The Construction of a Clay Bread Oven beside the Rivière à Mars

During the summer of 1971, we had the opportunity to observe the construction of a clay bread oven. The experience of watching this family task and the images we retained of the event prompted us to write the following description of the technique, the craftsman, and his work.

The art of shaping a clay bread oven reveals the skill of the self-made craftsman. From a little clay he shapes an object to meet his needs. We hope to convey the full significance of this act by describing the construction of a bread oven according to the method of an experienced farmer from the Saguenay region, Mr. Louis-Joseph Simard. He agreed to make the oven because he believes that the techniques he learned in his youth are worth recording for future generations. After explaining the method he used thirty-five years ago, he gave us a full practical demonstration.

The construction of this oven took place on the campground of the parish of Saint-Marc at Bagotville on 22 and 23 June 1971. The site is located on the banks of the Rivière à Mars[1] in the Saint-Pierre concession of Bagotville. From the choice of site, we could see that all the necessary materials would be on hand, and all that remained was for the craftsman to select them with his experienced eye.

Mr. Simard was closely assisted by his son-in-law, Mr. Lauréat Lévesque, and there was also active participation by several members of the family and by young people from the campground. According to Mr. Simard, this job is meant to be a family event, with all the members of the family providing mutual encouragement until the completion of the work. Mr. Simard was born at the turn of the century and learned to make bread ovens in his youth from his grandfather, Johnny Simard, who had learned the technique in Baie-Saint-Paul, where he lived. Louis-Joseph Simard is a master of his grandfather's method, having built a number of ovens under his guidance as well as constructing others by himself. He made the last one thirty-five years ago; it was later used at the first Chicoutimi Winter Carnival. Mr. Simard first described the method to us and then proceeded to demonstrate it. The original technique remains the same, except for the use of cement instead of the old mortar made of lime and sand.

The oven is made up of various distinct parts that differ in shape and in the material used. The oven consists of the base, which provides a foundation for the hearth, then the doors, the dome, and, finally, the shelter that protects the whole thing. The construction will take a full day's work, and all the necessary materials have been brought to the site.

Base

To ensure the solidity and durability of the oven, weather-resistant materials are selected to make the platform. Mr. Simard chooses stones from the river to build a strong foundation. First he levels the earth and marks out a rectangle measuring 75 by 47 inches (1.9 by 1.2 m). He then lays the largest stones around the perimeter of this rectangle and places the medium-sized stones inside. Next he pours sand into the gaps. He gradually builds up this base by adding other stones to the perimeter and to the inside of the rectangle, again pouring sand between the stones, until the base measures 16 inches (40.6 cm) in height. Sand used in this way acts as a buffer and insulator between the hearth and the ground. The next step is to mix the cement in a trough situated near the oven site and to pour it over the foundation. With all the spaces filled and the stones held firmly together, the platform is solid and stable and is now ready to support the other massive parts of the oven.

Hearth

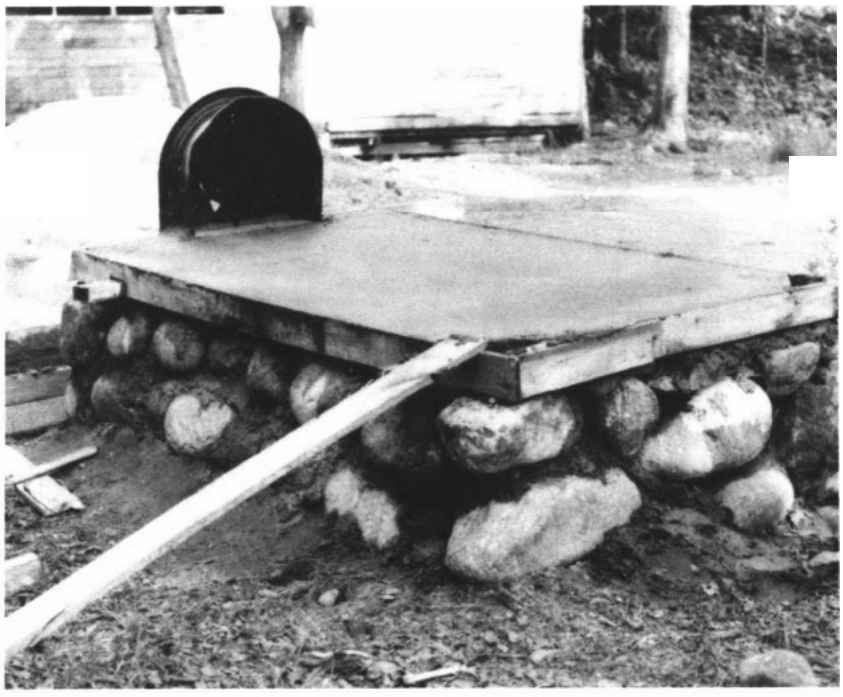
The hearth, "the part on which the dome of the oven rests",[2] is the first section laid on this platform. Since it is on this horizontal surface—the actual oven floor—that the loaves of bread are placed for baking, special care is taken to ensure that it is as smooth as possible.

Mr. Simard told us that thirty-five years ago he used bricks to make the hearth, but now he uses cement. In order to determine the exact size of the hearth, he makes a rectangular frame, using boards that he lays directly on the stones of the platform. He fits it firmly in place, inserting underneath it two projecting "two-by-fours", one near the front and the other towards the rear, to be used later as a support for the shelter. Next, he prepares a large batch of cement that he pours inside the frame right up to the edge, giving the hearth a thickness of four inches, actually $3\frac{5}{8}$ inches (9.2 cm)—the wider dimension of the two-by-four. He then levels off this mortar lightly, and immediately fits on the oven doors.

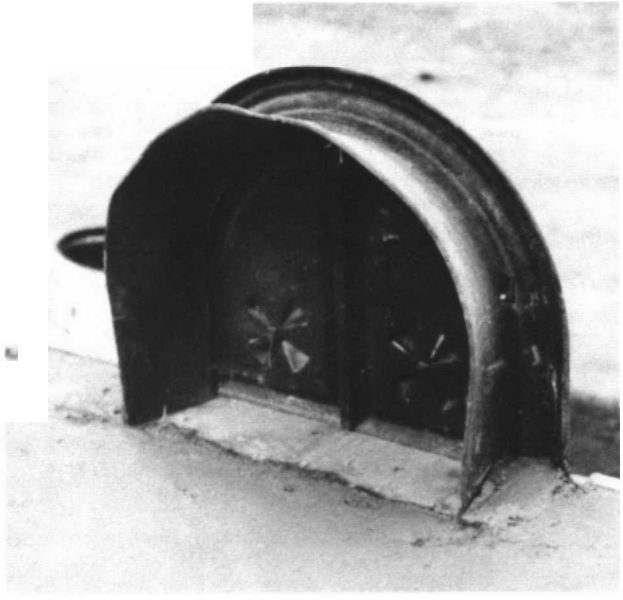
Doors

The doors facilitate the positioning of the frame, hold the alder branches in place, and close off the mouth of the oven. Doors with an inward-sloping ledge were used in this oven; their ledge held one end of the alder branches making up the frame and supported the masonry forming the mouth of the oven. Above the double doors was the partially worn inscription, BERNIER.

The doors play a key role in the rest of the construction, and Mr. Simard inserts them into the front end of the hearth. He places the sill in the cement, thus ensuring that the doors will be solidly attached once the cement hardens. Using a trowel, he finishes smoothing off the surface of the hearth, eliminating any unevenness. To give the base and hearth time to set, he waits until the next day before erecting the rest of the oven.



Large stones are used to make the base
Lise and Jean-François Blanchette Collection



The doorsill is placed in front of the
hearth
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Cutting and preparing young branches
for the framework
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Framework

At dawn the following day, Mr. Simard begins cutting the alder branches. With a sure step, he leads the way to an alder grove at the end of his property. There he measures the branches and tests them for flexibility. With his axe he cuts down those which appear the most suitable, some long and some short. He then trims them, ties them together in bundles, and carries them on his back to the barn, where he picks up a few tools and a bale of hay. We then proceed to the oven site.

He checks to see that the cement of the hearth has hardened sufficiently and begins to mark off the correct size for the dome, telling us that in the old days bread pans were used to determine the correct size. Since he has not brought any pans, Mr. Simard makes a guide of crossed pieces of wood, wide at the back and narrowing towards the doors, and lays it on the floor of the hearth. Around them is laid a wooden form to mark out the size of the dome and secure the alder branches. Traditionally, when the hearth was made of clay, this form was not needed, and when the hearth was made of brick, enough room was left for the tips of the branches. But here the use of cement causes a slight problem in that the ends of the alder branches cannot be inserted in it.

The frame is a type of scaffolding, made of alder and hazel branches, upon which the dome of the oven is built. It is this frame that determines the shape of the dome. It can also be regarded as a support or arch on which the lumps of clay are laid. However, there is more to it than this, and a closer examination reveals that its simple, rustic style requires considerable skill on the part of the craftsman as well as intimate knowledge of the materials used. The craftsman has to work quickly to position all the pieces of wood before they dry and harden. Mr. Simard's method involves making the shape of the frame larger and rounder than other methods, and higher at the back than at the front. When the oven is completed, this shape facilitates hot-air circulation at the back of the oven and makes for a more even heating of the dome. Moreover, it gives more strength to the framework.

Sometimes it is necessary to strip one side of the alder and hazel branches in order to make them flexible enough. Alder wood is preferred to hazel because it is stronger and easier to work with. In fact, the craftsman will use only two or three hazel branches for the frame.

With the help of his son-in-law, Mr. Simard begins constructing the framework. Taking a large alder branch, he works it with his hands along its entire length to make it more flexible; then, holding it against his knee, he bends it to the desired curve. He nails one of the ends to the back of the wooden guide, positions the alder branch over the centre of the hearth, and brings the other end over to the mouth of the oven. To keep the alder branch at the right height and angle, he places a wooden plank vertically towards the rear of the oven to support the branch and to retain its arched position. Taking a second alder branch, he works it in the same way as the first and positions it towards the back and crosswise over the first branch. The builders then check to see that the first two alder

The first alder branches are put in place
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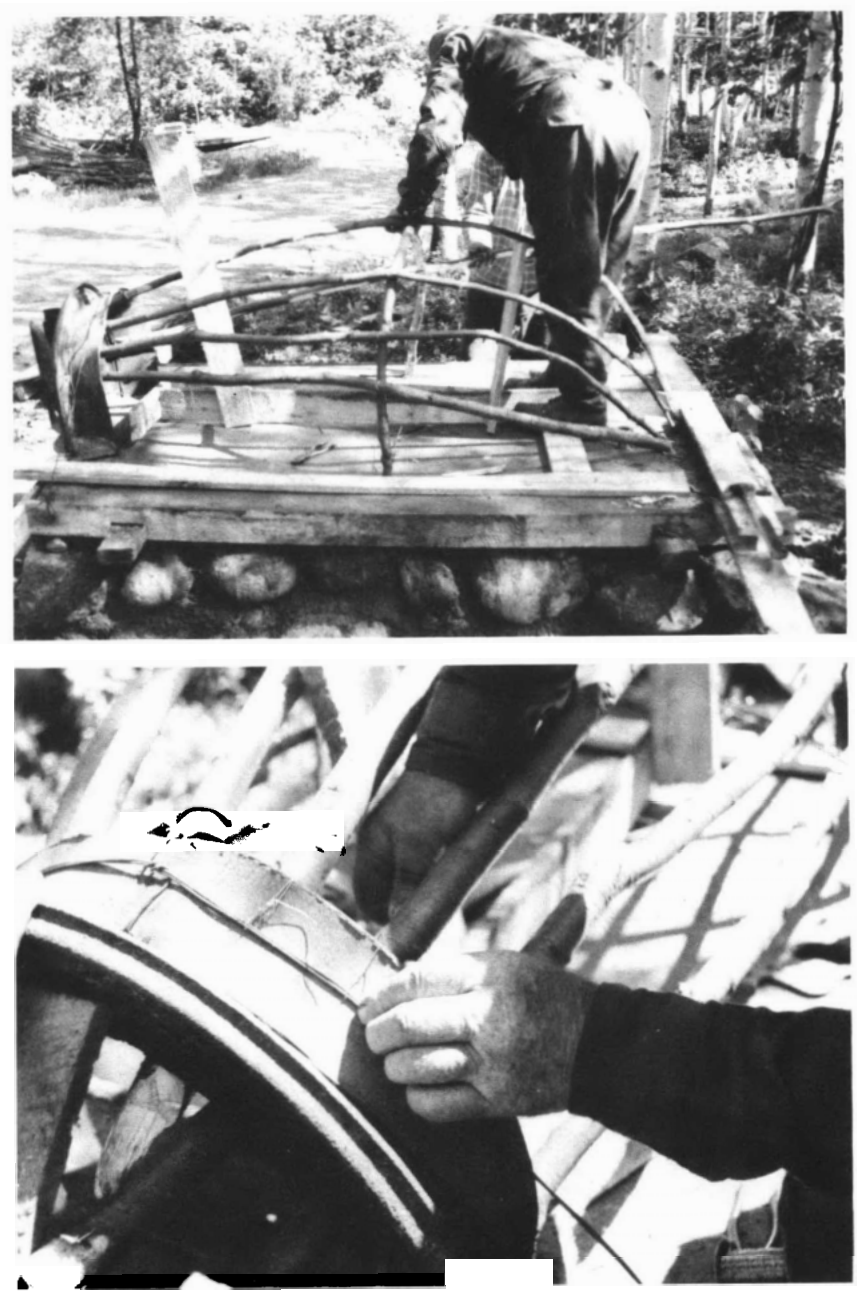


Positioning the long alder branches
Lise and Jean-François Blanchette Collection

branches are properly centred, adjust them where necessary, and attach them firmly together with heavy wire where they cross. This operation determines the basic shape of the framework and serves as a model for the positioning of the remaining branches.

The builders then place the longest alder branches from the back of the oven to the front, and complete the framework lengthwise by adding seven more branches, which are positioned on each side of the first branch. The same procedure is repeated: stripping the branch with the axe, working and bending it with the hands and knees, placing one of the ends at the back of the wooden guide, bending it to the correct angle, positioning the outer end at the mouth, and finally attaching it with wire to secure the shape. Care is taken to maintain the proper balance between the length and the height of the dome.

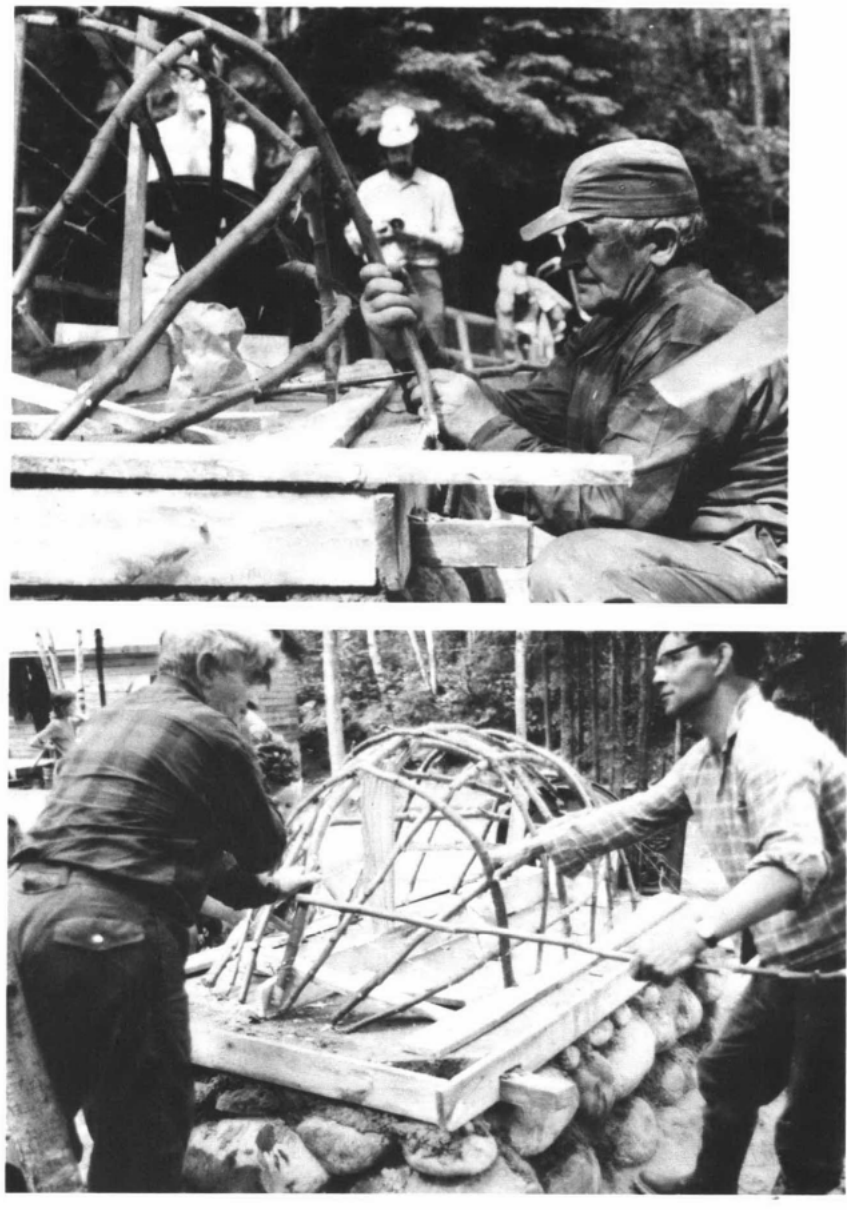
Once the operation is completed, the next step is to add the remaining alder branches crosswise. For this, the craftsmen use the small alders that are left over, but since there are not enough of them, Mr. Lévesque fells severals hazel trees alongside the river. The technique used is the same as for the length of the frame. They place the seven alder and hazel branches in front of and behind the first transverse alder branch, positioning them directly over the longer branches in order to reinforce the framework. In this way, Mr. Simard and Mr. Lévesque firmly position all the alder branches over the whole length of the frame, attaching them with wire at each crossover point. This method gives the framework the strength and solidity needed to support the heavy weight of the lumps of clay.

The frame is thus completed. The rear part is slightly more prominent than the front. The craftsmen remove the wooden form that was used to mark out the periphery of the frame when the alder branches were positioned. Mr. Simard cleans the surface of the hearth with a small broom made of leaves and put together especially for that purpose, and turns towards us with a grin, saying, "As you can see, nature provides everything we need."

Dome

The construction of the dome is a fascinating process. This is the mud-walling stage during which the craftsmen mould and shape the clay "like swallows building their nests", to use Mr. Simard's expression. Kneading together clay mixed with hay, they shape blocks of the mixture, which they place over each joint of the framework to give stability to the dome. A number of different steps are involved in making the blocks of clay, including the preparation and assembly of all the required items near the oven site—a rectangular trough, weathered clay, a shovel, pails, loose hay, and two small benches made of rough planks.

The clay used came from the clay hills across from Baie des Ha! Ha! It was transported to the campground the previous summer and allowed to weather. The expression "weathered clay" refers to dried clay that has contracted in the winter cold and therefore pulls apart easily; the



Positioning the transverse alder branches
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The framework reveals the eventual shape of the oven
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more weathered the clay the more manageable it becomes. This particular clay was greatly appreciated by our craftsmen.

Our septuagenarian then starts to work the clay, demonstrating his own particular brand of humour. Evoking the memory of Alexis le Trotteur, he challenges the young people on the campsite to "dance up a storm" in order to pound the clay to the right consistency. The laughter and the first sounds of feet stomping in the trough augur well. For the young people, dancing takes on a new dimension—they now have a challenge to meet.

Several shovelfuls of earth are placed in the trough along with some water. The barefoot dancers stomp and pound the clay-and-water mixture until a smooth consistency is obtained. The craftsmen place a good-sized handful of hay on one of the benches. They then take a chunk of wet clay from the trough, and with firm and energetic movements they knead together the hay and clay to remove any excess water and to obtain the right consistency. The hay acts as a binding material and reinforces the oven; it must be thoroughly mixed in with the clay. The craftsmen know this and work hard to complete their task successfully. Next, they skilfully lift up the prepared blocks and begin to place them on the front part of the frame. The first blocks are positioned on the hearth so as to make the lower part of the wall very thick; the sides of the dome must be extremely strong to support the weight of the other clay blocks.

While the dancers continue to mix the clay and water, the craftsmen scoop out another chunk of wet clay, mix in some hay with their large hands and begin the kneading process again. They work the clay as if it were bread dough—the more they handle it the better the texture will be. Returning to the front of the hearth, they place the new blocks of clay above the first row, following the ledge of the door-frame.

With mounting excitement at seeing the oven take shape before their eyes, the dancers continue to trample in the trough, while Mr. Simard and Mr. Lévesque shape the blocks of clay. As soon as each block is ready, they place it at the front of the frame, building up a clay ridge, or collar, just above the doors. Already there is a difference between the walls of the dome and the collar of the oven. The walls are as much as 9 or 10 inches (23 or 25 cm) thick near the hearth, and decrease in thickness towards the upper part of the dome. This creates a balanced construction and keeps in the heat as long as possible.

In spite of the overwhelming heat of the noonday sun, the work goes on. The dancers continue to trample and tread on the clay, the craftsmen keep on kneading the clay and hay. The work requires the sustained effort of the arms, the hands, and indeed the entire body. The blocks of clay are lined up side by side on the curved alder branches. They are pushed together and lightly smoothed by hand. Sometimes a little water is added to the surface.

The work is progressing at a frantic pace by now, and the workers are constantly surveying the oven as it takes shape before their eyes. Soon, the hump of the dome begins to appear. The craftsmen stand back to see if the clay mass is well balanced. Working along the length of the

frame towards the back of the oven, they make sure that the blocks of clay placed on the hearth are thick enough and that those making up the upper part of the dome are tapered.

To speed up the work, they put the straw directly into the trough while Mrs. Louis-Philippe Simard and Mrs. Eugène Girard help to form the blocks of clay. The work begins to take on the appearance of a family celebration, and everyone is happy to take part.

The craftsmen continue applying clay blocks to the rear of the oven. The beautifully smooth shape, the roundness of the dome, is clearly apparent. The frame is almost completely covered with clay, and only a small part of the alder-branch trelliswork can be seen. Slowly but surely the rear of the oven is covered up, and the last clay blocks are put solidly into place. With a satisfied grin, Mr. Lévesque applies the last clay block as shouts of joy are heard from the participants and spectators, who are already dreaming of the first batch of bread.

However, the job is not completely finished. With their large hands covered with bits of clay,[3] the craftsmen smooth down all the clay blocks to obtain the correct shape and, dipping their hands in water, they glaze the entire clay surface. A few strands of straw stick out here and there.

The oven has become a reality, and, to use the delightful expression of Félix-Antoine Savard, "the fire urn"[4] is now ready for the first firing.

Shelter

To prevent erosion of the materials, a triangular shelter is constructed to protect the oven from the weather. The shelter is very simply built, and is basically a clápboard roof over the dome extending down to the foundation.

Mr. Lévesque now removes the planks that were used as a framework for the hearth. Only the ends of the two beams emerge from the sides of the hearth. On these beams he erects the rafters that rise above the dome to the cross-brace. Then, on the wooden frame he places a row of aspen planks followed by a row of battens. He completes the roof of the shelter by putting on the ridge cap. The shelter at no point touches the masonry of the dome.

Drying and Firing the Oven

The oven will be left to dry in the air for at least eight days before the first firing in order to permit evaporation of the water in the clay. Every day a few new cracks will appear on the dome and will be repaired immediately. On the eighth day, a small fire is laid to burn out the alder-branch framework and to begin hardening the dome slowly. Successive firings will further harden the oven.

The "dancers" pound the clay and water
together with their feet
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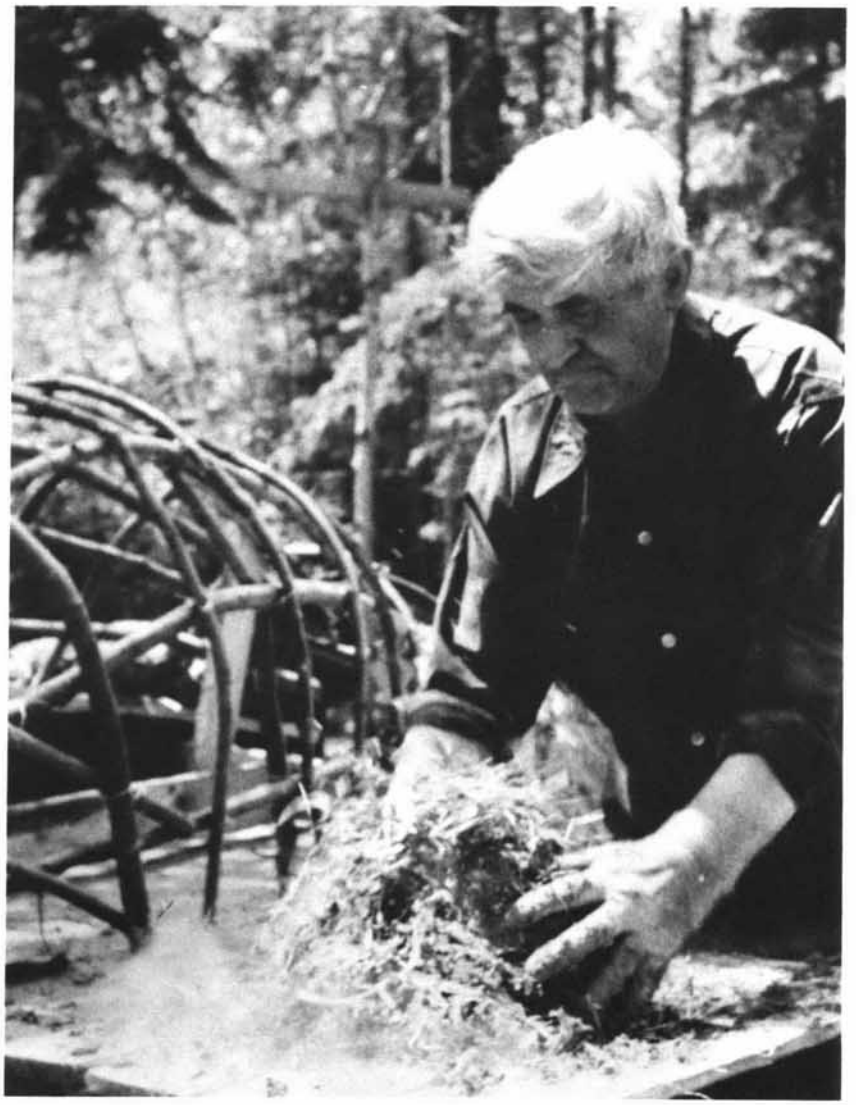
Mr. Simard shaping a "loaf" of clay
Lise and Jean-François Blanchette Collection



The craftsman mixes hay into the clay
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Shaping the blocks of clay
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The side walls are made very thick
Lise and Jean-François Blanchette Collection

The door-frame determines the shape of
the collar, or ridge
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The clay blocks are laid around the arch
of the doors
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Every member of the family participates!
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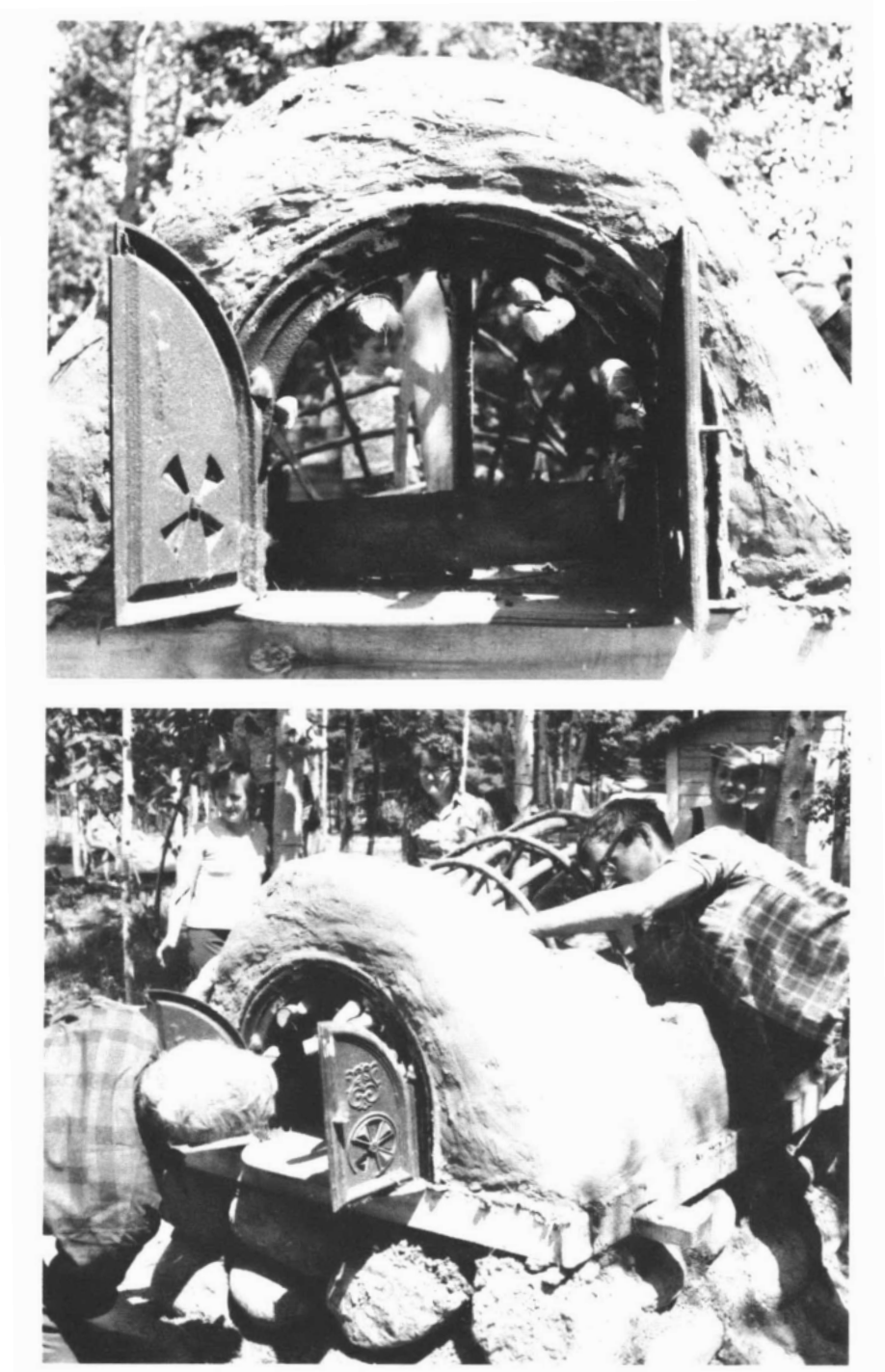

Checking to see that the oven is well shaped
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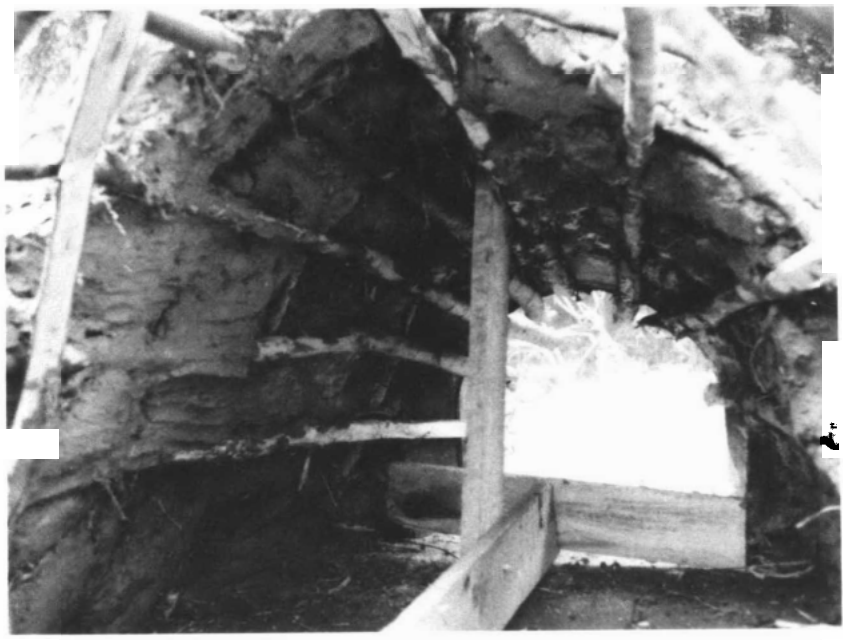

The bare framework begins to disappear
under the clay vault
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Mrs. Louis-Philippe Simard kneads a
block of clay while Mr. Lévesque checks
the walls
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The dome is gradually sealed
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Positioning the last clay blocks
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The craftsmen seal the last joints
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Mr. Lévesque smoothes and seals the collar
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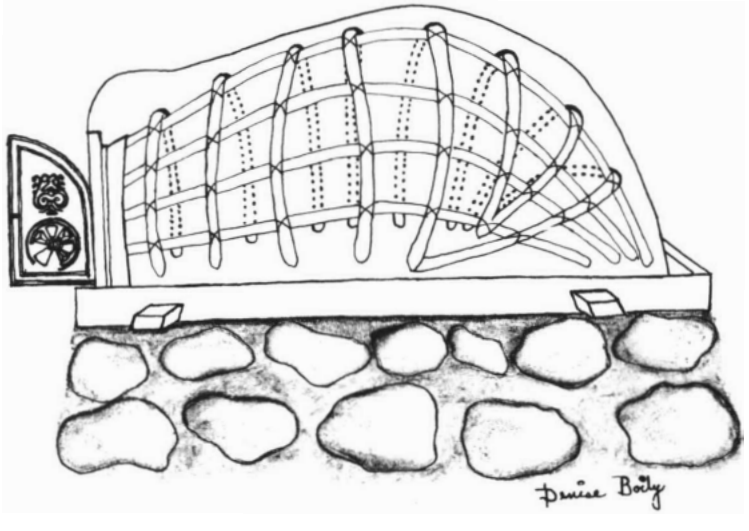
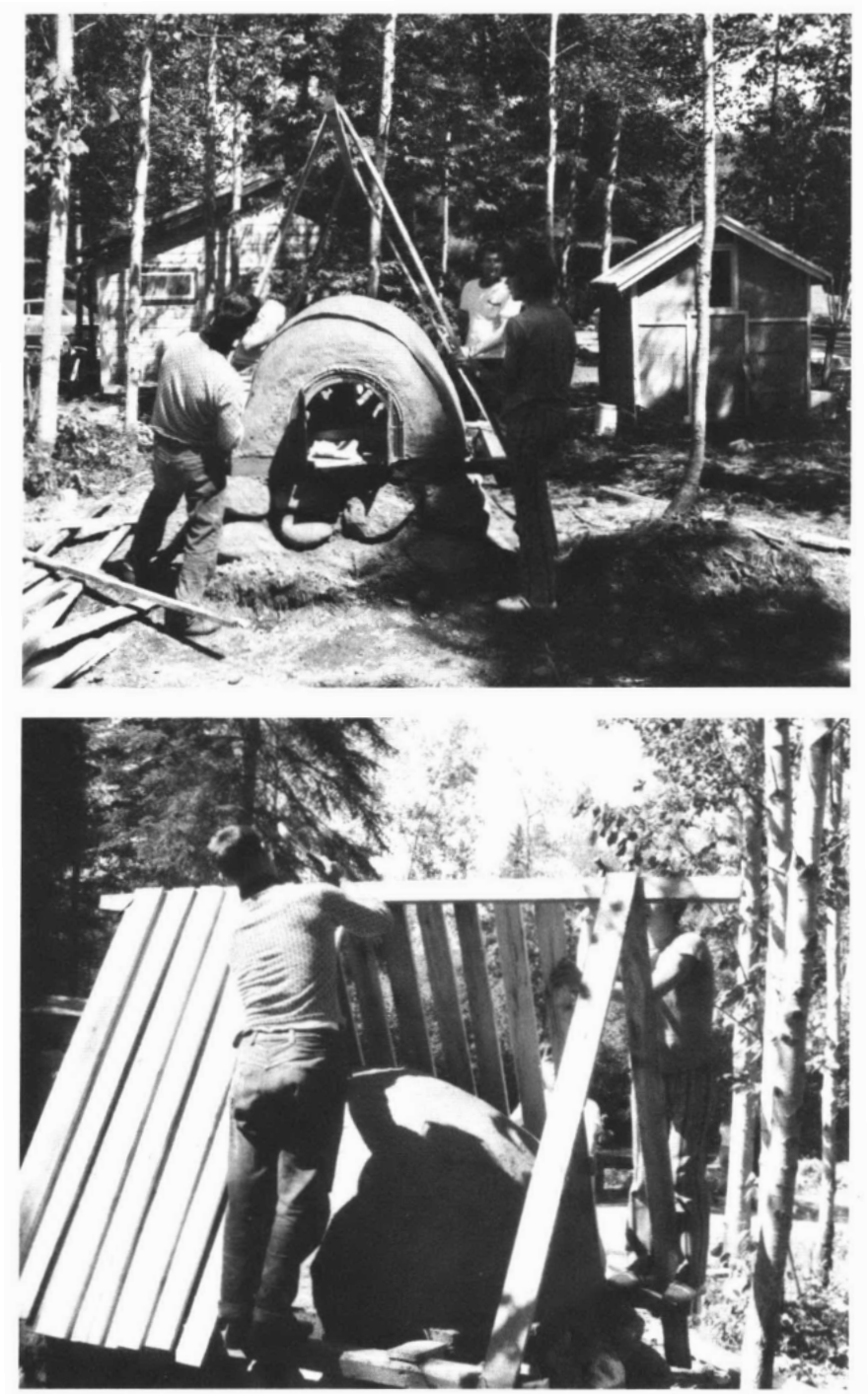
From the side the oven resembles a crouching beaver
Lise and Jean-François Blanchette Collection



The various parts of the oven, showing the base, the framework and the final shape
Drawing by Denise Boily
Blanchette Collection, CCFCS Archives



Building the shelter
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Nailing on the battens
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Putting the ridge cap in place
Lise and Jean-François Blanchette Collection

The "fire urn" is ready for the first batch
of loaves
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