

FRENCH COLONIAL: CONSTRUCTION TECHNIQUES AND MATERIALS

Architecture of the Americas

Term Paper

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Introduction

COLONIAL HISTORY

The French, unlike other contemporary imperial powers have a history of colonization that distinguishes itself from the others by its basic revolutionary nature. The French suffered from violent ruptures and discontinuities in its own history and persevered to create 'nationalism' out of broken fragments of traditions. Often the path taken by French colonists was shaped by the ongoing battles for supremacy between France and England. The famous hundred year war of the fourteenth and fifteenth centuries stands testament to this ongoing rivalry. Despite these quarrels the French still bestowed England with a succession of monarchs, as well as supplied skilled French masons and material from French quarries for the building of the great English cathedrals of the time, establishing France as a great builder nation of its times. In the New world this competition for domination was particularly obvious.

The story of the French colonial empire in the new world began in 1605 at Port Royal, colony of Acadia, now Nova Scotia, Canada. This was followed by the establishment of Quebec in 1608 and further spread of the French influence in Northern regions. In order to compose a series of military and commercial connections – Bienville, French Commandant and Director General, wanted a colony on the Mississippi River. In 1718, New Orleans was established. The city streets were laid out in 1721 by Adrian de Pauger, the royal engineer, following the design of Le Blond de la Tour. The city remained under French rule until 1763, when the colony was sold to Spain.¹ Finally with the 'Louisiana Purchase' in 1803 came the Americans. Later in the 18th century a revolt in Saint-Domingue (Haiti)

¹ Samuel Wilson Jr., (The Architecture of Colonial Louisiana, ed. Farnsworth M. Jean and Masson M. Ann, Centre for Louisiana Studies, University of Southwestern Louisiana, Lafayette, Louisiana 1987).p 10-18

brought a number of refugees and immigrants to the already rich mix of colonial and American culture of Louisiana.²

NEW FRANCE AND CONSTRUCTION

The focus of this study is to examine the basic methods of construction and materials used in the French colonial era, in the new world. Anthropologists Dr. Kniffen and Glassie describe the various methods of building in wood simply into: framed walls, walls closely set with vertical timbers and walls of horizontal timbers. They believe that for these various methods of construction, antecedents reach back to the European Neolithic complex. They propose that significant development of wood construction in America had certain European Ancestry, like “half-timbering, weatherboarding over heavy frame, vertical log, paling and plank construction and horizontal logs, planks and timbers with various corner joinings.”³

Further elaborating these methods the anthropologists trace the source of half-timbering or heavy framing of timber with filling to Britain, France, Germany and even Sweden. In Europe the filling varied depending on the location ranging from, brick, clay ‘cats’, stone, plastered wattle or lath etc. This technology was transmitted to the ‘New world’, with the slight variation of the timbers being frequently covered with siding in the early seaboard settlements. It is generally believed that this method of construction was introduced in the Mississippi Valley by the French and was in practice till the Nineteenth century.

Kniffen and Glassie propose in their study that “it was the French in America who employed vertical construction most extensively. *Poteaux en terre* or *pieux en terre* was the earliest method used

² Jay D. Edwards, (Creole Architecture: A Comparative Analysis of Upper and Lower Louisiana and Saint Domingue in Springer. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/20853104>.)

³ Dr. Fred Kniffen and Henry Glassie, (Article: *Society Building in Wood in the Eastern United States: A Time-Place Perspective*, Geographical Review, Vol. 56, No. 1 Jan., 1966, Published by: American Geographical Society), Accessed from Jstor archive, [<http://www.jstor.org/stable/212734>] p. 41

throughout the great arc of French colonial settlement extending from Acadia westward to the Great lakes and south ward to the lower Mississippi Valley.”⁴

Some French definitions and nomenclature popularly used: “*poteaux en terre* consisted of close-set vertical posts tamped into a trench, *pieux en terre* of sharp stakes driven in to the ground; the interstices, about as wide as the diameter of a post, were filled with clay and grass or with stones and mortar, sometimes plastered over or even covered with planks.”⁵ Kniffen and Glassie quote Charles Peterson, who distinguished ‘*poteaux*’ as square while ‘*pieux*’ as round blocks. An evolutionary variant of the above construction technique is the ‘*poteaux sur solle*’ which stands for ‘post on a sill’. The French term ‘*colombage*’ refers to more widely spaced, normally braced, vertical, squared timbers, the spaces between filled with various materials as distinguished from the two ‘*poteaux*’ constructions which were essentially unbraced vertical timbers. ‘*Barrière en pieux debouts*’, is cypress palings driven into the ground. The French American horizontal timber construction of *pièces sur pièces* was the prevailing method of wood construction in early French Canada. ⁶

The construction method changed and evolved over time, “In French America, only among the Mississippi and Great lakes settlements did vertical construction long remain popular. In Canada it gave way generally to horizontal timber construction or stone and a changeover to brick or half-brick and half wood (half timber) structure in New Orleans in the early Eighteenth Century. In rural Louisiana *poteaux en terre* persisted well into the nineteenth century.”⁷

Richardson in his compelling essay “*A comparative study of Timber building in Canada*” describes the three main types of timber construction in the history of French Canada : the heavy timber frame

⁴ Ibid p. 47

⁵ Ibid p. 47

⁶ Ibid p.48- 50

⁷ Ibid p.48

building, the building of vertical wood members planted in the ground and the building of horizontal wood members dove-tailed at the corners.⁸

Richardson further elaborates: “ *there were a number of sub-types. Thus, the framed wall varied considerable in the spacing of its verticals (from at least eight-foot intervals down to less than a foot) and these were occasionally, as in Europe, reinforced by diagonals. The frame was filled in sometimes with horizontal wood members tenoned or otherwise fitted into grooved uprights of the frame, these horizontal being either round logs (pieux en coulisse, pieux de travers, de poteaux et close de pieux, de poteaux et entourée de pieux), squared logs (poteaux en coulisse, en bois de charpente, pièces sur pièces de charpente- charpente meaning frame), or planks set on edge (madriers en coulisse, charpenre garnie de madriers, charpente entourée de madriers, á poteaux entourée de madriers); sometimes with masonry of stone (colombage pierrotée) in bricks, and sometimes with plaster, or with clay which might be reinforced with straw, etc. (colombage bouzillée or colombage filled with torchis). The last four varieties shared the generic name of poteaux sur solle and colombage pierrotée, which could even be applied to bouzillée wall, and de bois de charpente could be used generally for any of the framed types.*”⁹ This construction method though varied in character and spacing would become the basis for almost all French colonial architectural construction technique. The earliest precedents for these construction techniques are witnessed in the *Recollet* House of *Notre-Dame-des-Anges*, built on the St. Charles River 1620 drawing upon the manner of houses built in the villages of Normandy. Historian, *Séguin* quoted in Richardson's essay identifies the *pièces sur pièces* as a dovetailed form that also talks of 'sills' and plates in construction of the 'Canadian or French Style'.

⁸ A.J.H Richardson, (Essay: *A Comparative Historical Study of Timber Building in Canada*, APT vol. No.3 1973 p.77-102, Published by: Association for Preservation Technology International. Accessed from Jstor archive Nov 25,2011) [<http://www.jstor.org/pss/1493428>]p.77

⁹ Ibid 78

FRENCH INFLUENCE IN UNITED STATES AND THE MISSISSIPPI VALLEY

Several theories try and account for the prevalence of vertical construction among the French in America and it has been suggested that it was inspired by Indian vertical post stockades or palisades and buildings or was borrowed from the Gulf Coast Spaniards. Kniffen and Glassie however argue that “Neither suggestion seems tenable in view of the fact that the earliest form of construction in French Canada was *poteaux en terre*, which was introduced into Louisiana by the Canadian Iberville. Moreover, since conclusive evidence indicates that vertical post construction of palisades and buildings reaches back to the European Neolithic, it would seem unnecessary to seek further for explanation of its American incidence. It is in keeping with the evidence to assume for the present that a method of construction which was very old and largely vestigial in Western Europe experienced a brief rejuvenation in timber-rich colonial America.”¹⁰ The earliest example of the French influence can be seen in the colonies of Biloxi(1699) and New Orleans (1718) with the *poteaux en terre* houses. A few examples of *pieux en terre* cabins in Detroit (1708) and timber frame houses in Illinois were recorded in the 1720’s will *colombage bouzillé* examples. Timber framing method adopted was the *pan de bois* or *colombage* also called the Normandy tradition.¹¹

Megan Farrel writes “The Creole building forms were already established by the time the first Acadians arrived in Louisiana. Creoles had experimented with various forms, discarding and adapting features in the 1730s and 1740s. Acadians, after leaving France, principally Normandy and Brittany, first settled in the maritime provinces of Canada where they farmed and fished for fifty years before being expelled by

¹⁰ Fred Kniffen and Henry Glassie p.48

¹¹ Philippe Oszucik,. Comparisons between Rural and Urban French Creole Housing: Material Culture, Vol. 26, No. 3 Fall 1994. Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/29763961>.

the British in 1755. Upon their arrival in Louisiana, the "new" Acadia, they resumed a self sufficient lifestyle."¹²

The *pierrôtée* houses were built in St. Louis by 1770. Historical evidence by the 1800, archival photographs especially Ste. Genevieve, Missouri show *bousillage* (mixture of mud, moss and animal hair) or *peirrotage*(infill of lime mortar or clay mixed with small stones) between tight –set verticals.

Bousillage once in place within a wall, dries and hardens to form a solid structure which, in many ways, is analogous to reinforced concrete. *Bousillage* construction, as it was practiced in Louisiana, should be viewed as the lineal descendent of a medieval European form of construction of half-timbering. Split sticks or staves, known as a *barreaux* or rabbit, were used as rungs between the upright post. They were shaped to fit at an angle and hammered into place without the use of nails. A taché of mud and moss was shaped like a bread dough loaf and hung over the rungs being compacted as placed one next to the other. The finished wall would have been either lime washed or covered with plaster. The plaster would have used animal hair as the binder.¹³

In and around New Orleans the construction was distinct with verticals usually wide apart and the intervening wall built of brick or bousillage, widely used even in 1733 seen in the Ursuline convent and the Badin Roque house and several late eighteenth –century town buildings, plantation houses and bayou cabins. The Badin-Roque House is also an example of poteaux-en-terre and is one of four surviving examples of early construction in the nation and the only remaining example in the state of

¹² Megan Farrel, (French Vernacular Homes of Acadiana: An Overview in Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/>)

¹³ Jason Church (Video: The Historic Building Material Bousillage, National Park Service National Center accessed on Nov25,2011 at <http://ncptt.nps.gov/bousillage/>)

Louisiana. This building method was popular amongst early French settlers between the years 1769 and 1785. Surviving examples of this style are rare due to the posts' high susceptibility to water damage in Louisiana's wet soil.¹⁴

In the *poteaux en terre* construction, two methods were used to place the posts in the ground. Timbers were either placed upright in individually dug holes two to three feet apart and two to three feet deep or in a trench. Using the trench method, the timbers were rolled into place, pulled upright and the spaces between the posts were filled with earth, stones, bones or other debris. *Barreaux* or wooden bars were placed between the upright posts, forming a lattice for the bousillage. Preparing and applying bousillage to a structure was often a social affair.

Poteaux-sur-solle or "posts-on-sill" style of French colonial houses can be found in Ste. Genevieve, Missouri; Prairie du Rocher, Illinois, and former French settlements in Louisiana, all former parts of New France (La Louisiane). The Louis Bolduc House, also known as Maison Bolduc, is an example of poteaux sur solle ("posts-on-sill") construction and is located in Ste. Geneviève, Missouri. The first historic structure in Ste. Genevieve to be authentically restored. It has a large fireplace at the north end, and a wide-plank puncheon floor, made of logs cut flat on only one side, with the curved side laid down. The walls of the house were built with heavy oak timbers set about six inches apart and infilled with bousillage. The steep hip roof, made of cedar shakes, was supported by heavy, hand-hewn Norman trusses held together by mortise and tenon joinery. It extends over the four sides of the house's porches or galleries, which provided shade and cooling.¹⁵ Describing construction in New Orleans, Samuel Wilson recounts that "Leblond de la Tour also had plans drawn up for the first

¹⁴ National Park Services, archive accessed on Nov 25,2011 at <http://www.nps.gov/history/nr/travel/caneriver/bad.htm>

¹⁵ Library of Congress online, Louis Bolduc House accessed on Nov 25,2011 at <http://www.loc.gov/pictures/item/MO0250/>

buildings of the town, simple structures of heavy timber framing built upon timber sills laid directly on the ground.”¹⁶

Brique Entre Poteux, is a form of construction utilizing a heavy timber frame combined with an infill made of brick. In French Vernacular architecture of Louisiana, a relatively inexpensive, porous brick was used to fill the spaces between upright posts and diagonal braces in; often found in poteaux-en-terre houses; usually the entire brick-filled exterior surface was finished with a coat of lime plaster to protect the surface; then often covered with clapboard. Many two-story townhouses and houses of well-to-do planters had basement walls of brick and upper walls of brique-entre-poteaux. This evolution permitted Pugar to omit the exterior wooden buttresses that he had indicated on the design drawing of St. Louis Church.¹⁷

Another example of the half timbered construction or brique-entre-poteaux, was the Ringrose in Opelousas, which was built by Michel Prudhomme about 1795 and like other raised homes, it has two separate ranges of columns, larger brick ones at ground level and slender cypress colonettes above.¹⁸

HORIZONTAL LOGS, TIMBERS, AND PLANKS AND FRENCH INFLUENCE

“Every form of horizontal construction employed in America has ample European precedent”,¹⁹

Construction in which the individual members are placed horizontally, close together, and one above the other has been used nearly everywhere in the New World. The fundamental distinction is the manner in which the horizontal members are joined at the corners distinguishing them into two

¹⁶ Samuel Wilson Jr., *The Architecture of Colonial Louisiana*, ed. Farnsworth M. Jean and Masson M. Ann, Centre for Louisiana Studies, University of Southwestern Louisiana, Lafayette, Louisiana 1987.p 4

¹⁷ *ibid.* p 4

¹⁸ Megan Farrel, (French Vernacular Homes of Acadiana: An Overview in Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/>)

¹⁹ Fred Kniffen and Henry Glassie p.48

groups- the ones that utilize of corner posts and the ones that don't. Another distinction in true cornering is the use of even or alternating tiers at the corners. "In French America horizontal timber construction came early but was later than *poteaux en terre* to be widely practiced. *Pièce sur pièce*, as the method is commonly called, was used, at least sparingly, throughout French America."²⁰ The predominance of the simpler methods of corner-timbering-square and saddle notching-over V notching and dovetailing is seen in the northern regions as 'stovewood' construction, is found most abundantly in Wisconsin and also in Michigan and Quebec. In the Nicholas La Cour House the oldest standing structures in the Mississippi River Valley, methods of construction, *Pièce sur pièce*, which may show a French Canadian influence, was found.²¹

In the nineteenth century as wood-saving half-timbering died out rapidly in favor of siding over the framing, only the Louisiana French held steadfastly to half-timbering. In this and other respects construction practices in the French pockets stood in strong contrast with those of incoming, frontier Americans. These had no equivalent of the French *poteaux en terre*, *poteaux sur sole*, and *Pièce sur pièce*. The French rarely adopted American log construction.²²

ROOF STRUCTURE

"The basic Creole cottages have several roof designs: hip, gable, double hip (hip-on-hip or inverted gambrel), gable-on-hip, or double pitched gable. The double pitched roofs all have gallery rafters that spring approximately midway or higher on the slope of the main roof rafters."²³

²⁰ Ibid p.50

²¹ Megan Farrel, (French Vernacular Homes of Acadiana: An Overview in Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/>)

²² Fred Kniffen and Henry Glassie p.65

²³ Philippe Oszusick,. (Comparisons between Rural and Urban French Creole Housing: Material Culture, Vol. 26, No. 3 Fall 1994. Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/29763961>.)

Many variations and truss types were used in the colonial times, in particular Jack Sobon describing the trussed roof of the *Cabildo* in New Orleans adds, “the purlins may bear on top of the principal rafters. The deep-section cypress purlins are scarfed over the principal rafter in what the French refer to as a “whistle cut.” The purlin end cut is then recycled as a sort of cleat, a “choker,” to keep the purlin from rolling.”²⁴

Jay Edwards in discussing the Norman truss says “if you use a typical Norman through-purlin roof truss, you must rely upon heavy wall plates to support it. If you combine it with en-terre close-studded wall construction, it is advantageous to affix your wall plates using a palisade of posts with external lap tenons at their tops if, however, you use open-studded sur solle timber frame walls, it is better to use the mortise and tenon method to affix your plates to the tops of the posts.”²⁵ The Nicholas La Cour House reflects the Canadian (and French) characteristic in the use of a Norman truss in the attic.

HISTORIC CLAY TILE ROOFS

Derived from the French word *tuile*, which is, in turn, is from the Latin word *tegula*, meaning a roof tile composed of fired clay, fired roof tiles origins can be traced independently to two different parts of the world: China, during the Neolithic age; and the Middle East shortly later. From these regions, the clay tile spread to the Egyptians, Babylonians, and the Greeks as far back as the 3rd millennium BC. European settlers brought this roofing tradition to America where it was established by the 17th century. Clay roofing tiles was used by both the French and the Spanish in New Orleans. Concerns with fire safety played a significant role in popularizing clay roofing tiles during the colonial period. Clay tiles were preferred also because of its durability, ease of maintenance and lack of thermal

²⁴ Jack A Sobon (Historic American Timber Joinery: A Graphic Guide, Timber Framers Guild 2002 Accessed from National Centre for Preservation Technology and Training on Nov 25,2011 at <http://ncptt.nps.gov/pdf/2004-08.pdf>)

²⁵ Jay D. Edwards, (Creole Architecture: A Comparative Analysis of Upper and Lower Louisiana and Saint Domingue in Springer. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/20853104>.)

conductivity. The most common type used was the flat tiles 10"x6"x1/2" and had two nail or peg holes at one end through which they were anchored to the roofing laths. This was followed by the interlocking S-shaped pantiles 14 1/2"x1 1/2". These interlocking tiles were hung on roofing lath by means of a ridge on the upper part of the underside of each tile. Tiles also had vertical grooves to help drainage. They were also designed with a lug or nib on the back so that the tiles could hang on lath without nails or pegs. Pantiles is the shape most commonly associated with historic clay roofing is convex rounded tiles. The Spanish tiles are called the 'S' tiles, and similar shaped mission tiles were known as the Barrel tiles. The flat tiles used by the French have a slightly more contoured profile than their English shingle counterparts. The terra cotta red color commonly associated with the tiles comes from the large percentage of iron oxide. When used on low pitched roofs or flat roofs, tiles required sub-roofing, or an additional water proof under-layer. This could be a bed of mud-mortar, mixed with grass, reed or twig sheathing.²⁶ The French in Louisiana used an oyster shell infill for this. Traditionally clay tiles were hung on roofing laths with oak wooden pegs. As these wooden pegs rotted, they were commonly replaced with copper nails, 1-3/4" *slaters nails* were considered very valuable and sought after. *Pantiles* were secured with twisted copper wire or hooked to the vertical battens.

A vertical interrupted join variety was discussed by Robert Varman, Australian Archeologist in his paper on '*Marseilles or French Pattern Tile*'. This prototype which was invented by the Gilardoni brothers of Altkirch and Alsace were an improvement over the 15th century tiles. The machine made fitted tiles could date back to 1835 when Gilardoni Frères erected his factory. The average dimensions of this tile are 15 3/4" x 8.4. Varman concludes that in France the change from traditional orders of tiles was slow and gradual, and Marseilles tiles were widely imported in the 19th century. In 1890 the

²⁶ The old house web, (Article: The preservation and repair of Historic Clay tile roofs accessed on Nov25-2011 at <http://www.oldhouseweb.com/how-to-advice/the-preservation-and-repair-of-historic-clay-tile-roofs.shtml>)

turning point came when Marseilles tile emerged from obscurity and began to enjoy universal popularity. Several million tiles manufactured at Marseilles were exported to America, proving their suitability to the climate.”²⁷

FRENCH DOORS AND ORNAMENTAL BALCONIES

“French style double doors, introduced into France from northern Italy in the sixteenth century, have no functional association with the steep pavilion roof, characteristic of Normandy, though both arrived in New France together, and have remained there in the vernacular architecture since.”²⁸ Most hardware used in colonial times were hand made and distinctively French, like the eighteenth century 'Rams Horn' hinge.

In New Orleans, French Quarters we find hipped roof and capped with decorative finials (epis de faitage)²⁹ in the best fashion of the day, indicating that French style king post roof trusses were employed. Many buildings were ornamented with balconies which projected over the sidewalks. Their balustrades were either of wood or decorative wrought iron.

LIME WASH AND HISTORIC BUILDINGS

Limewash a mixture of slake lime and water with or without additional additives. When the mixture dries it reacts with carbon dioxide in the air, called carbonation, to create a tough, rock-like coating. It adheres best to brick, stucco, plaster, adobe and a variety of other porous materials.

²⁷ R.V.J. Varman (The Marseille or French Pattern Tile in Australia in the Australian Society for Historical Archeology, university of Sydney, NSW. 2006) Accessed Nov 25,2011: http://www.ashadocs.org/occasionalpapers/OP03_Varman.pdf

²⁸ Jay D. Edwards, (Creole Architecture: A Comparative Analysis of Upper and Lower Louisiana and Saint Domingue in Springer. Accessed from Jstor archive Nov 25,2011: [http://www.jstor.org/stable/20853104.](http://www.jstor.org/stable/20853104))

²⁹ ibid

Limewash was traditionally prepared on site by skilled craftsmen and applied in the spring or fall for optimal temperatures. Limewash is applied in thin layers, constantly maintaining a wet edge.³⁰ In French Louisiana, the lime was prepared by crushing oyster shell and applied to protect *bousillage collombage* and other half timbering construction.

In French, New Orleans, “exposed brick between posts construction , which deteriorated rapidly in the humid Louisiana climate, was used for numerous buildings of the plantation of the company of the Indies across the river, including an interesting water mill and the plantation managers residence.... The elevation and plan wing to the hospital of New Orleans, signed by Ignace Francois Broutin, June 6, 1737... indicates that the exterior of this brick between posts structure was left exposed, a practice that caused rapid deterioration of the building. The usual practice in New Orleans was to finish the buildings with boards, or stucco with limewash to protect the wood and soft brick from the damp climate.”³¹

FRENCH INFLUENCE IN INTERIORS AND FURNITURE

Some of the most beautiful and refined furniture, displaying the highest level of artistic and technical ability, were created in Paris during the eighteenth century. It was used to furnish residences all over Europe and also influenced fashions of furniture making in New France. French furniture of this period was the collaborative effort of various artists and craftsmen who worked according to strictly enforced guild regulations. The Corporation des Menuisiers was divided into two distinct trades, that of the woodworkers who made paneling (*boiserie*) for buildings and coaches, and that of the actual furniture makers. The latter can be subdivided into *menuisiers* (joiners), responsible for the making of solid

³⁰ Sarah Marie Jackson, (Application and Preparation of Limewash: National Park Service National Center, Accessed Nov 25,2011 at <http://ncptt.nps.gov/application-and-preparation-of-limewash-video-2008-07/>)

³¹ Samuel Wilson Jr., *The Architecture of Colonial Louisiana*, ed. Farnsworth M. Jean and Masson M. Ann, Centre for Louisiana Studies, University of Southwestern Louisiana, Lafayette, Louisiana 1987.p 10-18

wood furniture such as console tables, beds, and chairs, and the *ébénistes*, from the word *ébène* (ebony), makers of veneered case pieces.³² In the new world French Colonial furniture is one of the historical legacies of art architecture. Early American furniture is rudimentary, utilitarian furniture made from local woods. It was brought from or modeled after European furniture styles, particularly from France. French furniture legacy of the delicate intricacies of *marquetry* enriched surfaces of cabinets, cupboards and *bureaux*, swelling curve of the *cabriole* form with the knees of cabriole legs sometimes enriched with a carved shell device and the supple intricacies of inlaid decoration for all surfaces. "The French Empire style represented an alliance of the grand manner with fitness for purpose. The genuflexions of the cabriole were absent: front legs on chairs curved inwards towards the back legs. Formality, restraint and an agreeable understanding of the use of ornament prevailed. Lines of brass inlay gleamed on chair backs and legs, on tables and cabinets. Instead of the load of gilded bronze decoration, moldings, masks and paterae, bands and groups of delicate decoration, were carved in wood or composition, and gilded in early American colonial furniture. The fluting of frames and legs were gilded."³³

A chest, cupboard or chair, with French influence, would be constructed with stiles and rails, mortised and tenoned and held in place with wooden pegs made square and driven into a round hole. The edges of the stiles and rails towards the panels are usually chamfered and the panels which are sometimes made of pine are fitted into the frame.³⁴ The French colonial furniture is easily identifiable being the only ones to be found with the protruding pegs.

³² Daniëlle O. Kisluk-Grosheide, (The Golden Age of French Furniture in the Eighteenth Century, Department of European Sculpture and Decorative Arts, The Metropolitan Museum of Art. Accessed Nov 25,2011) [http://www.metmuseum.org/toah/hd/ffurn/hd_ffurn.htm]

³³ Ibid

³⁴ Luke Vincent Lockwood (Colonial furniture in America New York: Charles Scribner's Sons. 1913.)p.24

The word 'armoire' for wardrobe is French, who got it from Latin, armârium, chest, from arma, tools. This large wooden chest, almost always equipped with two doors, was originally used to store arms and armor. The word, which sometimes denoted a cupboard set into the paneling of a room, was probably first used in the 16th century, when detailed carving based on Flemish design was characteristic of fine examples. In the following century geometric designs in high relief became more common; also, in the 17th century the name was extended to cover wardrobes and clothespresses. The armoires designed by Andre-Charles Boulle, the cabinet-maker to Louis XIV in the late 17th century, are among the most sumptuous and imposing pieces of Western furniture and can be seen in many of America's art museums. Describing these armoire's David Dannenbaum writes "The armoires designed by Andre-Charles Boulle, the cabinet-maker to Louis XIV in the late 17th century, are among the most sumptuous and imposing pieces of Western furniture and can be seen in many of America's art museums. A 1890 French Louis XV style triple door 'Rococo' oak armoire with three doors with beveled mirror door in the center, and two recessed panel doors on each side. The interior has adjustable shelving, and a *'penderie'* in the middle, with a linen shelf across the upper part. It also features the typical elaborate *'rocaille'* carving on its cornice. The bottom crossbar features the typical crossbow shape, on short cabriole feet. Its height: 96"; width: 63-1/2"; depth: 19-3/4". Another *André-Charles Boulle* (1642-1732) armoire made of oak and pine, with ebony, tortoiseshell, brass and tin veneering, gilt and bronze is at the Louvre. The wardrobe is made of oak and pine, with ebony, tortoiseshell, brass and tin veneering, gilt and bronze. The museum tells us, Working in the Louvre from 1672 until his death, Boulle did not invent the *marquetry* technique to which he gave his name, but he did make the best use of it. The technique comprised cutting a motif out of two superimposed, contrasting materials, one light and the other dark; the motif obtained from one is then inserted into the space left in the other. When the decoration is light on dark, it is called *'en partie'*,—an example is the

centre of the wardrobe where brass arabesques are fitted in a tortoiseshell background. '*En contrepartie*' is the name for dark colours used on a light background, as round the edge of the doors here, where tortoiseshell scrolls wind over a brass background. Boulle applied this technique to luxury furniture."³⁵ The French armoire or wardrobe in colonial America had a change of fashion in favor of the more plentiful American walnut. In the nineteenth century the wardrobe began to develop into its modern form often of mahogany, but as satinwood and other hitherto scarce finely grained foreign woods began to be obtainable in considerable quantities, many elaborately and even magnificently inlaid wardrobes were made.

Chêve Vert, a plantation house bearing the French name for *live oak*, in East Baton Rouge Parish, Louisiana. The one and one half storey cottage on site is made of bousillage construction, while the Chêve Vert has the floor plan of a typical Creole plantation house of the 1770's to the 1830's. The ground floor has brick walls, while the second floor is of frame construction with brick infill between posts or *briquelette entre poteaux*, the entire ground floor has exposed ceiling beams, there are white siding, Paris green batten shutters and deep reds and yellow ochre of the dado on the upper front *galerie*.

Parrot Bacot, in his account of this quintessential French colonial building which is furnished with Acadian furniture notes: a delicate cherry table from the 1800-1825. On it displayed is a Vieux Paris coffee service of the 1820's; also the leather covered mahogany easy chair is one of several surviving examples made in New Orleans between 1825-1835, a French square-backed mahogany armchair dated 1800-1830 and an upholstered mahogany side chair in the Louis XV style with cabriole front legs, neoclassical saber back legs dates to 1820-1835. The secondary woods- yellow poplar, white

³⁵ David Dannenbaum, (Article courtesy of The Sheffield School of Interior Design Accessed Nov 25,2011 <http://www.sheffield.edu/designermonthly/specialreport/specialreport0710.html>)

pine and cherry- are consistent with those known to have been used in Louisiana in the 18th centuries. The border papers along the cornice and chair rail are reproductions of a pattern by Zuber et Compagnie of Alsace, France. Also seen an inlaid mahogany bow-front chest (1800); a fine mahogany inlaid card table (1800); a walnut study bears printed labels of William McCracken of New Orleans; on the desk are silver beaker made by Adolphe Himmel a prolific New Orleans silversmith; the bedroom is dominated by a replica of Louisiana Federal high post bed from 1825 with attenuated turned posts and arched or melon shaped headboard; a turned stool of swamp maple and hickory from Saint Landry Parish of 1820, a slatback side chair of red mulberry , an acadian cherry washstand of 1830-1845; armoires of walnut with cypress from Donaldsonville in Ascension Parish (1770-1790) and cherry and cypress from 1820 also a French gilded looking glass from 1820-1835.³⁶

For many French colonial buildings changes have been made and study and analysis of time period becomes difficult. "The Buibourd House still has some of its original French inward-swinging, 12-light casement windows and its original Norman trusses. The Bolduc house has the original fish-tail strap hinges which resemble Quebec ironwork. The Janis-Ziegler House presumably has original New Orleans shutters." ³⁷

To summarize, much variation is seen for the French colonial architecture techniques as styles evolved and technology changed. It is possible to say, however, that the half-timber type of wall construction, known as poteaux-en-terre or poteaux-sur-sole, is a dominant identifying characteristic, as is the double-pitched roof, even though both forms changed under the influence of new ideas, tools, and techniques. French Colonial architecture, like any other, was not static, but evolving.

³⁶ Bacot, Parrot H., (Chene Vert in East Baton Rouge Parish, Louisiana in The Magazine Antiques Mar 1997 151.) p.438-

³⁷ C. Johnson (Missouri-French Houses: Some Relict Features of Early Settlement in Pioneer America, Vol. 6, No. 2 July 1974: Pioneer America Society. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/29763533>)

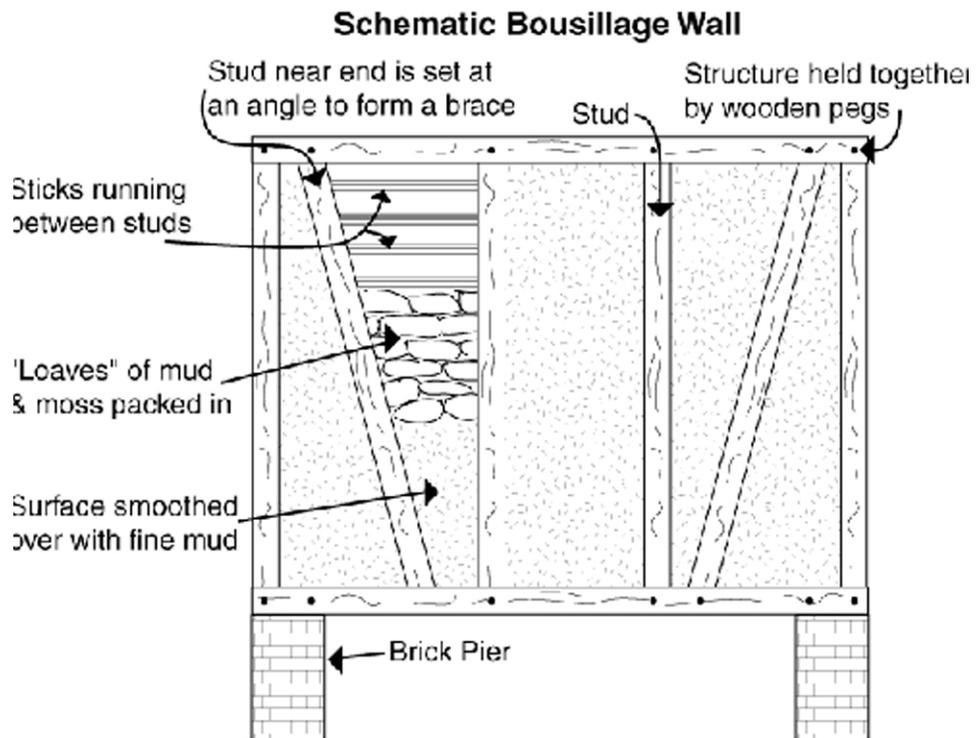


Fig.1 Schematic Bousillage wall (Source:<http://crt.louisiana.gov/hp/laheritage/EducatorArea/TheAcadians/EZ/AcadianCottage.html>)

Poteaux en Terre Construction (Post in the Ground)

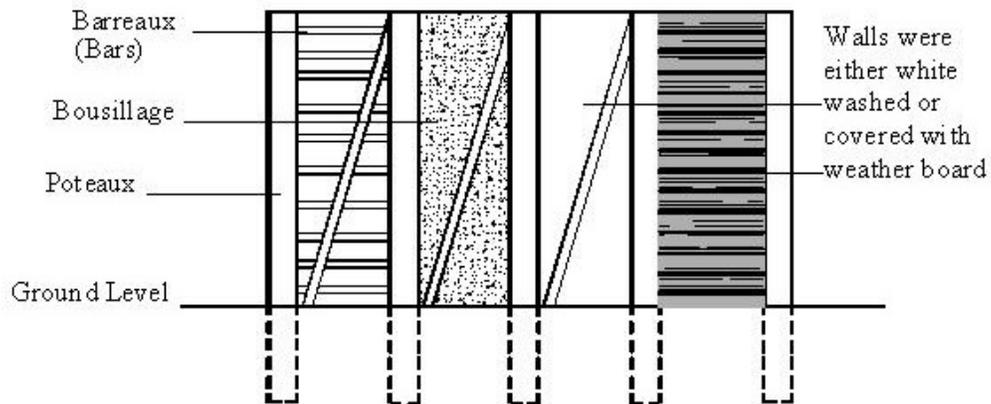


Fig.2 Poteaux en Terre Construction (Source:<http://www.cr.nps.gov/seac/gabes/index.htm>)

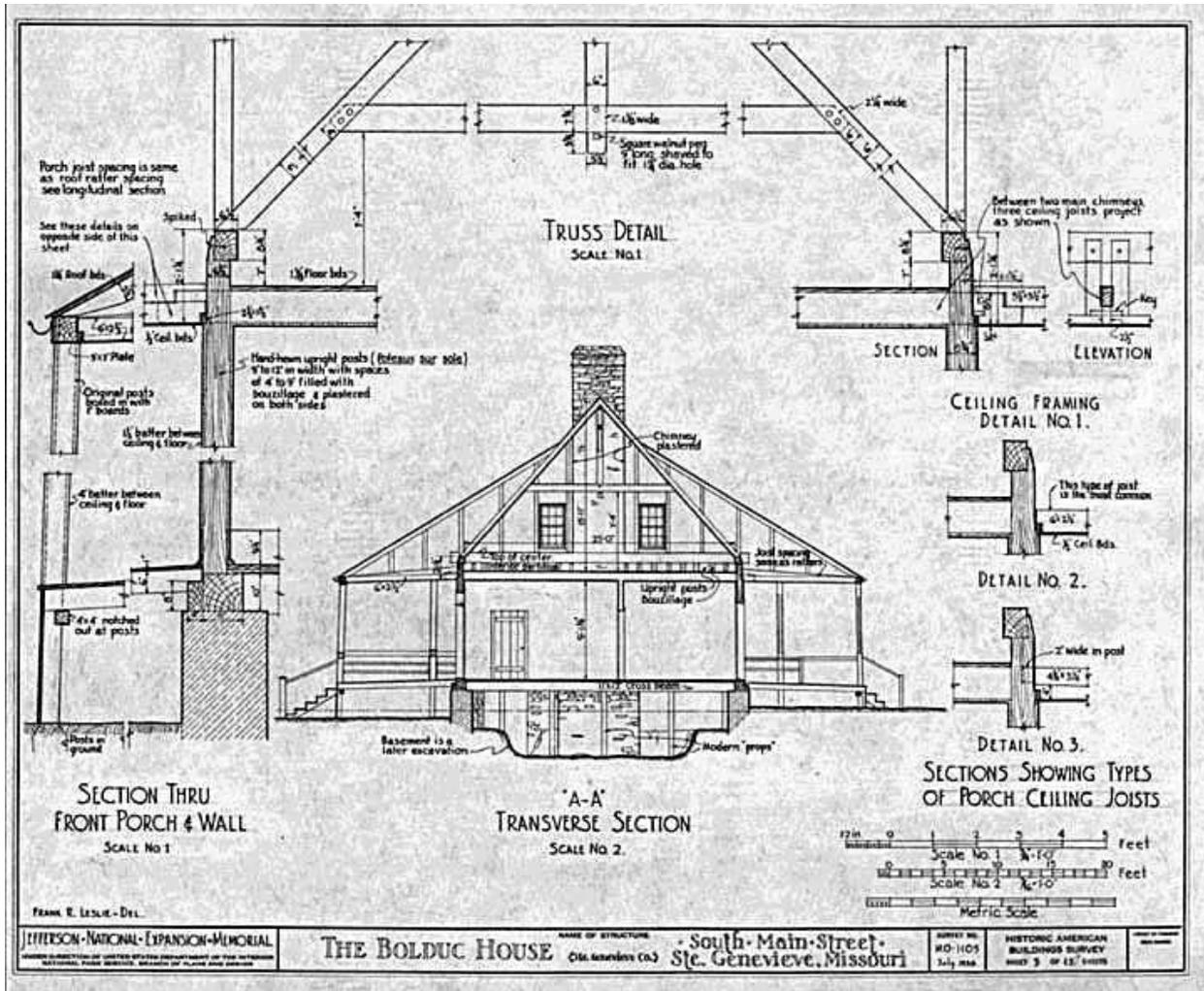


Fig.3 Poteaux-sur-solle Construction (Source: http://memory.loc.gov/ammem/collections/habs_haer/hhmap07.html)

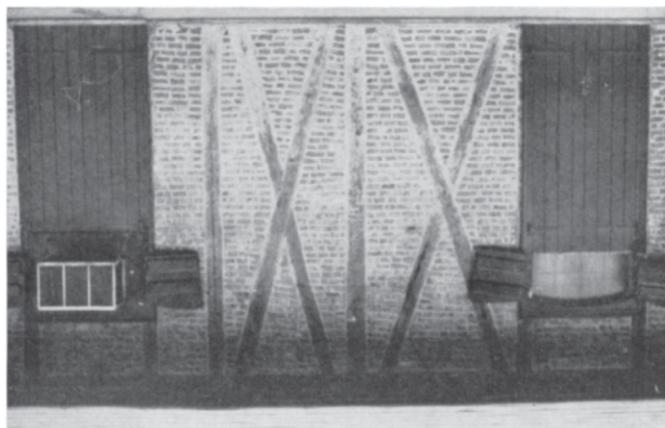


Fig.4 Brique Entre Poteaux Construction (Source: Dr. Fred Kniffen and Henry Glassie, (Article: SocietyBuilding in Wood in the Eastern United States: A Time-Place Perspective, Geographical Review, Vol. 56, No. 1 Jan., 1966, Published by: American Geographical Society), Accessed from Jstor archive, [<http://www.jstor.org/stable/212734>])

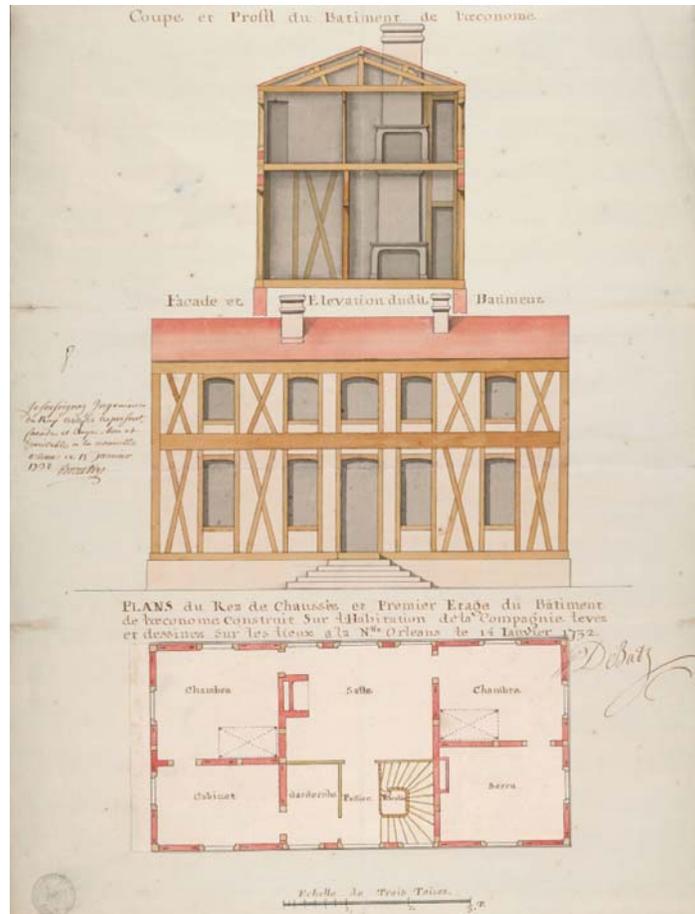


Fig 5 plantation manager's house, 1732 (Source: Samue Wilson Jr., *The Architecture of Colonial Louisiana*, ed. Farnsworth M. Jean and Masson M. Ann, Centre for Louisiana Studies, University of Southwestern Louisiana, Lafayette, Louisiana 1987)



Fig 6 *Pièce sur pièce* Construction (Source: Dr. Fred Kniffen and Henry Glassie, (Article: *SocietyBuilding in Wood in the Eastern United States: A Time-Place Perspective*, *Geographical Review*, Vol. 56, No. 1 Jan., 1966, Published by: American Geographical Society), Accessed from Jstor archive, [<http://www.jstor.org/stable/212734>])

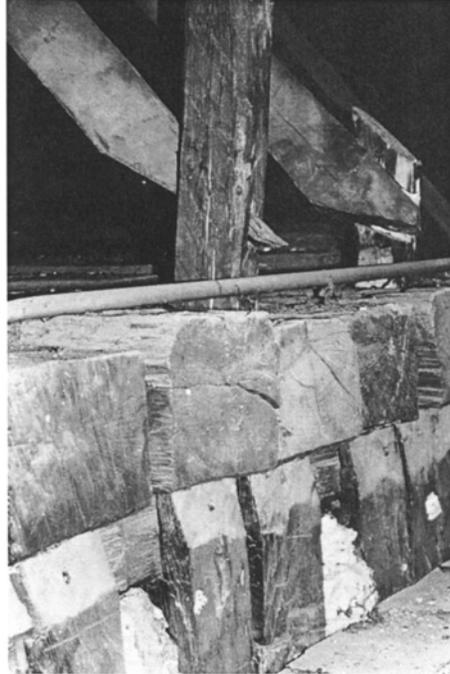


Fig 7 Close studding: external lap tenons support a heavy plate at the Bolduc House, Ste. Genevieve, Missouri, ca. 1785. (Source: Jay D. Edwards, Creole Architecture: A Comparative Analysis of Upper and Lower Louisiana and Saint Domingue in Springer. Accessed from Jstor archive Nov 25,2011: <http://www.jstor.org/stable/20853104>.)

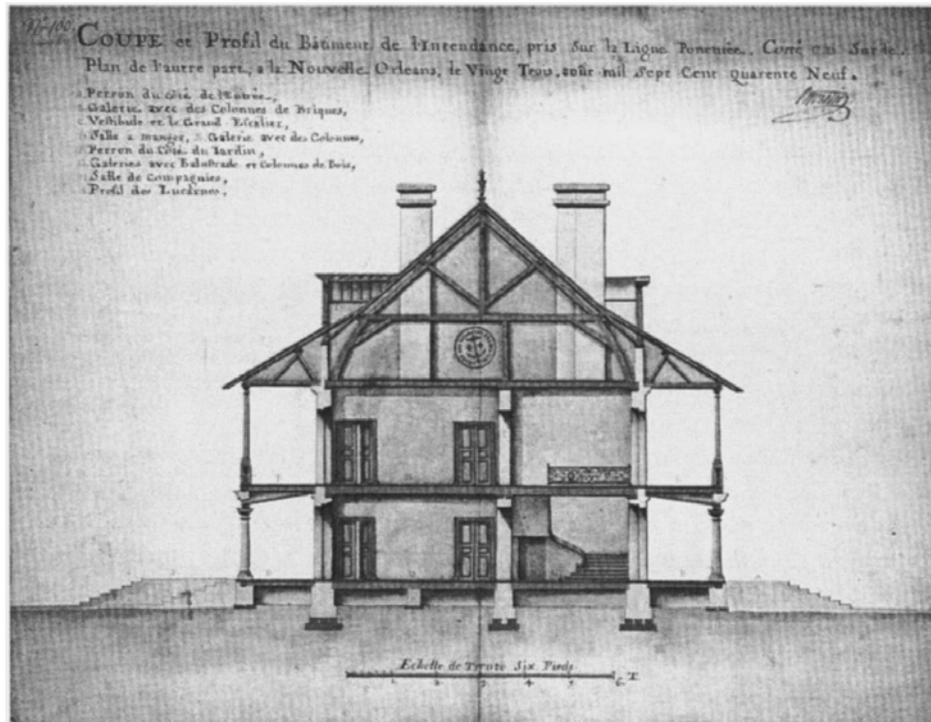


Fig 8 Coupe du Bâtimeur de l'Intendance... à la Nouvelle Orleans, 1749. A section of the proposed creolized Intendance building for New Orleans by Ignace Francois Broutin recovered from the Archives Nationales, Paris, (Source: Samue Wilson Jr., The Architecture of Colonial Louisiana, ed. Farnsworth M. Jean and Masson M. Ann, Centre for Louisiana Studies, University of Southwestern Louisiana, Lafayette, Louisiana 1987)



Fig 9 Poteaux-sur-solle Construction Cahokia Courthouse, a mid 18th century colonial building with close studded walls. Photo courtesy of Molly McKenzie, Illinois Historic Preservation Agency. (Source: from Jstor archive: <http://www.jstor.org/stable/20853104>.)

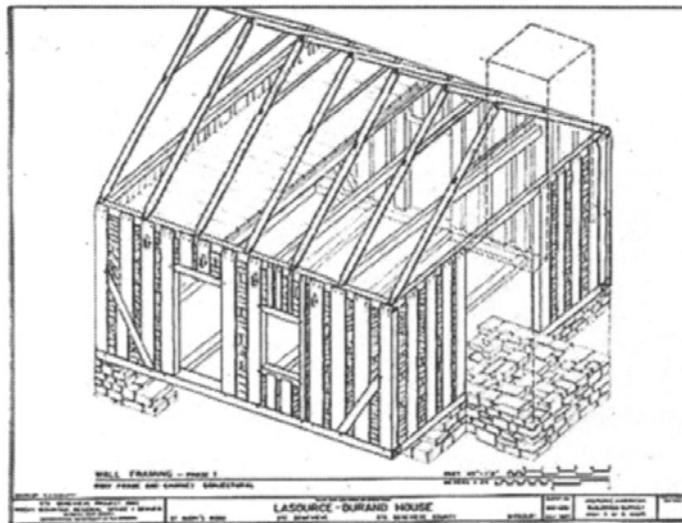


Fig 10 HABS perspective of the 18th Cent. Lacourse-Durand house, Ste. Genevieve, Mo, 97- Saigen 30. Sheet 7. (Source: from Jstor archive: <http://www.jstor.org/stable/20853104>.)

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