making of an oven is a family event, stomping and kneading the clay was something that children enjoyed (Lemieux 1981: 15).

> "The clay is pounded, worked or trodden in a trough or a horse can tread it under its hooves. Straw, millet or dried hay called taigne, salt hay, horse hair, or cow hair are used as binding materials. Sand is added to reduce the stickiness and salt is added to make the mixture water proof and to harden it. Once the clay is worked and breaks apart easily into chunks, it is used to build up a thick coat on top of the surface of the base" (Boily and Blanchette 1979: 15).

> "A shovel-full of sand is mixed with each barrow-load of clay. Next, the mixture is covered with hay or wheat stalks. Then this soil mixture is mixed and kneaded by stepping on it in bare feet for a great while. The goal is to push the straw or wheat stalks into the clay to strengthen it and to render it unbreakable" (Séguin 1969: 179).

In addition to straw, hay and hair, green grass could be added and mixed into the clay (Gauthier 1979: 44). As evidence of continued tradition while taking advantage of local resources, the four à pain in Louisiana was made of clay mixed with Spanish moss (Kniffen 1960: 290).

The prepared clay was placed upon the base and formed into a platform at least 20 cm high with a flattened and level surface.  A stone or wooden frame sometimes was placed around the hearth to mold it and to provide a place for the dome to rest.  Although it is not the norm, the hearth could also be made of flat rocks with clay placed between the spaces, or bricks with clay, mortar or sand between them (Boily and Blanchette 1979: 15).  Sometimes a layer of insulating material such as stone or brick held together with clay was placed between the base and the hearth (Gauthier 1979: 43).

## Les Portes (Doors)

Before the clay hearth dried, the arch-shaped frame for the door was put in place at the front of the hearth and embedded in the clay to stabilize it.  If the doors had been molded from cast iron, then the frame was usually also cast iron.  The threshold usually measured 25.4 cm wide and the door was between 45.7 and 58.4 cm high.  During the nineteenth century, there were many foundries that provided doors for bread ovens and the manufacturer often included its name on the door (Boily and Blanchette 1979: 15, 19: Gauthier 1979: 43).

If manufactured doors were not available then there were many ways to fabricate them.  The doorframe could be built from a bottomless cauldron, metal wagon wheel rim, a metal band from a wooden barrel, or stacked and mortared bricks or rocks.  The door could also be made from a recycled door from a cast iron stove, but usually a homemade door was made from boards propped against the opening with large rocks or a pole.  The wooden door was wrapped with wet cloth or sheet metal to resist burning (Boily and Blanchette

1979: 19; Bouchard 1918: 408; Gauthier 1979: 43; Lemieux 1981: 23-27).  See figures 52-54 for examples of door frames and doors.
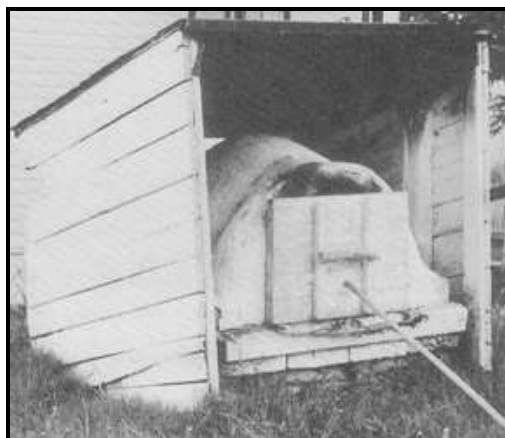


**FIGURE 52.**  Four à pain with a wooden door held shut with a pole, l'Anse Saint-Jean, Québec (Image number 73-25973, © Canadian Museum of Civilization).
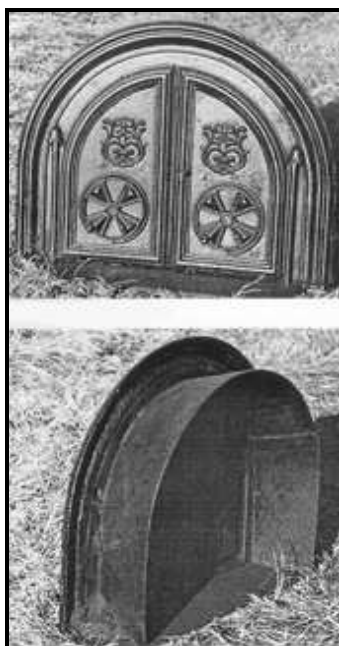


**FIGURE 53.**  Oven doors (courtesy of  le Centre Franco-Ontarien de Folklore).
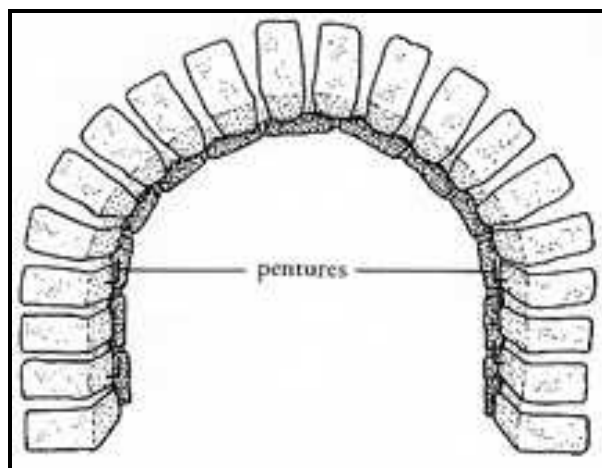
**FIGURE 54.** Brick door frame (Courtesy of le Centre Franco-Ontarien de Folklore).

## La Voûte (Dome)

Construction of the oven dome or *la voûte* required skill because the form was an important factor in how well the oven will bake bread. Some builders had the knowledge and skill to build a dome that would circulate heat without the need of a vent or *tuyau*, others needed to place a small vent at the top of the back end (Boily and Blanchette 1979: 38-39; Dumont 1974: 45; Lemieux 1981: 40).

The first step in building the dome was to create a frame for the clay. The frame was shaped like a truncated egg halved longitudinally and laying on its side, with a back higher than the front. It has been said that the finished product should look something like a crouching beaver (Gauthier 1979: 42) or a sleeping beaver (Dumont 1974: 47).

The oldest and most common method for building a dome was to build a latticework of bent alder or hazel branches. If alder or hazel were not

available, any bendable branches would do, for example aspen or young birch (Lemieux 1981: 28). This method of construction worked well because it is flexible; as the clay dried over a flexible bent branch frame there was less cracking. If the correct branches were not available, other materials such as stacked firewood covered with wet sand or lumber covered with chicken wire and hay have also been used. The finished frame was sometimes reinforced with a gunnysack, cedar bark, or straw before the application of clay (Boily and Blanchette 1979: 19-20). Figure 55 is a diagram of a board frame.
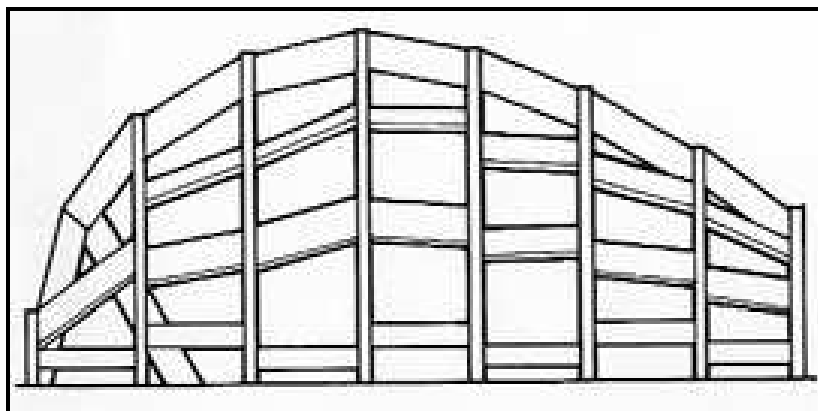


**FIGURE 55.** Board frame (Courtesy of le Centre Franco-Ontarien de Folklore).

After the frame was complete, clay bricks weighing from fifteen to twenty-five pounds were applied first to the base and the door frame, and then to the walls in an alternating joint pattern. The thickness of the walls typically ranged from 15.2 to 20.3 cm and was thicker at the base and at the ridge around the door than at the top. Animal figurines or conical shapes as well as the date of construction were often formed on the ridge (Boily and Blanchette 1979: 20). If a vent was to be added, it was placed within the clay before the smoothing process (Lemieux 1981: 41).

Next, the clay on the dome was evened out, smoothed and blended and the seams eliminated by hand or by tapping with a mallet. A clay glaze was added for protection making the oven appear shiny and smooth. Occasionally, a layer of chalk or mortar was laid over the dome and the oven was air dried for a period of eight to fifteen days (Boily and Blanchette 1979: 20, 22, 24). After air drying, two or three small fires were lit inside the dome to burn away the wooden frame and gradually fire the clay. As hairline cracks developed, they were filled in with fresh wet clay (ibid: 22). Figure 56 is an illustration of a branch frame and an example of a finished oven frame covered with clay.
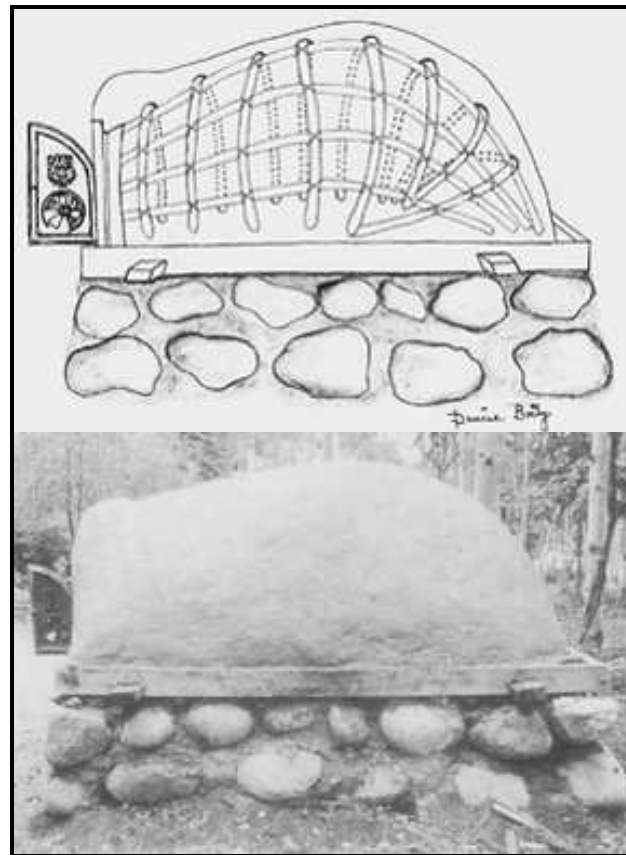


**FIGURE 56.** Interior and exterior views of a four à pain (Courtesy of the Jean-François Blanchette Collection).

## L'Abri (Shelter)

The finished ovens were usually covered with a roof to protect them from the weather (Figure 57). These were made from lumber or metal sheets. There were a variety of shapes; sloping toward the back or they were peaked with a slope to both sides, semicircular, triangular or arched. Normally, a terrace made of flat stones or brick was laid in front of the oven to protect the ground from fire (Boily and Blanchette 1979: 22, Lemieux 1981: 44). With a good roof, an oven could last for a hundred years (Gauthier 1979: 45).



**FIGURE 57.** Bake oven, Eastern Townships, Québec (Photo PA-044083, Library and Archives Canada/Department of the Interior Fonds, Public Domain).

## Preparing the Bread

Because families were large and bread was one of the many items shared with neighbors, the making of bread was never a minor event,

"Bread-making is an all day affair and is done twice a month.
The dough is made and kneaded in large troughs.  When the
dough is in the final stages a fire is lit in the dome-shaped
earthen oven which stands outdoors near the house.  The oven is
closed so that smoke can only escape through a vent at the top.
When the fire is out the ashes are scraped out of the oven and
the loaves are put in to bake.  It is not unusual to bake two
dozen five pound loaves" (Minor 1939: 144).

The preferred flour for bread was wheat, but other flours could also be
used in combination with wheat, for example, barley, rye, buckwheat, and
corn.  During times of failed crops, ground dried peas could also be used
(Boily and Blanchette 1979: 76, 78-79).   Lacking yeast, the baker needed to
create her own leaven.  The oldest method, brought from France to New
France and was still in use during the eighteenth and nineteenth centuries, was
the sourdough method (ibid: 80-81).

 "Once the dough is made [that is, when the flour is mixed with
water], a small part of it is removed and kept aside.  This is
allowed to ferment for a night and a day, by which time it has
become leaven; it is then used in the next day's dough"
(Cloutier 1888: 113).

Another leavening method used *les houblons* or hops, which were
brought to New France during the seventeenth century.  Several Québécois
informants described how hops were used,

 "the leaves and flowers of the hops would be dipped in boiling
water, wheat flour would be added to the resulting liquid, and
the mixture would then be left to sour . . . sometimes the water
from boiled potatoes was added" (Boily and Blanchette 1979:
82).

A third method involved the use of boiled, mashed potatoes. The mashed potatoes would be left to dry out long enough to develop mold. Before use, the dried potatoes would be placed in water in a closed container to soak for twelve hours. Sometimes sour milk or sugar and hops water (tea) would be added (ibid: 82, 83). In 1813, after visiting the Canadien countryside, John Lambert commented on the character of their bread and appears to describe bread made from homemade sour leaven,

> "The Canadian country people bake their own bread, which is made of wheat-flour and rye-meal; but for the want of yeast it has a sour taste, and is coarse and heavy" (1813: 157-158).

At French Prairie, Oregon Margaret Bailey an American settler noted that coarse bread was a staple food on a Canadien/Métis farm, "staple dishes have been, this summer, salt pork, and coarse wheat bread" (1985[1854]: 190). A dough box was an important household item used to store baking supplies, to knead dough, and to provide a place for leaving the dough to rise. It would often have drawers, and a flat surface for working (Boily and Blanchette 1979: 84).

## Preparing and Using le Four à Pain

Specialized tools and materials were needed for heating the oven and for introducing the loaves into and removing them from the oven (Figure 58). Wood cut to fit into the oven was always kept available next to it and was not touched except for use with the oven. The wood must be dry and cedar was preferred because it burns quickly. If cedar was not available fir, aspen, driftwood, or any other available dry wood would suffice. It usually took two

fires for the oven to reach the correct temperature (Boily and Blanchette 1979: 86-87, 89).

The mother, father or oldest child in a family lit the fire and the door was left open for ventilation (ibid: 87).  *Le grattoir* or the fire rake (a wooden long handled tool with scraper at one end) was used to spread the hot embers across the hearth and then the doors were closed to allow the heat to penetrate the clay walls (Lemieux1981: 46, 47).  After the correct temperature was reached, the ash was scraped from the oven with the grattoir into a bucket and then completely extinguished with water.  The ash was spread over the ground around the oven (Boily and Blanchette 1979: 87).  The pans of dough were placed into the oven on a long-handled flat wooden spatula called *le main*.  The spatula was also used to remove the pans (Lemieux 1981: 46, 47).
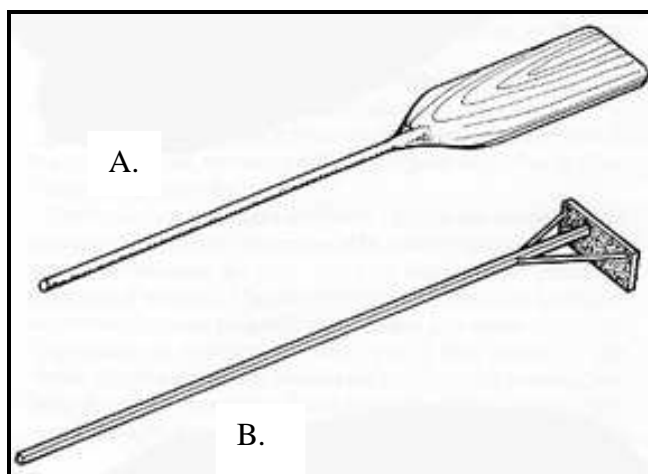


**FIGURE 58.**  Tools: *(a)* Le main; *(b)* Le grattoir (ibid 1981: 47).

The pans were generally placed at the back and along the sides of the oven so that round loaves which bake directly on the hearth without the use of a pan could be placed in the middle and at the front.  The children's loaves were placed at the very front because they cooked more quickly.  When a

family lacked pans, then all the loaves were cooked on the hearth.  The doors were closed while the bread cooked and a hook attached to the end of an iron bar was sometimes used to pull the pans out of the oven.  (Boily and Blanchette 1979: 89, 91).  Bread was stored in a variety of ways. They were kept in the dough box or cupboards in the kitchen, in milk churns or barrels, or placed in the in the fournil, cave, or the grenier where they were attached to wooden skewers (ibid: 92).

# PLANTS AND FENCES

## LES FLEURS, LES ARBRES AND LE JARDIN POTAGER (FLOWERS, TREES AND KITCHEN GARDEN)

"Historic houses may often be flanked by outbuildings and enclosed by walls or fences, but in all cases they are situated in a culturally ordered landscape of yard and garden, field and forest" (Beaudry 1996: 4).

Along with important elements of the built environment, plants and trees were an integral part of the Canadien and Métis cultural landscape (Crépeau 1995: 99). It is important to the success of future archaeological investigations of Canadien and Métis agricultural sites to look at how, why, and where flowers (*les fleurs*), trees (*les arbres*), and the kitchen garden (*le jardin potager*) were grown and how their produce was processed, eaten, and stored for future use. "The landscape is 'cultural' in that it physically embodies the history, structure, and contexts of human behavior in such a way that they are not readily separable from each other" (Hood 1996: 123).

Flowers, gardens and trees served four main purposes on the Canadien/Métis farmstead:

1) food and medicine—plants and trees in the yard and garden provided fresh food, medicinal herbs and plants, and spices for use during the spring and summer and a surplus preserved for use during the fall and winter (Boily-Blanchette 1976: 8, 19; Payment 1990: 53),

2) protection from natural elements and physical comfort—trees were used to protect domestic structures from wind in the fall and winter and

cooled them by providing shade during the summer months (Boily-Blanchette 1976: 15; Dawson 1960: 26),

3) building and maintaining social relationships–plants served to help solidify relations between neighbors and families through interaction and sharing (voisinage) and their cultivation and preparation helped to define gender roles and behavior (Ancelet 1991: 21, 50-51; Bouchard 1926: 131; Deffontaines1953: 15; Minor 1939: 48-49; Provencher 1980: 41),

4) emotional and psychological–flowering trees and flowers contributed to a family's and a community's well being as they moved through the seasons.  The blooming of trees and flowers helped families adjust from a winter spent mainly in the house to a summer mode of life that centered on the cuisine d'été or bas côté and the fournil.  Life in these structures provided more access to the outdoors and the scent and beauty of flowers brought a sense of renewal (Boily-Blanchette 1976: 8, 15, 19).

## Les Fleurs and Les Arbres

Flowers and cultivated trees (*les arbres*) were important elements of rural life.  In general, flowering plants made life more colorful and cheerful, and provided a much-desired perfume in the air that was associated with producing good health and youthful renewal for those who lived and worked in the proximity of their scent (Boily-Blanchette 1976: 15).  A wide variety of flowering trees and flowers were planted including; apples, cherries, plums, prunes, roses, tulips, white lilies, lilacs, and carnations (Dawson 1960: 36; Dorais 1966: 538; Seguin 1973: 448-449).   The desire to place flowering

plants new domestic structures was widespread and crossed all classes (Provencher 1980: 164). Anthropologist Horace Minor noted that "flowers are grown in profusion around the house" (1939: 142). In 1854, traveler, Johan George Khol, visited the area of Beauport, Québec and commented on the love of flowers that he noticed among the Canadiens.

"We found the cottage small but very neat and clean, the windows adorned with flowers, and a pretty little flower-garden outside. This love of flowers is almost universal amongst the French settlers, but much less so amongst those of British origin" (1861: 161).

Flowerbeds were also placed within or just outside *la clôture* or fence that surrounded every jardin potager or kitchen garden (Provencher 1980: 165). Arien Langlois of Ste-Angele de Merici, Québec explained this belief in an interview with ethnologist, Lise Boily-Blanchette, "the elderly are drawn to trees, they bring back to them their youth, trees pull unhealthful things from the world, and they give us back our health" (1976: 15).

The Métis also planted fruit trees and flowers. Once the Métis of Manitoba and Saskatchewan transitioned from a migratory life in the fur trade to a more settled and permanent agricultural lifestyle modeled largely on the Canadien rang/long-lot settlement system. Like the Canadiens, they planted fruit trees and flowers near their houses and flower-beds around the perimeter of the jardin potager, "[the jardin potager] were often bordered by flowerbeds. They also planted flowers sometimes…near their houses" (Payment 1990: 55, my translation).

Fruit trees and flowers were sources of fresh food as well as preserves. The harvesting of fruit for preserves took place as soon as they ripened and fruit was processed in the fournil or the cuisine d'été or bas coté (Boily-

Blanchette 1976: 8, 19). Along with preserved foods, fresh fruit was harvested and stored in the caveau and the cave (Bergeron 1991: 11; Paradis 1990: 87). The Canadiens utilized flowers as food by straining white roses and the peony to make a kind of honey (Boily-Blanchette 1976: 19).

Domesticated trees were planted near the house and fournil on a homestead whereas the native trees generally grew at the far end of a long-lot for use as fuel and building materials (Deffontaines 1953: 9). Trees around domestic structures provided shade to cool living areas and to block the prevailing wind. For example orchards were usually planted on the side of house that faced the prevailing wind (Boily-Blanchette 1976: 15; Dawson 1960: 26). Trees planted include willow, poplar, and maple (Dawson 1960: 36). We have good evidence of flowering fruit trees having been planted at French Prairie, Oregon during the early nineteenth century. In an interview in 1909, Louis Labonté, Jr. states that Joseph Gervais, whose land the Labonté family farmed, had an orchard "of small apple trees obtained from Fort Vancouver" (Lyman 1909: 174). Furthermore, cherry pits have been recovered from Canadien sites on the Prairie (David Brauner, 2002: Personal Communication).

## Le Jardin Potager

For the Canadiens, the produce from the jardin potager was extremely important for survival, especially through winter (Paradis 1990: 85). Women grew strawberries, raspberries, salad plants, cabbage, beets, carrots, butter beans (red, white), radishes, onions, tomatoes, peas, pumpkins, cucumbers, garlic, melons, gourds, shallots, asparagus, chervil, turnips, rhubarb, and fine herbs like thyme, sage, parsley, savory and chives, and tobacco (*le tabac*)

(Boily-Blanchette 1976: 19; Blouin 1977: 11, 13-14; Dawson 1960: 36; Dorais 1966: 538; Paradis 1990: 87; Provencher 1980: 162-163; Séguin 1973: 448-449). Tobacco was an essential crop, Canadien men, women and even children smoked (Peach 1993: 113; Provencher 1980: 163). Traveler John Lambert wrote in 1806 of his disapproval toward the Canadien children's pension for smoking; the children had a "pernicious habit of smoking, almost as soon as they have strength to hold a pipe in their mouth" (1813: 89). The jardin potager was also important to Métis. They grew a variety of plants including potatoes, carrots, cabbage, turnips, parsnips, pumpkins, onions, beans, cucumbers and lettuce.

> "The jardin potager is an important element of the food supply.
> The Métis cultivate in large quantities potatoes, carrots,
> rutabagas, cabbage, turnips, parsnips, pumpkins, onions, beans,
> cucumbers and lettuce" (Payment 1990: 53, my translation).

The planting, maintaining, processing, cooking and serving of fresh fruit, vegetables and herbs was a gendered activity. Women and girls were completely in charge of the jardin potager. While boys generally worked with their father in the fields and at the grange or barn, girls worked with their mother doing housework as well as spending many hours in the jardin potager (Boily-Blanchette: 20). Methodist missionary Margaret Bailey noted with disdain that the women almost exclusively performed this labor, "A French neighbor says he will never bend his back to a hoe while he keeps so many womens" (Bailey 1985 [1854]: 194). The jardin potager provided a break from indoor activities by offering a chance to enjoy the sun and fresh air. Additionally, it provided the opportunity to spend time and share food with other women and girls. Sisters, friends and immediate neighbors would help each other in the jardin potager where they would share fresh produce, recipes,

marinades, sauces and preserves (Blouin 1977: 10; Paradis 1990: 89, 91-92).

Along with other important activities, the women's socializing contributed to familiarity and alliance building between neighbors, which was an extremely important activity that helped to define and unify community among neighboring long-lots.  Neighboring, also referred to as la voisinage, *le premier voisin*, and *les quatre voisins*, ensured mutual aid or *coup de main* in times of need. (Ancelet 1991: 21, 50-51; Bouchard 1926: 131; Deffontaines 1953: 15; Minor 1939: 48-49; Provencher 1980: 41).

## LES CLÔTURES (FENCES)

"All man-made environments are designed in the sense that they embody human decisions and choices…Designed environments obviously include places where man has planted forests or cleared them, diverted rivers or fenced fields in certain patterns" (Rapoport 1972: 4).



**FIGURE 59.**  Le faiseur de clôtures, (Julien 1915: 212).

The fence is one of the defining components of any settled landscape (Crépeau 1995: 99). For the historic Canadien and Métis populations, the fence played an important role in defining the rangs. The most common and widely used fence built by the Canadien during the nineteenth century was *la clôture de perches* (Figure 60) or "rail fence" (Séguin 1976: 29).



**FIGURE 60.** Clôture de perches (Lessard and Marquis 1972: 656).

The clôture was a feature that helped to define the distinctive and unique shape of a long lot because, in most cases, it was built along the borders between properties. Accentuating the visual effect of this barrier, hops were often grown along the length of the clôture and provided a support for the plants. "Le houblon se cultivait presque partout le long des clôtures" (Dupont 1974: 50-51).

In addition to outlining a property, a clôture was often built to surround and protect the jardin potager as well as to separate the cultivated fields from the pasturage (Deffontaines 1953: 17; Dorais 1966: 538; Dupont 1995: 77; Provoncher 1980: 161). On occasion, the *habitant* also built a clôture to form a corridor through or alongside the crops, beginning at the grange or barn and

ending at the pasturage, in order to keep the cattle out of the crops (Deffontaines 1953: 17).

## History and Change

During the earliest years of New France when security was of paramount concern, a style of clôture was constructed which had a continuous row of vertical posts forming a palisade. This approach to fence building was called *la clôture de pieux* (Séguin 1976: 18, 21). In 1646, Jacques Boissel built a clôture de pieux measuring six pieds tall. In 1715 Jean-Baptiste Tetro de Repentigny built one that measured ten pieds tall (ibid: 18-20). Gradually this style of fence gave way to the clôture de perches, which represented a change toward a more horizontal and less protective style of construction.

The horizontal clôture de perches was formed by placing two vertical posts near to each other in the ground just far enough apart to allow the placement of rails or perches between them (ibid: 20, 21). There were two variations of the perches or rail construction method. The first style used a wooden cheville placed between the two posts at the top, the bottom and at equally spaced positions in the middle. The ends of the horizontal perches or rails rested on these chevilles. The second method replaced the wooden chevilles with *les biochets* or *les blochets*. This method was an important innovation because the thick, block-shaped biochets and blochets were stronger and able to withstand the weight of the rails much better than chevilles and, as a result, required fewer repairs (ibid: 20, 21, 24).

## Constructing a Clôture de Perches (Rail Fence)

The clôture de perches style was popular and commonly used during the nineteenth century and has continued to be a common part of the Québécois countryside to the present day. Diane Payment alludes to the use of this style of fence by the Métis when she notes their use of trees to make rails for fences, referring to the rails as "les perches de clôture" (Payment 1990: 223).

Like many elements of the rang, the manufacture and maintenance of the clôture was a gendered activity; this task fell to men and boys. The clôture was built and repaired from timber located at the far end of the long-lot. Timber used for repairs was cut in the fall, stored and cured over the winter, and then used in the spring (Boily-Blanchette 1976: 17; Morin 1972: 67-68, Séguin 1976: 35). While visiting French Prairie, Saint-Amant noted that about one twelfth of each property had timber in reserve. The purpose of the uncut timber was to provide for the building of "houses, barns, bridges, fences, etc." (1854: 174, my translation).

In 1966, Louis Morin conducted oral interviews with the older residents in the parish of Saint-Francois-de-la-Rivière-du-sud. The majority of the 1,840 residents of the parish were engaged in agriculture and, like most rural Québécois, lived within rang settlements along both sides (north and south) of the Rivière-du-sud since birth or early childhood (1972: 5-8). Their description of fence style and construction provided by informants suggests an unchanging continuity and loyalty to the clôture de perches style of construction well into the twentieth century. Furthermore, the informants confirmed that the function of the Canadien clôture was to separate properties

as well as to separate different sections of a property internally (ibid: 67). The inhabitants of Saint-Francois built their clôtures in the following way.

First, a hole was dug eighteen pouces deep with a *pince de fer*—an iron post-hole digging tool. Then, one or two men would drive a six-pieds-long cedar post into the hole and pound it to a depth of two pieds, helping to secure the post in the ground leaving four pieds of the post above the ground. Another post was laid on the ground perpendicular to and flush with the first post in order to determine the placement of the second post; as a result the distance between each post is the width of a post. Pairs of posts along a fence line were typically set at twelve-pied intervals (Morin 1972: 67-69).

Near the top and near the bottom of each pair of parallel posts, the fence builder drilled a hole through which is pushed an iron or wooden cheville. Because there were only two chevilles, the lower of the two had to carry all the weight of the rails. Horizontal rails fit between the two posts; the first rail was laid to rest upon the lowest cheville and then more rails were stacked up in an alternating pattern from each direction, creating a "zig-zag" fenceline, until they reached up to and just below the top cheville. The rails were made longer than twelve pieds to allow for overlap (ibid: 69). Finally, wire was wrapped around the top and the bottom to help secure the posts (ibid). The continued use of two chevilles, which are less sturdy than the biochets likely, necessitated the use of wire to reinforce the posts. Lessard and Marquis write that the clôture de perches could be built "en ligne" (in a straight line) or "en zigzag" or zigzagged (Lessard and Marquis 1972: 656-657).

The availability of timber sometimes necessitated a change to the traditional fence. An alternative to the clôture de perches was a clôture made of stone that had been removed from a field and stacked between properties (Provencher and Blanchet 1980: 136). As land was cleared and the Canadiens settled new environments, stone may have been a viable alternative.

# TRACING THE PAST: AN ARCHAEOLOGICAL MODEL OF THE CORE FEATURES

The previous chapters provide the history, function and physical description of the core features of a nineteenth-century Canadien/Métis farmstead and, in this way, model the "dynamic" past. This chapter attempts to connect dynamics with the static archaeological record, by determining what traces these features, and the activities for which they were a context, may have left behind and by suggesting methods for finding them. In this section, I have used archaeological and architectural studies as well as historic references to elaborate on the characteristics of features that may be of particular interest to archaeologists, such as dimensions of features and associated artifacts. Furthermore, I have outlined a plan of action for archaeological investigation.

The rural, agricultural Canadien and Métis settlement was an interconnected collection of neighbors and community institutions. The smallest unit of organization was the individual long-lot or rang, representing a single homesite. Rangs were long, thin rectangular lots of cleared agricultural land situated between a river or road at the front and a stand of timber left for fuel, construction and repairs of structures, fences and the like. Rangs were bounded on either side by distinctive rail fences and plants, usually hops. A one and one-half story pièce-sur-pièce house was built not far from the river which included one cave beneath the floor, and a cuisine d'été or bas côté, possibly with its own cave, attached to one of its walls, usually at the back. The four à pain and caveau would be visible as one passed the house. The fournil was erected a short distance from the back of the house and, not far beyond were the barn and stable. The kitchen garden, protected by a fence and defined by beds of flowers at its perimeter, would be between the house and the fournil. Fruit and other flowering trees and ornamental plants and flowers

would be grown profusely around and near the house and an orchard or tree line might be placed at the windward side of structures.  Fields and pasture would be located on the rest of the property, usually behind the cluster of structures and, perhaps, bounded by rail fences.


## FINDING LE RANG

It is reasonable to assume that, wherever a sizeable population of Canadien or Métis settled into agricultural life, they formed their communities in rangs unless prohibited by regulation.  The Canadien/Métis settlers of French Prairie, Red River, Prairie du Chien and the Louisiana territory all established their home sites as rangs and this method of settlement represented an important component of their overall settlement pattern or system.

Historically the Francophone areas of settlement in Québec, Manitoba and elsewhere in North America, the land concessions were not laid out with strict rigidity; a landholding could exhibit some variation and flexibility in its width, length and direction.  Resources and the usefulness of the land was taken into consideration in determining the size and shape of a rang.  For example, if there was a great deal of rock impeding farming, the rocky land would not be included in the concession or if it were included the landholding the size of the concession would be adjusted to include additional useful land (Hamelin 1993: 71).

Use areas within the rang maximized the natural landscape.  As the individual rang allotment extended out from the river, soil changes dictated the location of gardens, crops and structures.  The house and jardin potager, for example, were located near the river where the land was most suitable for the

kitchen garden.  The area located between the house and the timber was likewise suitable for cultivation of crops and pasture (Deffontaines 1953: 8).

According to Deffontaines (ibid: 9-10), the size of a lot was between 3 arpents or 175.41 meters and 4 arpents or 233.88 meters across.  In the early days, a property was defined by its front; the length was frequently left undetermined.  When a determination of length was made, it was often at 10 arpents or 584.7  meters, 20 arpents or 1169.4 meters,  or 40 arpents or 2 338.8 meters, more or less (Table 1).

Hamelin (1993: 74-76) describes the size of land concessions at l'Assomption, Québec since 1750 as having an average width of 3.4 arpents or 198.798 meters, a range of width between 1 arpent or 58.47 meters and 6 arpents or 350.82 meters.  The average length was 25.7 arpents or 1502.679 meters and the range of length was between 16 arpents or 935.52 meters and 60 arpents or 3508.2 meters.  The average ratio of width to length was 1 arpent or 58.47 meters to 7.5 arpent or 438.525 meters (Table 2).

**TABLE 1.  Rang/long-lot dimensions according to Deffontaines**

|  | Arpents | French Pieds | American Feet | Meters |
|---|---|---|---|---|
| Range of Width | 3 to 4 | 539.987 to 719.983 | 575.492 to 767.323 | 175.41 to 233.88 |
| Range of Length | 10, 20 or 40 | 1799.959, 3599.919 or 7199.838 | 1918.307, 3836.614 or 7673.228 | 584.7, 1169.4 or 2338.8 |

**TABLE 2**. **Rang/long-lot dimensions at l'Assomption, Québec**

|  | Arpents | French Pieds | American Feet | Meters |
|---|---|---|---|---|
| Average Width | 3.4 | 611.986 | 652.224 | 198.798 |
| Range of Width | 1 to 6 | 179.996 to 1079.975 | 191.831 to 1150.984 | 58.47 to 350.82 |
| Average Length | 25.7 | 4625.896 | 4930.049 | 1502.679 |
| Range of Length | 16 to 60 | 2879.935 to 10 799.758 | 3 069.291 to 11509.842 | 935.52 to 3508.2 |
| Average Ratio of Width to Length | 1 to 7.5 | 179.996 to 1349.970 | 191.831 to 1438.730 | 58.47 to 438.525 |

In addition to the river and the standing trees at either end of a rang, fences along its side were a key defining feature of a property. In particular, traces of fence lines are one of the more useful and obvious archeological features, since postholes and postmolds as well as soil changes may indicate the boundary of an historic property long after the fence has degraded. For this reason, the discussion of the fence will be treated in this section along with the rang.

The clôture de perches was a common wooden fence type built by the Canadien/Métis of the nineteenth century and it was used to create a visible border between properties (Payment 1990: 223; Séguin 1976: 29). Stones can

also be an important feature for recognizing the border between rang/long-lot properties.  Stones gathered from a property were many times placed and stacked at property border lines (Provencher and Blanchet 1980: 136).  Finally, the fence between properties was often used as a means of support for the growing of hops (Dupont 1974: 50-51).  All of these practices may be detectable through various methods.

Each section of fence began and ended with two posts placed next to each other and long rails were placed between each of these double post stations.  The clôture de perches could be built in the form of a straight line or as a zigzag (Lessard and Marquis 1972: 656-657).  The rails were generally ten to twelve pieds long or longer and six pouces in diameter.  The posts were usually made of cedar or other moisture- and insect-resistant wood, measuring six or eight pieds long and placed about one pied apart at each double-post station to accommodate rails. Posts were pounded deeper than the depth of the holes and holes were made small enough in diameter to receive the post and to provide support for it (Séguin 1976: 29, 33, 35).

> "The fence consisted of two posts planted in the ground, one next to the other, at about one pied distant.  These posts, in piercing the ground, were connected by three or four wooden chevilles on which rested the rails, which were usually of cedar" (Séguin 1973: 453, my translation).   See figure 61.
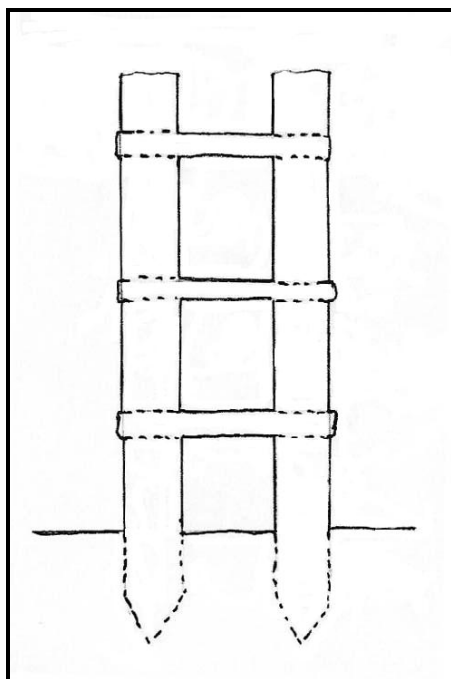
**FIGURE 61.** Clôture de perches formed of two posts and three chevilles
(Illustration by James Hébert based on personal observation, September 2002).

       An alternative method of building the clôture de perches substituted the
cheville for the blochet or biochet (Figure 62), which were short blocks of
wood.  At each end of a blochet/biochet was a rounded notch that fit into
matching indentations carved into the posts.  To hold the two posts tightly
together so that the blochet/biochet would stay in place, a *lunette* was placed
over the top ends of the two posts.  The lunette was built of a short half-round
log that was perforated through both ends.  The holes fit down over and around
the top ends of the two posts (Séguin 1976: 24).  See figure 63 for illustration
of the blochet and the lunette.
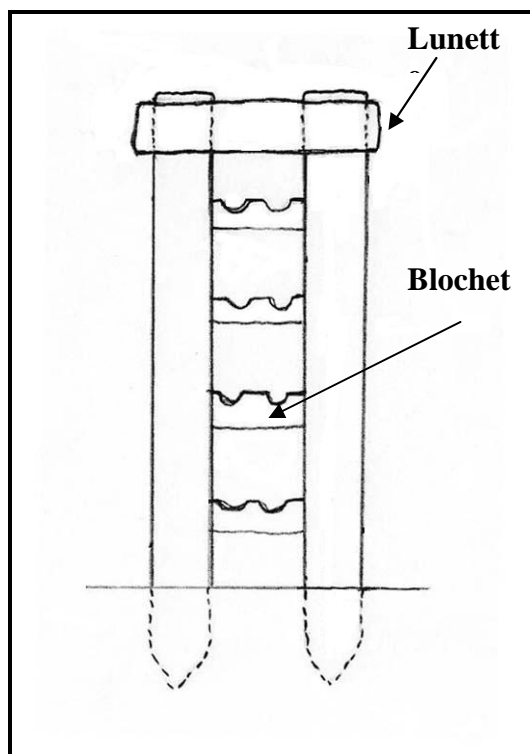
**FIGURE 62.** Clôture de perches with blochets and lunette (Illustration by James Hébert based on personal observation, September 2002).
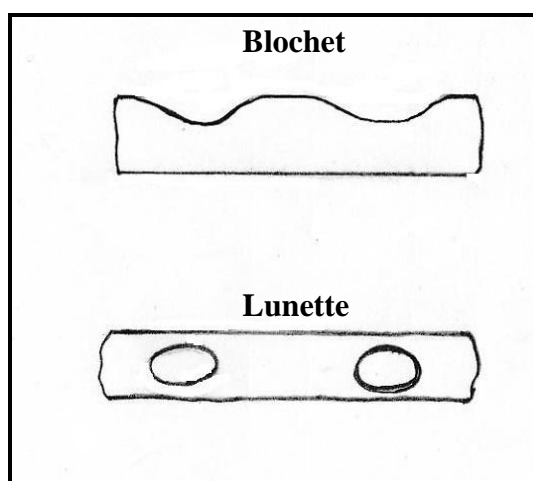


**FIGURE 63.** Blochet and lunette (Illustration by James Hébert based on personal observation, September 2002).

The tools used in making the clôture de perches include: the *tarière* (Figure 64) which is a drill used to make holes in the lunette, the *épieu ferr* or pince de fer which is used to dig the post holes, and the *masse a clôture* which is a large mallet used to pound the posts into the ground (Morin 1972: 67; Séguin 1976: 31-32, 37).
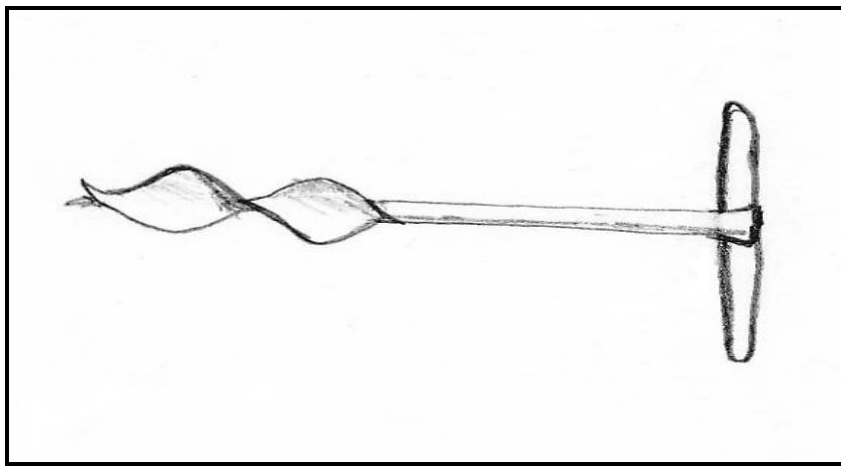


**FIGURE 64.** Tarière (Illustration by James Hébert based on personal observation, September 2002).

The presence, location and character of rang properties may be detectable in the historic record and ethnohistorical sources; cadastral maps, survey notes, land claims documents, travelers logs, photographs, drawings and the like may describe long-lots and rail fences associated with historic Canadien and Métis populations even if they are not named. Oral interviews may also provide information about land claims, lot arrangement and fence construction. A remarkable number of features common to a rang and to fences also may be detected through visual pedestrian survey—paths connecting old properties may still be used or only overgrown, decaying wood

may still be left where fences have fallen (Figures 63-65), hops may still grow along old fences and artifacts may also be left on the surface.

Remote sensing can be useful in finding rang communities, particularly because, in many areas of the country, the rang property lines are extant. Figures 65-67 are satellite images of historically Canadien and Métis settlements where the rang properties are clearly visible. Imaging information also can provide clues to past human activity located beneath the surface of the ground (Hester, Shafer and Feder 1997: 178). Landsat images can be useful for seeing land and vegetation patterns that may indicate fence lines and other property boundaries and are available in visible and invisible wavelength spectrums (ibid: 178-179).



**FIGURE 65.** Rang properties extend off the Lafourche River, LA. (TerraServer USA:

http://terraserver.microsoft.com/usgsentry.aspx?T=1&S=11&Z=15&X=1797&Y=8233&W=1&qs=%7clafourche%7c%7c)

**FIGURE 66.** Landholdings extend from the Willamette River, near Champoeg State Park, 36 km SW of Portland, OR. (TerraServer USA: http://terraserver.microsoft.com/image.aspx?T=1&S=13&Z=10&X=316&Y=3 131&W=1&qs=%7cchampoeg%7coregon)

**FIGURE 67.** Appleton near Green Bay, WI (TerraServer USA:
http://terraserver.microsoft.com/image.aspx?T=1&S=12&Z=16&X=510&Y=6
140&W=1&qs=%7cgreen+bay%7c)

Historical aerial photographs may bring rangs into relief that have since

been subdivided. Additionally, current aerial photographs in color,

panchromatic and infrared may reveal evidence of ground disturbing activity

related to the creation and maintenance of property lines and borders (Hester,

Shafer and Feder 1997: 180). For example, it is possible to see the effect of

old fence post holes, the placement of stones from fields at the borders of

properties, the past concentrations of plants that had been purposely planted or

had merely grown along fences over many years, and refuse pits that may have been located along property lines (Les Belleque, 2002: Personal Communication).

> "These old holes in the ground, now backfilled, leveled, and invisible to the ground observer, comprise a huge percentage of the surviving sample of past communities that is available for study" (http://aarg.univie.ac.at/: 2006).

A ploughed field may render property boundaries visible in aerial photographs because of the difference in the color of soils combined with the cultural materials brought up by ploughing. Additionally, grass and crop growth can aid in archaeological investigation because variation in moisture content between post holes and other excavated features and the surrounding field can result in differential crop growth. Both plant color and rate and height of growth may be affected and through aerial photographs reveal a clear mapping of property boundaries (ibid).

Ground penetrating radar (GPR) and magnetometer surveys can be used to map and record subsurface features and as an aid in identifying locations for testing and excavation (Conyers: 2005). With prior knowledge of the approximate or likely location of old fence lines or property boundaries and the distinguishing physical characteristics of the rang, the archaeological researcher may use remote sensing to identify and define historic properties.

## STRUCTURES

The Canadien/Métis rural built environment was composed of several distinct structures including, the house with a chimney, hearth, cellar, and

summer kitchen, the fournil, bread oven and the barn and stable.  Techniques for locating and identifying these features are self-explanatory; literature searches and archival research, remote sensing, pedestrian survey and test excavations are all viable methods. This section describes the structures in detail, places them on a property relative to one another, and delineates other aspects of their construction that may be of importance to identifying these structures in the archaeological record. This synthesizes the results of ethnographies, architectural reports and archaeological investigations conducted at a variety of home sites in order to provide a diagnostic tool for investigation.

Experienced and highly skilled Canadien and Métis carpenters were present on French Prairie (Les Belleque, 2002: Personal Communication) and were actively contracting to build homes, barns, boats and the like.  This was likely the case in other nineteenth-century Franco-American communities. For this reason, the practice of numbering timbers for construction projects is an important diagnostic for archaeologists and historical architects.  As the timbers were cut and prepared for building the walls of a house they would often be marked with numbers by the carpenter to aid in making sure that the logs fit as tightly as they should and to create spaces for the windows and doors (Julio (de) 1996: 47).  "In traditional carpentry, one takes care, to mark each cut piece, these marks, made with an axe can be observed on the frame" (Varin 2001: 60).  Figure 68 is list of carpenter's marks.

**FIGURE 68.** Numbering system used by carpenters (Varin 1985b: 34).

## La Maison—Placement and Size

The predominant house construction technique of the Canadien/Métis was pièce-sur-pièce. Several studies of Canadien/Métis nineteenth-century structures outside of Québec reveal evidence that the cultural knowledge for building pièce-sur-pièce structures was carried with the Canadiens to new regions and was passed on to their Métis children and then to the next generation.

The house was placed at the front of a rang and an attempt was made to place the house near enough to the river for easy access, but far enough to avoid periodic flooding. A path was often created that linked and crossed all of the individual land concessions binding them together as did the river (Hamelin 1993: 55, 60-61).

Although houses could be built in a variety of sizes, there does appear to be a recognizable Canadien/Métis pattern. According to data gathered by Moogk, the width to length ratio for a house is generally 4:5 (1977: 35). Furthermore, Au has estimated that the vertical coulisses are placed at intervals of multiples of five pieds; a coulisse is placed roughly every five pieds, ten pieds and so on (1991: 8).

Canadien François Vertefeuille's House and Métis Louis Riel's house provide an excellent opportunity for testing this model. The Vertefeuille House measures roughly 18 x 20 feet—a ration of 4.5:5—with coulisses placed at both ends and at the middle of the longer wall or every 10 feet. A coulisse also sits in the middle of the eighteen foot wall or at nine-foot intervals (Au 1991: 20; Julio (de) 1996: 46, 50). The Riel House measures 20 x 25 feet—ratio of 4:5. The distance between the coulisses along the 25-foot wall is 12.5 feet and 10 feet along the 20-foot wall (Elder 1973: 33). The size ratio and distances between coulisses appear to reinforce Moogk's and Au's conclusions.

Horace Lyman's 1909 interview with Louis Labonté Jr. suggests that the Joseph Gervais' house and barn at least partially fit the model (1909: 169). Based on the information provided in the interview, the house on the Gervais property had a ratio of 3:4 and the barn had a ratio of 4:5. While the house ratio does not follow the model, the barn does. There is not enough information to determine the distance between the coulisses, however, the barn was clearly a pièce-sur-pièce en coulisse structure. Furthermore, one might infer that Gervais had constructed a traditional Canadien-style home from the information about the size, layout and construction of the house. It is unclear what is meant by "on the ground," but it is possible that Labonté is suggesting a wood foundation. Lyman also indicates confidently that this construction style, while "peculiar," was common on the Prairie.

"The house was about 18 x 24, on the ground, and was constructed of squared hewed logs, of rather large size. There were two floors, one below and one above, both of which were laid with long planks or puncheons of white fir, and probably adzed off to a proper level… The barn was of good size, being about 40 x 50 feet on the ground, and was of the peculiar construction of a number of buildings on early French Prairie. There were posts set up at the corners and at the requisite intervals between, in which tenon grooves had been run by use of an auger and chisel, and into these were let white fir split planks about three inches thick to compose the walls" (ibid: 174).

## Archaeology of Pièce-sur-Pièce en Coulisse

A foundation could be built from any readily available material, but most foundations were made of fieldstone held together with mortier or, on occasion, clay. Flat field stones or cut and worked stoned could also be used without mortar. Foundations were also sometimes made of wooden blocks or beams. Brick foundations were not unknown during the nineteenth century, but as a rule wood and stone stayed the preferred material by the people of the countryside (Moogk 1977: 40; Lessard and Vilandré 1974: 104, 106, 108, 120).

The François Vertefeuille House at Prairie-du-Chien (circa 1805) was outfitted with a stone foundation described as follows, "the structure was set on a foundation of rough-cut limestone laid up with mortar, the stones set in a shallow trench less than a foot deep" (Julio (de) 1996: 46). According to historic architect Dennis Au, the foundation at the François Vertefeuille House is similar to a foundation excavated at the site of the François Deloeuil House in Monroe, Michigan that, circa 1818 (1991: 27).

The excavation of the Louis David Riel House (circa 1864) uncovered the remains of four different structures (Figure 69). The remains of the Gendron House (circa 1850) foundation included squared logs with some wooden blocks or shims that apparently were placed perpendicular and under the foundation logs to level the house. The sizes of the blocks or shims were 42 x 22 x 5cm, and 40 x 11 x 3 cm. Only one foundation log provided enough information to reveal the original size of 9 x 20 cm (Forsman 1977: 3, 4).

Like the Gendron House, the remains of the Parenteau House (circa 1835) included a foundation made of squared logs resting on wood blocks or shims. Some shims rested on sterile soil, while others were in slight depressions. The base logs remaining were determined to have had half-lapped corners. The base logs had mortises cut into them for receiving upright coulisse posts, indicating that the structure was built using the pièce-sur-pièce en coulisse method. One base log measured 16 cm wide by 8 cm thick and another measured 16 cm wide by 10 cm thick. The shims measured 50 x 16 x 6 cm and 9 x 7 x 1.5 cm (ibid: 6-8).

The base logs for the Louis Riel Annex, were squared and lay directly on the ground and lap-jointed at their corners (ibid: 9-10). The Riel House is still standing today and an architectural study was inconclusive in determining what type of foundation the Riel family originally laid. At the time of the study, the structure was elevated on concrete piers. It is likely, however, that it had a fieldstone and lime mortar foundation; remnants of a rubble stone wall and what appears to be lime mortar was present under the north wall of the building (Donahue 1980: 6).
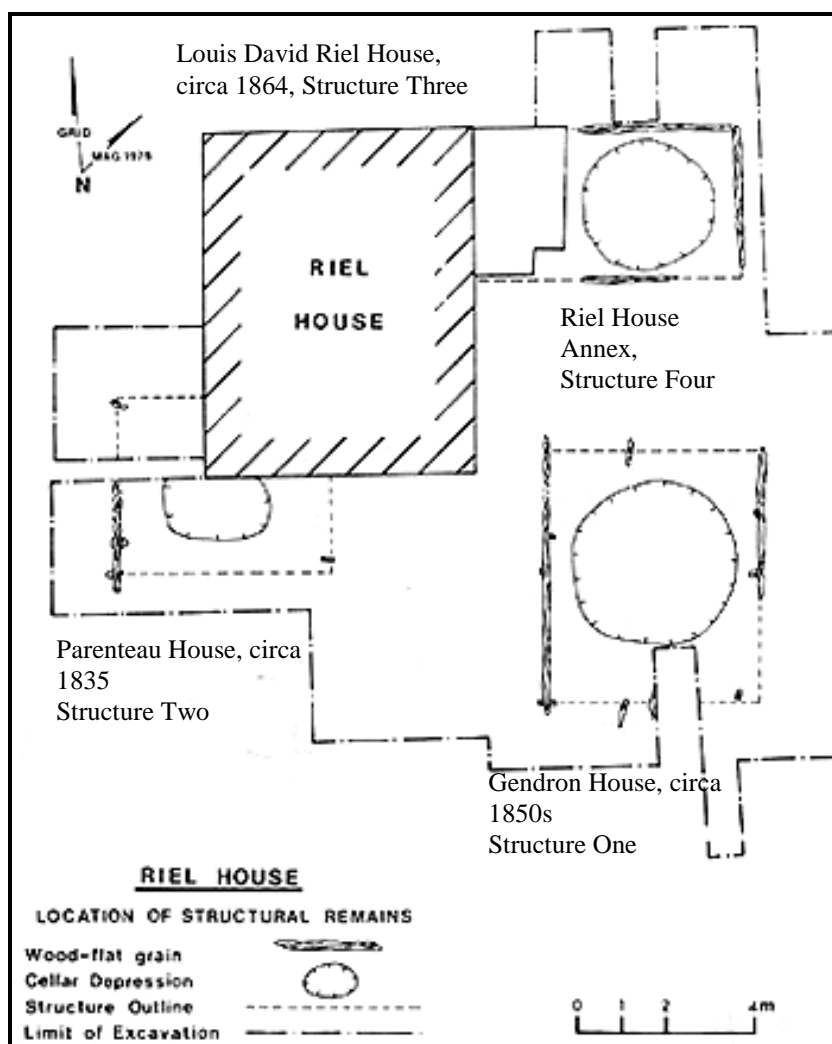
**FIGURE 69.** Excavation map of the Riel House and Annex, Parenteau House, and the Gendron House (Parcs/Parks Canada).

The Zavier Letendre dit Batoche House located at Batoche, Saskatchewan had a foundation made of pierres des champs or field stones and mortar. The house foundation was laid in a trench and the stones below ground level were left unmodified while the stones that showed above ground level were cut and worked into squares and rectangles (Donahue 1980: 5). Other structures excavated at the Batoche settlement showed a diversity of

foundation styles.  These included sill logs placed directly on the ground, mortared stones, stones without mortar and logs laid on pads of clay (Donahue 1977: 5).

The remains of a pièce-sur-pièce structure was surveyed and excavated at Lane's Post, a Hudson's Bay Company experimental farm established in 1855 on the White Horse Plain along the Assiniboine River within the Red River region of Manitoba.   The excavation revealed a foundation composed of several squared logs placed side by side and resting directly on the ground. The structure was placed directly on these sill logs, "The sill logs were oriented east-west, spaced 1.5 meters apart and rested on the original ground surface" (McLeod 1988: 5-6, 27).   Other structures at Lane's Post had stone and mortar foundations or were placed directly on the ground without any foundation (ibid: 5, 6).

## The Remains of La Cave

The cave was usually entered through a trapdoor built into the floorboards. According to Payment, the Métis stored "les racines" or root vegetables in the cave and it was generally entered through a trapdoor in the kitchen or the summer kitchen floor.  "Ordinarily a trapdoor lead to the cellar under the kitchen or the cuisine d'été or bas-côté" (1990: 54, my translation).

Sometimes an external entrance (Figure 70) was built below the house foundation (Lessard and Vilandré 1974: 104).  Dennis Au discovered evidence of a cave with an external entrance while excavating the François Deloeuil House, circa 1793-1818, in Monroe, Michigan.  The entrance had "logs laid up on the earth as steps" (1989: 14).  The hardware for an external door was often the pintle and strap hinge.  This style of hinge was designed for use with heavy

doors, making it perfect for the door on an external cave entrance. "The cellar door (was)…to be hung on iron pintles (*gonds*) and be furnished with strap hinges (*pentures*) (Moogk 1977: 85)."
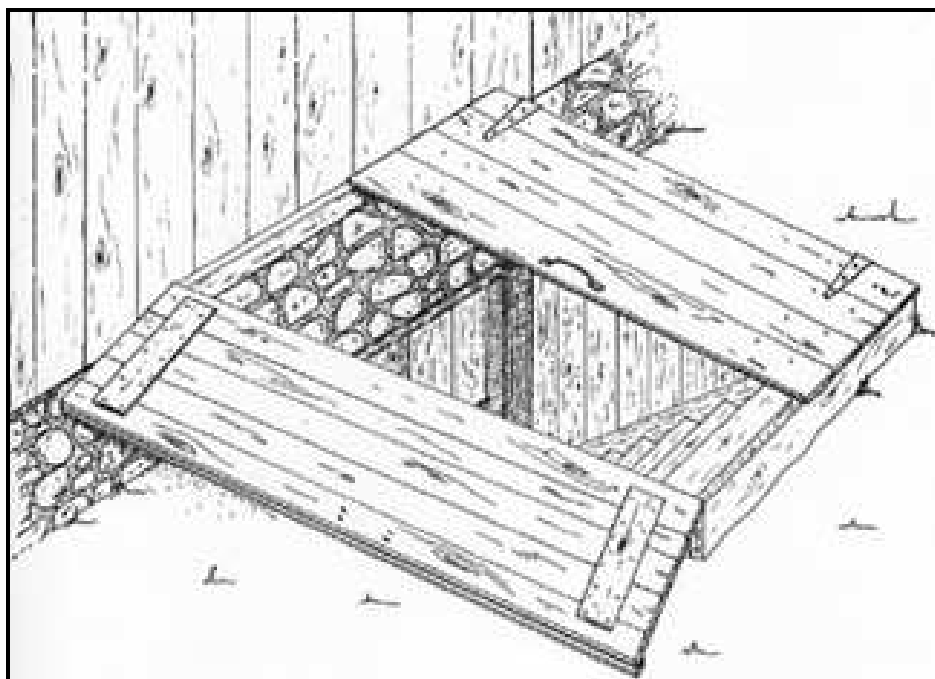


**FIGURE 70.** External cave entrance (Drouin 1978: 45).

During the summer of 1983, archaeological investigations discovered a cave under the Caron Sr. House (circa 1884), a Métis home-site at the Batoche National Historic Site in Manitoba along the South Saskatchewan River. The cave measured 1.9 x 1.8 m and 0.75 meters in depth and contained burnt wood and chinking, ash, faunal remains and other late nineteenth-century artifacts including an 1880 coin (Lee 1984:1, 4; Lunn 1991:1, 3).

In the early 1980s, David McLeod excavated several caves beneath pièce-sur-pièce homes at Lane's Post. McLeod describes the caves as an "earthen hole beneath the floor of the building" and writes that at least one of

them had walls made of logs.  He does not mention if the logs are squared (1988:3, 5-6, 15, 27).

McLeod's 1982 excavation of the Delorme House Site also revealed a cave.  Pierre Delorme, a first-generation Métis on his father's side, built a pièce-sur-pièce style home between 1857 and 1865 on the bank of the Red River, south of Winnipeg, Manitoba near the town of St. Adolphe (1982: 1, 5-6).  The cave under the Delorme house was located below the kitchen and was constructed with peeled round logs stacked horizontally atop each other to form the walls. They were held in place at the corners by vertical stakes that had been pounded into the ground.  The cave was, as expected, used for storage.  Artifacts found in the cave included metal, ceramic, glass and botanical materials from several functional categories including kitchen, architectural, clothing, and personal (ibid: 117, 123).

At Trois Rivières, Québec in 1974 and 1975, two eighteenth-century houses were excavated and two caves were identified in each house.   The first of the two caves identified in building 24.1 (circa 1741) was a depression containing eighteenth-century artifacts identified at the northeastern corner of the structure. A hole in the east wall of the structure's stone and mortar foundation is believed to have been an external entrance to the cave.  A significant amount of burnt wood resulting from a fire that destroyed the house was found in the cavity where the entrance was located.  The cave was not excavated to definitively determine its depth, however, it was estimated that it measured 10 pieds or 3.25 meters by 16 pieds long or 5.2 meters wide. Details of the construction method were not reported. (Drouin 1978: 34, 42, 45, 55, 69).

The second cave in structure 24.1 was located in the southeast corner of the structure. A layer of boards overlaying the surface of the feature is believed to have been the floor above and there was no trace of an external entrance.

Investigators assumed that this cave entrance was an interior trap-door in the floor, "In the absence of any trace of an exterior entrance, we can surmise that the access to this cave was interior, perhaps through a trap door in the floor" (Drouin 1978: 55, my translation).  This cave was the smaller of the two, with an estimated size of 10 pieds or 3.25 m long by 5 pieds or 1.63 m (ibid: 67, 69).

The second structure, 24.4 (circa 1730), also had two caves, one in the southeast of the structure and the other in the northwest of the structure.  The depth of the southeast cave were not determine, but it measured 10 pieds or 3.25 m long by 8 pieds or 2.6 m wide and the southern limit appeared to coincide with the foundation of the house.  The northwestern cave co-existed with the first and it as smaller; it measured 9 pieds or 2.92 m by 6 pieds or 1.95 m and its northern edge also coincides with the wall of the house (McGain 1977: 20, 25, 64).

Another eighteenth-century (circa 1748-1760) domestic residence in Trois Rivières, Québec revealed a wood-walled cave with a sand floor.  The cave measured 5 pieds or 1.62 meters square and was 1.5 pieds or 0.49 meters deep.  The remains of a barrel measuring 1.4 feet in diameter were found at its bottom.  The structure of the wood walls and the sandy floor lead researchers to believe that this cave was built in four steps.  First, the cave was excavated and a layer of sand placed on its floor in order to level the foundation for the wooden walls and to provide a good surface for storing the foodstuffs.  Next, two flat stones were placed in two of the corners. The wall structure was built and lowered into place onto the foundation stones; nails in both sides of the wooden walls indicate that they were constructed before being placed inside the cave against the soil walls.  Finally, the two corners resting on the stones were mortared in place (Tremblay 1978:7-9).

In the spring of 2001, Francoise Duguay of Archéocène, Inc. discovered a shallow, wood-walled cave in her excavation of a late-eighteenth/early-nineteenth century Canadien home (circa 1770-1829) located in the Faubourg Saint-Laurent district of Vieux-Montréal, Québec.  In this instance, the cave, which measured 6 x 7 m appears to have been the same size as the structure much like a basement. A stone path lead to the cave's entrance at the eastern side of the house. A flight of stone stairs extended down into the cave from the entrance which was cut through the house's limestone masonry foundation.  The well was located 20 m east of the house (2001: 28-29); perhaps its location not to distant from the entrance to the cave was planned so that the water could be easily taken directly down into the cave for storage.

Although they were not Canadien, it is useful to look at Acadian architecture because of their shared cultural and historical roots; both populations originated in France and settled in within relative proximity of one another in the "New World" where they interacted and traded with each other and with the native population.  The Acadians left France and established settlements in Nova Scotia beginning in 1604 and created remarkably successful agricultural communities until they were abruptly and violently expelled by the occupying British government in 1755.  After the expulsion, or *le grand dérangement* of the Acadiens many fled to Québec and integrated easily into these Francophone, Catholic, agricultural communities.  There were three waves of Acadien refuges who settled the Bécancour region of Québec in 1758, 1765, and 1767 (Dubé 1999:21).  Similarities in Acadian, Canadien and Louisiana's French Creole architecture speak to the persistence of material culture as an ethnic and cultural marker.

During the summer of 1984, David Christianson conducted a survey of an area on the north shore of the Annapolis River where there was evidence of past Acadien settlement,  "For almost a century, until the British deportation of

Acadians in 1755, the settlement was home to Charles Melanson, Marie Dugas and their descendants and associates." According to historic documents, in 1714 there were nine different households, and in 1725 there were eight households, and in 1753 there were seven households (Crépeau and Dunn 1986: 1, 7). Surveyors identified 18 features—the single most common being the cave. All seven caves left surface depressions approximately 5 to 6.5 meters square and approximately one meter deep (Crépeau and Dunn 1986:10).

## La Cheminée—Placement and Construction

There is little archaeological data on chimneys, but the style and material of construction and location could be of use in locating and identifying the type of chimney or chimneys. A chimney could be positioned at the end, at the middle, or at both ends of a structure. They were placed against the outside surface of a wall, the inside surface of a wall, or within the structure of a wall (Gauthier-Larouche 1974: 146-151).

There were a variety of ways to construct a chimney; they could be built of stones or bricks held together with mortar or clay or they could be built of branches or lumber held together with clay (Figures 71 and 72) (Lessard and Vilandré 1974: 118; Moogk 1977: 36; Nute 1955: 191; Séguin 1969: 178). The latter method is referred to as a cheminée à quatre bâton (Landry 1932: 27).
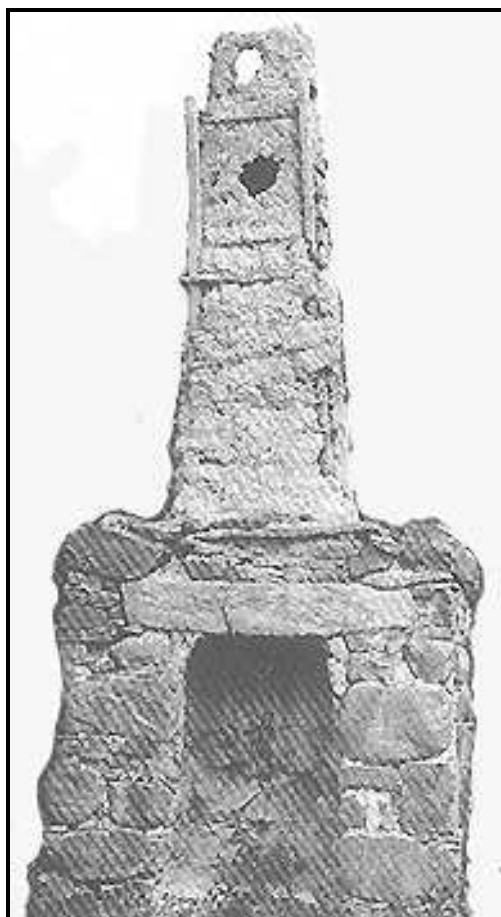
**FIGURE 71.** Cheminée à quatre batons and hearth of stone, western Canada (Moussette 1983: 123).

**FIGURE 72.** Cheminée à quatre batons, Rural Life Museum, Burden
Research Plantation, Baton Rouge, Louisiana, (Ross 1999: 58).

Saint-Amant describes the chimney built and used by Antoine Masta at
his French Prairie farmstead.

> "he made an enormous fire in a corner of this square room
> where the floor did not extend, there was a crépis opening to
> allow the smoke to excape. The walls of this old structure [the
> chimney] were made from the trunks of non-squared trees laid
> on each other and joined at four corners. The spaces between
> the logs … following the custom, were filled with clay" (1854:
> 194, my translation).

In addition, Louis Labonté Jr. in 1909 describes the fireplace of his neighbor Joseph Gervais at French Prairie, Oregon providing further evidence of this form of chimney being used at French Prairie. "a large fireplace . . . of sticks tied together with buckskin thongs, and covered with a stiff plaster made of clay and grass" (Lyman 1909: 174).

## Determining the Presence of la Cuisine d'Été/Bas-Côté

The cuisine d'été/bas-côté was an annex attached to the wall of a house and accessible through a short passageway two-steps long (Boily-Blanchette 1976: 4-5; Dupont 1995: 76; Morin 1972: 63). The difference between the cuisine d'été and the bas côté is the foundation; the former has a foundation level with the house whereas the bas-côté lacks a foundation and, therefore, sits lower than the house (Provencher 1980: 125). The difference is purely aesthetic—both structures serve the same function.

The cuisine d'été/bas-côté was used by both the Canadiens and the Métis. Métis informant Louis Goulet confirms the use of the cuisine d'été/bas côté in Métis settlements along the Saskatchewan River and the placement of a cave under the summer kitchen's floor (Payment 1990: 54). Figure 73 is a photograph of a restored Métis home with a summer kitchen.

**FIGURE 73**. Restored nineteenth-century Métis house with cuisine d'été/bas-côté, St. Norbert Provincial Hertiage Park, Winnipeg, Manitoba. (James Hébert, August 2002, Photograph)

According to Hamelin, during the initial phase of a settlement, colonists built small, expedient houses. Permanent residences suitable for year-round use were erected later as time and weather permitted and the settlement became more established (1993: 55, 60-61). Architectural historians and archaeologists have identified this pattern at other Métis and Canadien settlements outside Québec.

There is also evidence of this pattern at French Prairie; Antoine Masta was, evidently, living in a small structure and building a new one next to it. "I arrived near a building falling into disrepair, but beside which was being erected the foundation of a new construction" (Saint-Amant 1854: 193, my translation). Saint-Amant further noted, "This house is going to be much larger than the old one" (ibid: 208, my translation). It appears likely that, after an expedient structure was built, it was not torn down but incorporated into the

new house has a cuisine d'été/bas-côté.  The following syntheses of architectural and archaeological studies will provide details important to understanding the archaeological record including the likely reuse of an expedient structure as a cuisine d'été/bas-côté.

In 1978, archaeologists excavated the remains of the Batoche House at Batoche, Saskatchewan.  The Batoche house was built for Métis Zavier Letendre dit Batoche by a Canadien and master builder, Ludger Gareau (Donahue 1980: 4-5).  The Batoche House was composed of two structures, each with its own cave, connected by a small passageway 60 cm long.  The larger structure measured 9.3 by 7.3 m, and the smaller measured 5.7 by 4.4 m (ibid: 5).  The foundations of these structures appear to have been built at different times; the smaller building was erected first and connected to the larger later (ibid: 6).  The presence of a cave in both buildings and earlier construction of the smaller one supports the idea that the initial structure served as an expedient shelter.

An architectural study (1983) and archaeological investigation (1987) of the Jean "Ti-Jean" Caron Sr. House at Batoche, Saskatchewan (Lee 1984: 4) elucidates the method by which Canadien and Métis families created a farmstead.  The Caron Sr. house provides strong evidence that the summer kitchen began its existence as an expedient home during the initial period of settlement.  According to an 1884 homestead declaration, the Caron family built their first home near the Saskatchewan River in 1881.  This log home was only 6 x 3.6 m with a thatched roof.  In 1884, the family built a larger two-story, log house measuring 7.8 x 5.4 m.  The smaller structure was then attached to the main house with a small passageway (Lunn 1991: 1) for which it probably served as a cuisine d'été/bas-côté (Figure 80).

In 1885, British soldiers burned down all of the buildings at Batoche. In 1886, construction began again and followed the same pattern.  The Caron

family built a 5.5 x 6 m cabin with a thatched roof and, later, they built a larger house and the expedient structure became an attached annex (Lunn 1991: 1, 3). Figure 74 shows the Caron family in front of their house, circa 1895, Figure 75 is a photograph of the Caron Sr. House, and Figure 76 is a plan map of the house in 1983.



**FIGURE 74**.  Batoche, SK – Family of Jean Caron of Batoche, his wife Marguerite Dumas, (Photo OB.205 appears courtesy of the Missionary Oblates, Grandin Collection, Provincial Archives of Alberta).

**FIGURE 75.**  Caron House, pre-restoration (Lee, Ellen–1984 Archaeological Research at Batoche National Historic Site–1983 Field Season).
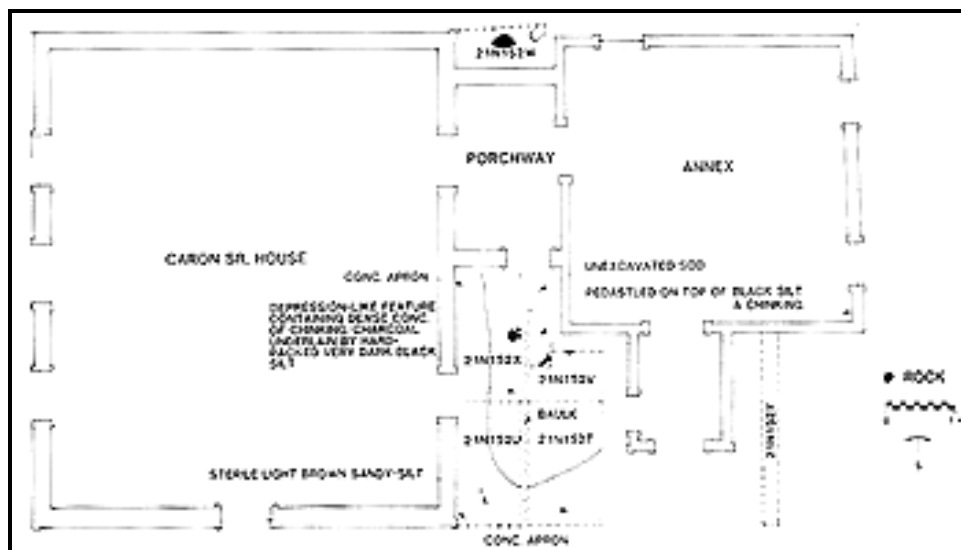


**FIGURE 76.**  Plan view of the Caron House (Lunn 1991: 6).

In 1976, Michael Forsman excavated the Riel House (Figure 77) "Annex" as a Parks Canada project.  Communication between Forsman and Diane Payment indicates that the "annex" was likely a "summer Kitchen" (Forsman 1977: 11). Artifacts recovered from the annex support this assertion.

Many were related to kitchen functional activities and included the modified remains of fish, shellfish and mammals as well as ceramic tableware, glass containers, tumblers, a lamp chimney, pane glass and a dinner fork (ibid: 10). The ceramic fragments range from the early nineteenth century to the 1870s. Fabric fasteners, leather, a toy tea cup, glass beads, a doll's head, a clay pipe stem, a metal file, padlocks, a chisel, and a garden hoe were also recovered (ibid), suggesting the family's recreational use of this space and an association with summer activities, such as gardening.



**FIGURE 77.** Southern view of the restored Louis Riel House with bas côté. (James Hébert, August 2002, Photograph)

The footprints of the summer kitchen were found at the east side of the house where a cave as well as the base logs, floor boards and joists were recovered. The base logs, which rested directly on the ground running east to west, were well enough preserved to estimate the size and shape of the

structure as 6 m (east-west) by 3.6 to 4 m (north-south) forming a rectangle. The base logs were squared and measured 11 cm wide by 10 cm thick. Like the base logs, the floor joists rested directly on the ground and were a maximum thickness of 4 cm. A few remnants of flooring remained over the joists; these planks were 0.8 cm to 1.5 cm thick. A small earthen cave, 3 m in diameter and 1.2 m deep, was found at the east end of the structure (Forsman 1977: 9).

On the south side of the structure, Forsman recovered a post hole thought to be the remains of a door frame (ibid). Its location corresponds to the doorway of the cuisine d'été/bas-côté observed in a woodcut of the Riel House made in 1886 (Elder 1976: 27). The main extant structure at the Riel House site had a raised foundation (Lunn 1991: 1); the summer kitchen sat at a lower level than the house and was probably a bas côté (Figure 78).
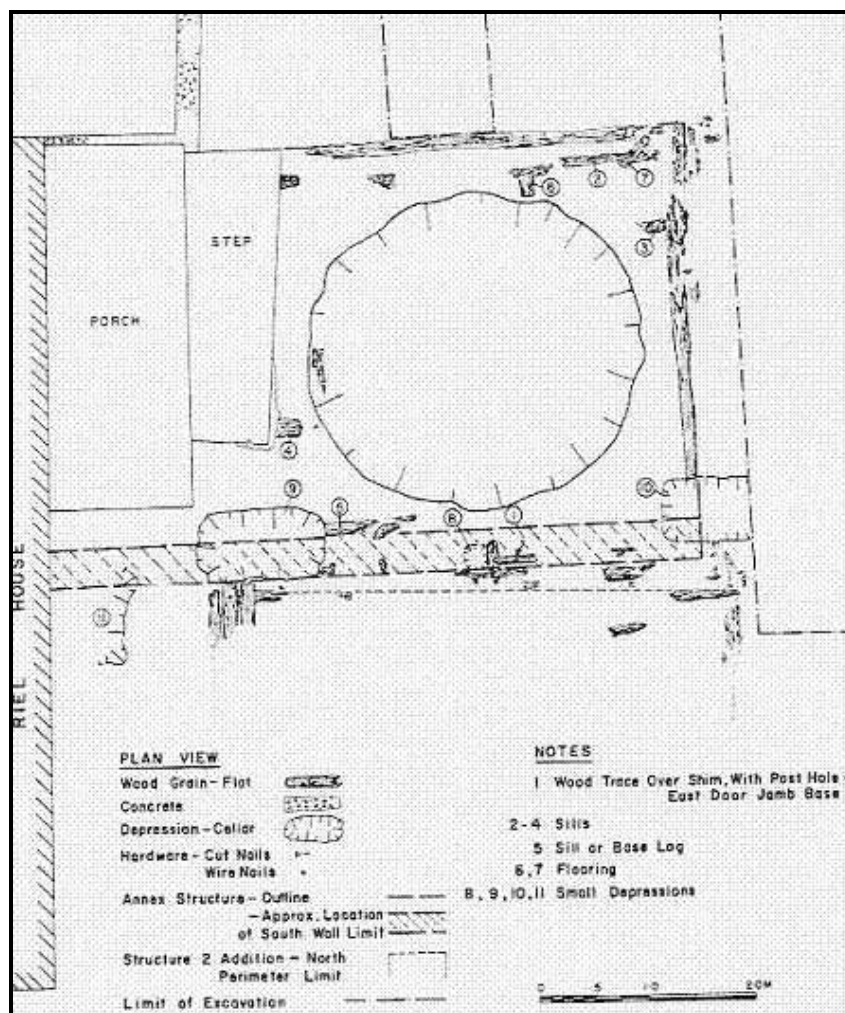
**FIGURE 78.** Plan view of the Louis Riel Annex excavation (Parcs/Parks Canada).

While there is no direct evidence that the structure was built before the house, its lack of foundation and analogy with other Métis sites seem to suggest this was probably the case.

## The Location and Size of le Fournil

In France, the fournil originally served as a bake house (Boily-Blanchette 1976: 6; Morin 1972: 63; Séguin 1973: 351).  Once in the New World, the function changed over time as the colonists adapted to their new environment.  The fournil took on a new purpose—it became the center of domestic life during the summer (Boily-Blanchette 1976: 5).  For some, the fournil served a similar function as the cuisine d'été/bas-côté (Provencher 1980: 125).

> "Over time a supplementary function was given to this building which, originally, only served as a place for the oven and to which, little by little, it played the role of a place to retire to for the summer" (Boily-Blanchette 1976: 5-6, my translation).

The fournil was usually constructed halfway between the house and the grange or the grange-étable.  Provencher places the fournil behind the house approximately twenty-five to thirty pieds, or 8.121 to 11.37 m (1980: 49, 124).  Boily-Blanchette's observations of nineteenth century fournils on the south shore of the St. Lawrence River between Kamouraska and the Bas du Fleuve, Matane, Québec (Boily-Blanchette 1976: 1-2) agrees with Provencher; she found that the fournil was located a minimum of twenty-five pieds or 8.121 m from the house, but that the position of the well or spring was also considered in placing the structure (ibid: 11).   Informants stated that the reason for placing the fournil at this distance was a balance between fear of fire spreading to the house and ease of use (Boily-Blanchette 1976: 5; Dupont 1995: 76).

Like a house, the exterior surface of the log walls were often covered with boards and then whitewashed. The roof was shingled and, sometimes, a porch was added to the front of the structure.  The length of the structure

usually measured between 15 and 25 pieds (without a porch) and was usually one and one-half story with internal stairs opening into the upper level. As in house, this space was referred to as a grenier. (Boily-Blanchette 1976: 11, 12; Morin 1972: 63). The resulting structure looked very much like a small house located behind main home (Figure 79).



**FIGURE 79.** Pièce-sur-pièce fournil with four à pain (Archives de folklore et d'ethnologie de l'Université Laval, Fonds Luc Lacourcière).

The four à pain, if internal to the structure, was built along side the fireplace and shared its vent. If external, the front opening of the four à pain was built against the back of the chimney which also allowed for the venting of smoke. Both arrangements permitted the baker to bake while indoors. When

an externally attached four à pain was used, the bread was placed inside it by reaching into the front of the fireplace and then through an opening in the back wall of the chimney (Séguin 1969: 176-177) (Figure 80).

Because of the architectural similarities between the fournil and the house, they may be difficult to distinguish.  However, the use areas associated with baking and summertime activities should distinguish it from the year-round residence.
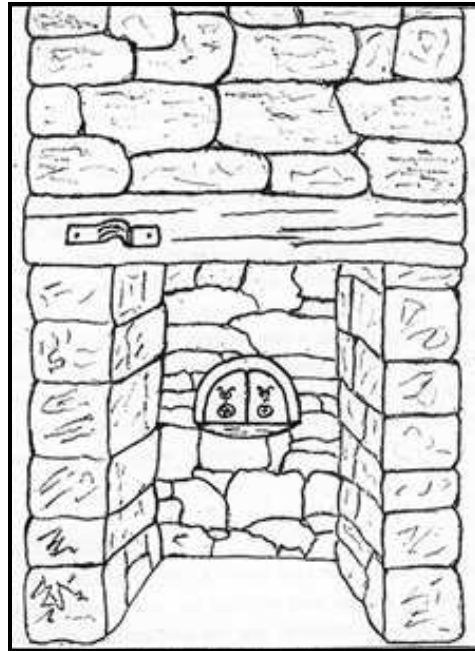


**FIGURE 80.**  Chimney with a four à pain door (La Société  Historique de la Côte du Sud, La Pocatière, Québec).

## Les Granges and l'Étable

According to Dawson, the grange was located behind the fournil (1960: 25).  Provencher also states this same arrangement from the front to the back of

the property: house, fournil and then barn (Provencher 1980: 49). A consideration for the placement of the grange is the availability of water and wind direction. The latter is important for keeping the barnyard smells from the house (Dupont 1995: 75).

Barns could be built with a variety of materials. Wood frame barns were constructed in pièce-sur-pièce en queue-d'aronde, pièce-sur-pièce en coulisse and la poteaux (Séguin 1963: 61). Walls could be constructed of stone (ibid: 3). Roofs were built with boards or thatched with hay or local native grasses, or bark (ibid: 42).

There is some evidence for the building of pièce-sur-pièce barns in the United States. Joe Racine of Lake Linden, Michigan described the building of, what seems to be, a pièce-sur-pièce barn, "When the farmers used to have a bee, to make a barn out of square timbers, he'd [Joe Racine] do all the heavy work" (Dorson 1950: 22). See figures 81 and 82.



**FIGURE 81.** Pièce-sur-pièce barn with thatched roof, Prairie du Chien, WI. Watercolor by Seth Eastman, circa 1846-1848 (Minnesota Historical Society)

Finally, the barn built by Joseph Gervais also was a pièce-sur-pièce en coulisse structure. The following is a description of the Gervais barn by Louis Labonté Jr., who had lived on the Gervais property as a youth,

> "The barn was of good size, being about 40 x 50 feet on the ground, and was of the peculiar construction of a number of buildings on early French Prairie. There were posts set up at the corners and at the requisite intervals between, in which tenon grooves had been run by use of an auger and chisel, and into these were let white fir split planks about three inches thick to compose the walls" (Lyman 1909: 174).

Again, the architectural evidence left by the barn would be similar to other structures, but the artifact assemblage would define its function (i.e., horse tack, faunal remains, tools, etc.)



**FIGURE 82.** Pièce-sur-pièce barn with a thatched roof, Copec farm at Grand-Bernadon, Québec (Canadian Museum of Civilization).

## OTHER IMPORTANT FEATURES

The remaining core features of the Canadien/Métis farmstead are stand-alone structures associated with foodways. These include the caveau or caveau à légumes, the four à pain or four à terre and the jardin potager or kitchen garden. The caveau and four à pain are unique and distinct in their construction and use. For this reason, information about location coupled with knowledge of their architecture and function should make locating and identifying them on a particular home site relatively straightforward. Once a subsurface or extant surface feature was located, testing would likely recover an assemblage related to food storage and preparation.

Likewise, the jardin potager was consistently placed in the same location and demarcated by a fence. Additionally, Canadienne and, perhaps, Métisse employed distinct planting techniques and arrangement of plants. Various remote sensing techniques combined with knowledge of the usual placement and composition of the garden may provide the clues to its location at particular sites. It is also possible that pedestrian survey could identify the location of a jardin potager; plants once cultivated may still be present. In Lafayette Parish, Louisiana, archaeologist Jon Gibson located a nineteenth-century *traiteur*'s (traditional healer) garden during pedestrian survey through the identification of non-native medicinal plants no longer grown in the region (1998, personal communication). In addition, this section will discuss les latrines or privies. A feature important to archaeological investigation.

Le Caveau à Légumes

The caveau à légumes was an important structure used to preserve various foodstuffs on Canadien and Métis farmsteads. The caveau was located near to and at the front of the house, usually dug into a hillside or, if not convenient, into an artificial hill built on flat terrain (Lavoie 1976: 83-84). The walls were typically constructed out of stone and mortar and were whitewashed (Lavoie 1976: 82). Food was placed on top of stone or wooden platforms to protect it from the moist compacted earthen floor and to allow for air circulation (Lavoie 1976: 78, 80, 82).

The outside walls could be a variety of sizes: eight by ten pieds, twelve by fourteen pieds, and fourteen by fourteen pieds square. The interior dimensions would be less, due to the thickness of the walls which were generally two to three pieds thick (Gauthier-Larouche: 257; Lessard and Marquis 1972: 625, 631). In the Côte-de-Beaupré region of Québec, the interior height of a caveau easily accommodated a person of "normal" height, measuring 2.29 m high at the center. On average, the interior dimensions are 3.96 x 3.42 m. The floor space was large enough to hold 200 sacks of potatoes and all the vegetables and fruits used by a family within their yearly consumption cycle (Laberge 1995:19-20; Lavoie 1976: 72).

An unnamed Jesuit Father made a personal observation of a Métis caveau. He noted that the Métis caveau was dug into a hillside behind the house to a horizontal size of eight by eight pieds and twelve pieds vertically. In the description, it was unclear as to whether the reference to twelve pieds meant that there is a hole dug into the ground to that depth, or that the interior space is 12 pieds high and deep (a distance split between a hole in the ground and the height of the structure above the ground). The interior was covered

with boards and the roof was built of logs set to a slope (likely vaulted rather than a sloping shed-like roof). The roof and sides were covered with three pieds of dung. The entrance, like the Canadien version, was built of two doors separated from each other by a distance of twelve pieds. The entryway formed by the two doors measured five to six pieds high and was covered with boards and the space was filled with hay to keep out the cold.

> "Ours was built in the following way, by a very experienced Métis. He carried out an excavation of an opening eight pieds by eight by twelve pieds deep, in the side of a hill, in the part the most protected by timber, at the front of our house. The excavation was next strengthened by a covering of boards and it was all covered by a sloping roof, framed by large beams of wood. The access is by way of two doors one following the other at a distance of twelve pieds. These two doors are connected by a space that measures from five to six pieds high that is covered with boards, in a way that forms a sort of tunnel. This passageway is filled with hay, preventing the cold from penetrating when the outer door is opened. To complete the construction, the exterior is covered by a layer of around three pieds of dung in such a way that, from outside, all that one can see is the exterior door" (Payment 1990: 54, my translation).

According to Lavoie, the caveau is generally found within twenty meters from and at the front of the house (Lavoie 1976: 84). However, Henry Thoreau who traveled in Québec in 1850 wrote that the caveau could be located either in front of or behind the house (Thoreau 1962: 76). See table 3 for dimensions.

**TABLE 3.  Caveau à légumes–dimensions and distances**

**Interior Wall Dimensions of the Caveau--Canadien**

| Meters | French Pieds | American Feet |
|---|---|---|
| 3.25 x 3.25 | 10 x 10 | 10.66 x 10.66 |
| 3.42 x 3.96 | 10.50 x 12.20 | 11.22 x 13 |
| 1.95 x 2.6 | 6 x 8 | 6.4 x 8.5 |
| 3.25 x 3.9 | 10 x 12 | 10.66 x 12.79 |

**Exterior wall dimensions of the caveau–Canadien**

| Meters | French Pieds | American Feet |
|---|---|---|
| 4.55 | 14 x 14 | 14.92 |

**Interior height of the caveau–Canadien**

| Meters | French Pieds | American Feet |
|---|---|---|
| 2.29 | 8.99 | 9.58 |

**Thickness for the walls of the caveau–Canadien**

| Meters | French Pieds | American Feet |
|---|---|---|
| .65 | 2 | 2.13 |
| .61 to 119 | 1.88 to 3.66 | 2 to 3.9 |
| .65 to .97 | 2 to 3 | 2.13 to 3.2 |

**Interior height of the caveau–Métis**

| Meters | French Pieds | American Feet |
|---|---|---|
| 2.56 x 2.56 | 8 x 8 | 8.53 x 8.53 |

**Interior width of the caveau–Métis**

| Meters | French Pieds | American Feet |
|---|---|---|
| 2.56 x 2.56 | 8 x 8 | 8.53 x 8.53 |

**Interior length of the caveau–Métis**

| Meters | French Pieds | American Feet |
|---|---|---|
| 3.9 | 12 | 12.79 |

**Distance of the caveau from the house–Canadien**

| Meters | French Pieds | American Feet |
|---|---|---|
| 20 | 61.5 | 65.6 |

## Le Four à Pain/Le Four à Terre

The four à pain was an important cultural component of the Canadien/Métis built environment. The bread oven was typically built near to the house, in a location visible from the front of the property, "On construit le four tout près de la maison" (Bouchard 1918: 407).  The oven dimensions, materials and hardware, decorative elements, the remains of the shelter and artifact assemblage related to its use are keys to identifying a four à pain as an archaeological feature.  Many of these are thoroughly discussed in the previous chapter dedicated to the four à pain.

The imprint of an oven would be a feature represented by the approximate dimensions of its base (Table 4).  It is also possible that the stone base of an oven may be an extant feature above-ground or be revealed through subsurface testing or survey.  The base measurements of an oven was typically 6 x 7 pieds and between 2 and 3 pieds high (Boily and Blanchette 1979: 48; Bouchard 1918: 407; Kniffen 1960: 29-30; Lemieux 1981: 12).  In 1795, a British Captain John MacDonald described an Acadian oven attached to a chimney in Minudie, Nova Scotia.  "Behind the chimney on the outside is an oven of clay, the opening to which for bread & fire is on the Inside back of the chimney.  The oven rests on a square wall of logs or stone around an apartment three or four feet in the square" (Crépeau 1995: 97).  A study of Louisiana outdoor clay ovens revealed bases made of vertical posts set to a height ranging from 2 to 3 feet (Kniffen 1960: 29).  While the height remained consistent with the Canadian oven, the wood base appears to have been a response to the lack of natural stone in south Louisiana where the majority of Francophones lived.

**TABLE 4. Base dimensions of four à pain—width by length and height**

|  | **French Pieds** | **American Feet** | **Meters** | **Centimeters** |
|---|---|---|---|---|
| **Width and Length** | 6 x 7 | 6.395 x 7.46 | 1.95 x 2.274 | 194.9 x 227.39 |
| **Height** | 2-3 | 2.132- 3.197 | .65-.975 | 64.97-97.45 |

      Assuming that an oven was left to decay or was razed and left in place, the postholes and molds of the four à pain shelter, if present, as well as the roofing materials and hardware may be within the first strata of an oven site (Boily and Blanchette 1979: 22, Lemieux 1981: 44). As an oven collapsed, materials used in the oven's construction such as burned and fired clay, fire-cracked rock, brick, wood, stone and metal from the doorframe would underlay the shelter roof. The thickness of the clay used to build the dome of the oven generally ranged from 15.2 to 20.3 cm (Boily and Blanchette 1979: 20). Body sherds as well as clay figurines built into the lip of the door frame and broken at its christening would be among the more diagnostic artifacts recovered from an oven feature. It was also not uncommon for the oven maker to imprint the date of construction on the lip (Boily and Blanchette 1979: 20; Dumont 1974: 80-81). It is also possible that, if not recycled, the remains of a cast iron door may be present at an oven site. Doors typically measured between approximately 45.7-58.4 cm high and 25.4 cm wide; the foundry usually included their name on the doors. (Boily and Blanchette 1979: 15, 19: Gauthier 1979: 43).

      Refuse associated with the oven's primary function would compose the feature's fill. For example, soil conditions may have preserved the remains of burnt bread and ash or wooden tools, pans, and ceramics. The practice of kicking sharp and dangerous trash, in particular ceramic sherds, underneath or

up against the oven was common enough that in rural Québec "to toss someone under the oven" is the equivalent of the idiomatic expression "to send someone packing" (Boily and Blanchette 1979: 97). These should be present at the bottom of an oven feature.

A nineteenth-century clay oven attached to the chimney of an eighteenth-century (circa 1752-53) structure was excavated at the Cap-Tourmente Wildlife preserve in Québec. The structure had been used over the years as a washhouse, fournil, blacksmith shop and perhaps even as a dwelling. The oven was demolished prior to 1970 (Savard 1997: 1-2, 15).

Three supporting walls forming the stone base of the oven were uncovered through excavation; an opening at the front of the rectangular base faced the structure (Figure 83). The base measured 6.5 x 8 pieds or 2.1 x 2.6 meters, well within the dimensions recorded by Boily-Blanchette. The walls of the base were 60 cm thick and burnt wood, perhaps representing the base frame, was found in the base trench. A large quantity of orange-red clay sherds were found in the upper levels of the feature, suggesting a clay construction method for the dome of the oven.

Other construction materials also were recovered, including limestone, mortar and a 6.3 cm thick clay tile coated with mortar on its sides and a fire-blackened edge. These materials are believed to have been part of the hearth structure. In order to ensure a continuous flat surface, oven builders would sometimes create flat clay tiles like bricks held together with mortar (Savard 1997: 4-5, 7).

**FIGURE 83.** Excavated foundation of a four à pain (ibid: 14).

## Le Jardin Potager, Les Fleurs and Les Arbres

The jardin potager was located near women's domestic activity areas; the cuisine d'été/bas coté and the fournil (Dawson 1960: 26, 36; Deffontaines 1953: 9; Minor 1939: 142). Kitchen gardens were usually surrounded by a fence to keep chickens and cows from eating or trampling the plantings (Dorais 1966: 538; Dupont 1995: 77; Provencher 1980: 161; Séguin 1973: 452) and flowerbeds were sown along the perimeter of the fence either inside or outside the garden (Provencher 1980: 165).

Plants grown within the jardin potager were separated by function or type (i.e., root crops, herbs).  The organization of plants was implemented in rows or a series of squares or rectangles separated by pathways (Dawson 1960: 36; Dupont 1995: 77; Provencher 1980: 161-162), as in "French-intensive" gardening.  Rainwater runoff collected in a barrel from the roof of the house or the fournil was considered the best choice for watering the jardin potager.  This was true even though a puit or water well was usually located near by for use in the house or the fournil (Boily-Blanchette 1976: 14; Provencher 1980: 161).

Gourds, pumpkins and cucumbers were grown using a *coupe de la butte* (truncated hill) (Figure 84 and Table 5), a technique the Canadienne borrowed from their Native American neighbors in eastern Canada.  This method of planting melons avoided disease and rot by allowing for the drainage of rainwater away from the plant.  To fashion a coupe de la butte, a round hole was dug and a hill of earth 14-16 pouces high was formed and placed in the hole. The hill was then truncated to form a flat surface approximately 30 pouces in diameter and a base approximately forty-eight pouces in diameter.  A small canal was left around the base of the hill to allow for drainage.  The plants were grown at the top of this hill (Blouin, Coulombe, Dumont and Théberge 1977: 14).
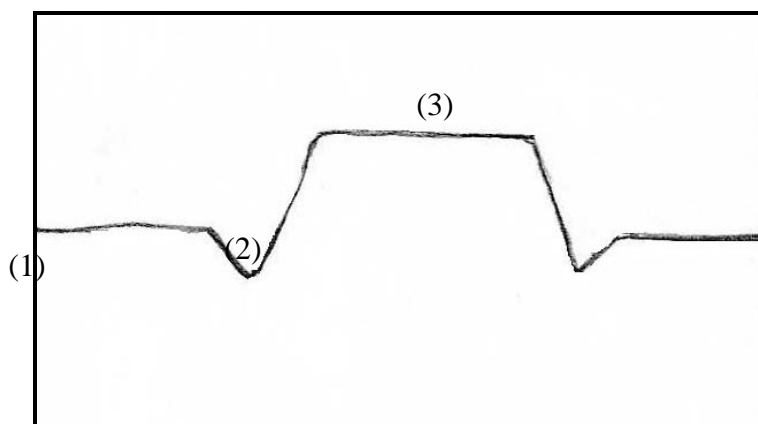
**FIGURE 84.** Coupe de la Butte. *(1)* surface or ground level; *(2)* small trough for canal; *(3)* truncated hill top (Illustration by James Hébert based on description in Blouin, Coulombe, Dumont and Théberge 1977: 14).

**TABLE 5. Dimensions of the coupe de la butte**

|  | **French Pouce** | **American Inch** | **Meters** | **Centimeters** |
|---|---|---|---|---|
| Hill | 14 to 26 | 14.92 to 27.71 | .38 to .70 | 37.90 to 70.38 |
| Diameter of Truncated Surface of Hill | 30 | 31.97 | .81 | 81.21 |
| Diameter of Bottom of Hill | 48 | 51.16 | 1.23 | 129.94 |

## Finding les Latrines (Privies)

Archaeological evidence at the Delorme site in Manitoba places the privy next to the barn (Mcleod 1982: 272). Further archaeological evidence

pointing to the existence and use of privies is found at the Batoche, Saskatchewan excavations in 1976.  Privies were associated with several properties including the Caron family property where nine privies and wells were excavated (Donahue 1977: 5).  The characteristics of the privies were not mentioned in these reports.  Duguay recovered a wood-lined privy depression at a nineteenth-century urban site at Le faubourg Saint-Laurent in Montréal.

In order to locate a privy on a farmstead, investigators may look for sub-surface disturbances roughly 30 to 60 pieds behind the house and near the fournil or barn.  Presumably, privies would be placed so that prevailing winds would carry the odor away from the house and fournil.  Furthermore, vegetation associated with disturbed ground, small depressions and extant privy structures may indicate the location of an historic privy.

# CONCLUSION

The synthesis of information provided in this thesis, culled from a diverse body of French and English-language sources, provides a guide to locating, identifying and understanding a suite of features and structures that constitute the cultural heart of the historic Canadien and Métis farmstead. These features were remarkably consistent over space and time; Canadien and Métis farmsteads that spread across North America throughout the seventeenth, eighteenth and nineteenth centuries appear to have contained a majority of these elements with variation based only on the availability of resources.

It is important to note that ethnic markers associated with the insular and presumably homogeneous communities created by the original French settlers of the Saint Lawrence Valley or *les Canadiens de souche* translated across perceived racial boundaries and may be considered a material illustration of the *métissage* or the blending of cultural traditions. For this reason, the works of researchers such as David Burley may be viewed through a different lens and new voices may be added to the interpretation of Métis sites. Furthermore, this model may assist in untangling the data gathered at multi-ethnic sites such as Fort Vancouver's Kanaka Village, where Canadiens, Métis, Native Americans, Orkney Islanders and Native Hawaiians lived side-by-side.

It is expected that this model will be tested and amended over time as new data and information become available. Through archaeological testing we may find that there are differences between the model and the results of excavation at various sites. In particular, gender, kinship and the environment

likely played key roles in the evolution of features and modification of traditions.

The Native and Métisse women in the Pacific Northwest may have influenced the overall settlement pattern of French Prairie families because of ties to extended family members and the need for access to traditional resources. Furthermore, their knowledge and skills were a deeply rooted cultural inheritance adapted to their unique environment which differed dramatically from that brought to eastern Métis and Canadien culture by the indigenous women of eastern Canada. Additionally, unlike their eastern sisters who were educated by Canadienne nuns and lived alongside Canadienne families, Oregon Métisse received neither formal education nor the company of non-Native women until the 1840s. Moreover, schools run by Methodist missionaries and, later, middle-class European nuns and communities of American women would not have reinforced the traditional Canadienne and eastern Métisse gender roles. For this reason, the cultural significance of the four à pain and the jardin potager combined with the gendered activities associated with their morphology and use render them the most "testable" and telling diagnostic features.

Although it is unlikely that architectural form would have been altered dramatically, the environment and availability of materials used in construction certainly may have resulted in substitutions and alterations. For example, porches may have been substituted for the coyau in Oregon as it has in the Southeast. Furthermore, methods of insulating structures and forming foundations may have been altered by the availability of brick and clay suitable for caulking. Additionally, the function of structures may have been altered; the fournil and cuisine d'été/bas côté may have been built as second, third or fourth year-round residences for extended family, fictive kin, migratory populations or others individuals living on a particular property.

Historical research and archaeological investigation are a continuous process of new discovery and re-evaluation of past discoveries, the product of which changes over time as new and different interpretations are presented, analyzed and accepted, rejected or rehabilitated.  The core elements of the Canadien and Métis rural cultural landscape deserve further research.

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