droppings

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droppings

droppings is an occasional publication of Flowering Tree Permaculture Institute. One of it's purposes is to inform people about the activities and goals of Flowering Tree and to pass along helpful information to the community. We would like it to be enjoyable for all ages.

Flowering Tree Permaculture Institute (FT) is a small nonprofit education and research organization currently based in Santa Clara Pueblo, concerned with sustainable living systems. In other words; working with, and studying, buildings, plants, animals, people, etc..., and how they go together. Enjoy

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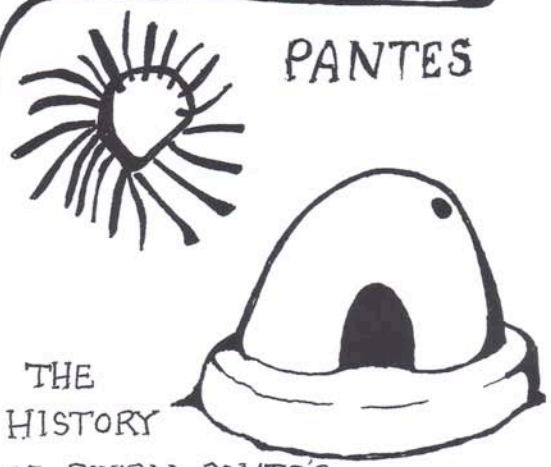
INDEX

① The History of Pante's
② Recent Troubles
③ Cooking History
Pit ovens
Pante cooking
⑤ Cooking Chicos
⑥ SC Pante Project
⑩ Thoughts on Project
⑪ Pante Maintenance



THE HISTORY OF PUEBLO PANTE'S

by Roxanne Swentzell

I would like to talk about our outside bread ovens known by most people as Hornos, and to the Tewa speaking people as pantes. They have been with us, (Pueblo People), for as long as the Spanish have been here. The Spanish brought the Horno with them, a concept coming from the Moors of Africa. As both Pueblo and Spanish cultures met and shared knowledge of foods, plants and customs, the Matachina Dance became "Pueblo" and the "Horno" came to be called a "Pante".

People all around the world have made and used hand-built bread ovens. They were made of what materials were available in the area. These ovens were made with a chamber enclosed by a refractory material

such as stone, brick, or adobe, and were traditionally heated with wood. The refractory material could withstand the shock of direct flame and were a good heat sink, working well to absorb the fire's heat.

Our ovens here at Santa Clara Pueblo were built "traditionally" of adobe and river stone. The floors were laid with river rock (not flagstone or soft stone, as they will explode in direct contact with flame). Adobe mud was used as mortar to create a flat surface. The walls of the oven were built of adobe in the shape of an igloo or beehive. A smoke-hole was needed near the top. A door was made just big enough to move large loaves in and out. A wooden or stone door was used to seal the opening. Mud was used around the door cracks to keep heat in.

RECENT TROUBLES

When I was a child, the whole village of Santa Clara Pueblo was adobe. No cement, no stucco, and no framed houses, just adobe structures. The houses eroded slowly in the rain and wind, and were re-plastered when needed. Most were still standing after hundreds of years. The ovens were treated the same as the houses. Even their name means, "House for Bread"... Pan (bread) Te (house). They were re-plastered with mud and straw when needed. As the European Anglo culture merged into the Pueblo villages, the building materials began to change. At some point, the concept of cement plastering or stuccoing the adobe houses, (including the bread houses), became the thing to do. I suppose the thought of never needing to re-plaster one's house seemed like a freedom from a chore of plastering every year. Thus the pueblo became cemented. Then something happened, the buildings began to collapse.

Research finds that cement and adobe are not very compatible. Cement is stagnant; it does not expand or contract with changes in heat and cold. Adobe, on the other hand, "breathes" in and out, not only with temperature changes but with increase or decrease in moisture as well. As the adobe walls were heating and cooling, they tried to expand and contract within a cement prison. This pressure eventually turned the adobe bricks to dust. After hundreds of years of standing, many of these structures began to crumble after just two to five years of being stucco'd. The remaining roofs were held up only by the thickness of the cement plaster.

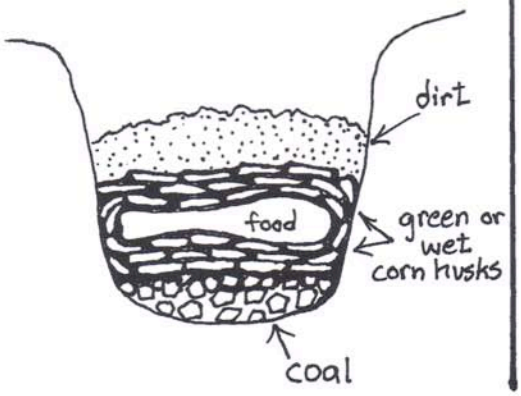
This situation was the same with the bread ovens. They too had been cemented. The extreme heating, cooling, and moisture movement involved in cooking crumbled the adobe brick even quicker.

The ovens started disappearing as one by one they fell in on themselves, leaving a useless cement shell. A few kept being made, but again without knowing, they were cemented, creating a short lifespan for the next generation of ovens.

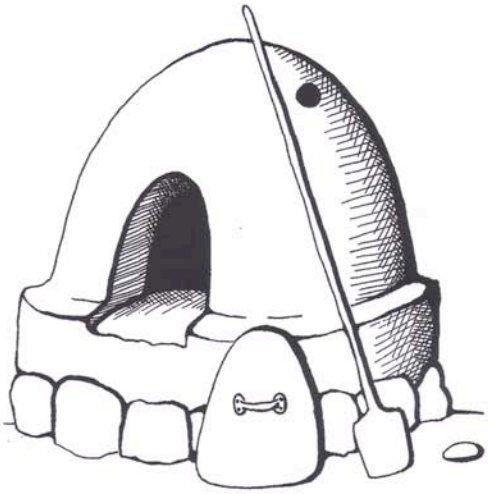
Cooking History

(Pit Ovens)

Cooking in the ground, or in Pit Ovens, has been used historically and is still used occasionally for cooking whole animals or corn for chicos. In this method, a hole was dug large enough to drop in a sheep, deer, agave, corn, or whatever was to be baked. A very hot fire was created in the pit using smaller sticks, as they burn hotter. This fire was left to turn to coals. The walls of the pit absorbed the heat, radiating it out. A layer of green corn husk, or re-hydrated old husk was placed on top of the coals and then the food placed on top of the steaming husks. Another layer of husks was layed on top of what was to be cooked. Dirt was put on top of all this holding the heat within the pit. Steam would slowly cook the food overnight or throughout the day. When it was opened carefully by pulling away dirt and husks, the roasted food is found tender and juicy.



Because the Pueblo people already knew this method of baking at the time of the Spanish arriving, the Pante was immediately understood and adopted.



PANTE COOKING

A very similar cooking method is used on the Pante as was used in Pit Ovens. A hot fire is burned inside the oven until the walls and floor have absorbed enough heat to radiate it out into the chamber. The structure makes it easier to keep the food clean as you don't have to use dirt to seal the cooking chamber. After the fire burns down to embers, the ashes are removed and the oven is tested using a dry cornhusk or newspaper thrown into the oven. If the husk or paper burns up or turns black, it is too hot and one must wait for it to cool. When the paper or husk turns a nice brown, it's a good temperature. I've heard of salt

being used in the same way. The salt will brown at the right temperature.

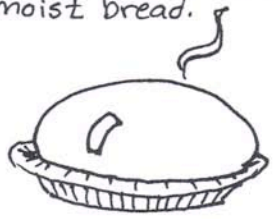
Risened dough is placed in the oven on tin trays, or put directly on the floor of the oven. The door and smoke hole are closed with a wet burlap sack or towel sealer, and the baking begins.

Because these ovens are using radiant heat stored in the walls and floor mass, they act more like a microwave oven than a conventional one. The baking time in a Pante is about half the time of a regular oven. My grandma would make us time the bread for 25 minutes starting from when we would put the first bread in.

Variations happen with each of these ovens. Some heat up easier than others depending on how they are built. Some cool off faster or have hot spots or cold spots. Variations in temperature happen depending on how the fire was made, what kind of wood was used, how big the pieces of wood are and how long the fire was left to burn.

At 20 minutes, I sometimes "peek" inside to see how the baking is going. If the bread is browning too fast, I open the door or the smoke hole to allow some of the heat out. If the tops of the bread are cooking faster than the bottoms, they can be flipped over to let the bottoms brown more or the ceiling of the Pante can be sprayed with water to cool it off.

There is a distinct flavor that comes from cooking in these ovens. The residue of wood smoke in the walls gives the bread a slightly smoky flavor. Also because these ovens hold many loaves of bread (some up to 70+ loaves), there is a great amount of moisture in the oven while it is baking. This allows for a nice crust and moist bread.



All our breads (pre-Anglo contact), were made with corn and ash from the Four-Wing Salt Brush as salt and coloring. Our "bread" was more like corn dumplings. When the Spanish arrived, so did wheat, but all wheat breads were sourdough based. Yeast arrived later with the Anglo American colonizers. Before European influence, we did not have wheat or yeast.

So the making of the Pante came to us along with wheat. But there were other foods that we already had, which cooking transferred easily into the Pante.

Cooking Chicos

Se-ho (Tewa) - Spanish version of the word turned it into "Chicos".

Roasting large amounts of corn has been around for a long time. It was originally done in cooking pits.

In colder regions where the growing season is too short for corn to fully mature, this method assured that the people would have corn throughout the winter. By roasting the "green" corn and then drying it, the kernels can be used in soups at any later date. The dried roasted ears are more bug proof than are dried meal corn. The kernels become very hard and impenetrable.

Boiling them in water is how they are softened. My grandma would use her clothes-line to hang her just-roasted Se-ho up to dry. Braiding many ears together saves room, but they need a lot of sun and air to keep from molding. They were also laid out on rooftops or ramadas to dry.

Se-hos can be left on the cob or the kernels removed and stored by themselves.

Pantes are great for making Se-hos. After letting the fire burn down to coals, don't remove them, but spread them evenly across the Pante floor. Corn that is to be baked is soaked in a tub of water. I take a few layers of husk off, leaving only a few layers covering the kernels. I do this for all the corn, except those that lay directly on the coals; they keep all their husks. This keeps them from burning and holds the moisture in for steaming.

The wet corn is thrown into the Pante, the door shut with wet burlap bags behind the wooden or stone door. The smoke hole is also shut. For Se-ho, I start the fire in the evening, throw the corn in, close it up and let it cook all night. Next morning I take them out and hang them to dry.

Ailani Swentzell 4 yrs.

Santa Clara Pante Project

Pante Builders

In the Spring of 2007, the directors of Flowering Tree Permaculture Institute (Roxanne Swentzell) and Honoring Our Pueblo Existance, H.O.P.E. (Marian Naranjo), talked about projects we wanted to do. I told her of a long dream I've had to teach pante building to interested people in Santa Clara Pueblo. I had found funding enough for 5 ovens but needed help organizing it. Marian said she would find the crew and start a list of women who needed a pante.

Our pante builders of 2007 consisted of:

Roxanne Swentzell
Luciano Naranjo
Lyle Kochamp
James Naranjo
Ernie Naranjo
Joseph Chase
Rose Simpson
Pa-eh Naranjo
Benito Steen
Leo Tafoya
Rina Swentzell
AJ Oyenque
Gilbert Naranjo
Vida Baca
Marian Naranjo
some grandchildren

Our 2007 pante recievers were:

Marian Naranjo
Winter Kiva
Vida Baca
Janay Chavarria
Nona Naranjo

H.O.P.E. found money for this years pantes. Our 2008 Pante Builders are:

Gilbert Naranjo
Margaret N.
Matthew Naranjo
Joseph Naranjo
Eunice Naranjo
Jacob Naranjo
Timothy N.
Andy Padilla
Joseph Vigil
Chis Velarde
Gillian Naranjo
Kelly Armijo
Stephen Naranjo
Nathaniel Fuentes
Luciano Naranjo
Martin Maquino
Rose Simpson
Adesina Reno
Joseph Chase
Nathaniel Naranjo
Lindsey Holt
Roxanne S.
Kis Sandoval
Anthony Escabedo
Cody Peterson
Porter Swentzell
Ryan ?
Thomas ?
AJ Oyanque
Karl Duncan
Ailani Swentzell
Cannupa Hanska
Ethan Naranjo
Kaylene A.

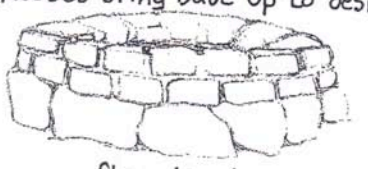
How We made our Pante's

Pante Project

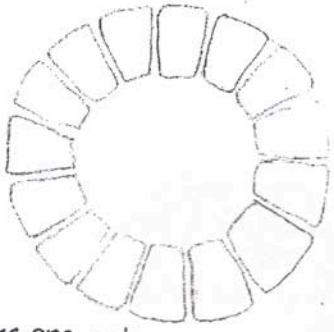
① Foundaton made of stones.

Adobe's bring base up to desired floor level.

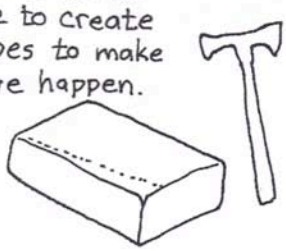
②

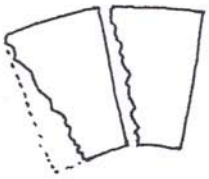


③



Bricks are cut on one side to create pie shapes to make the curve happen.

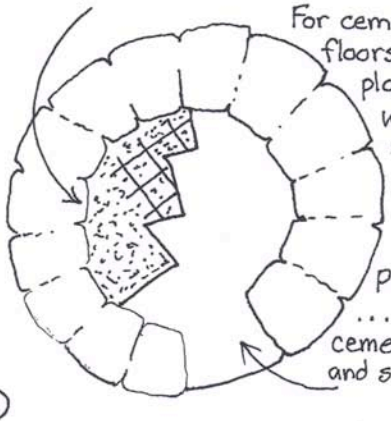


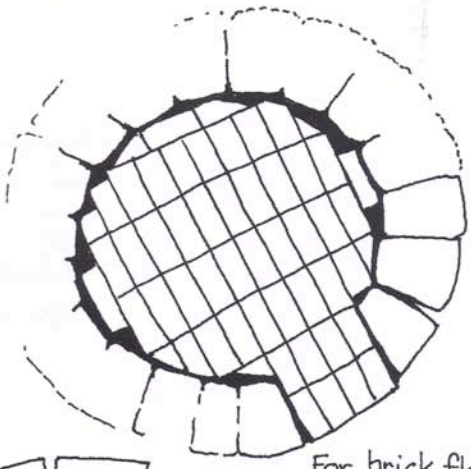


Inside is filled with pumice for insulation.

For cement floors, we placed wire mesh on top of pumice ... pour cement and smooth.

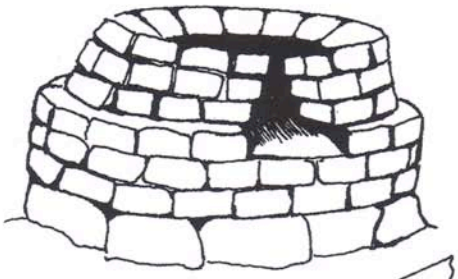
④

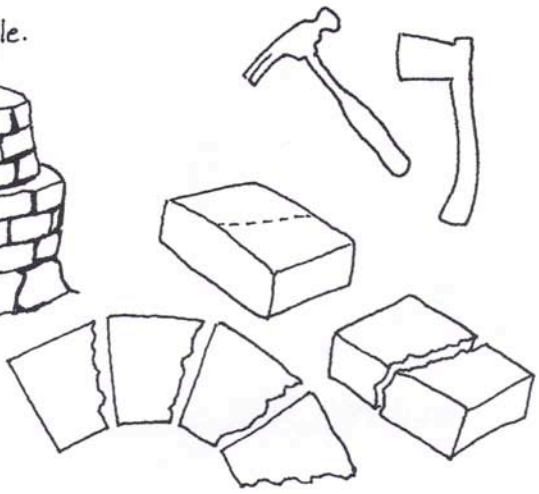


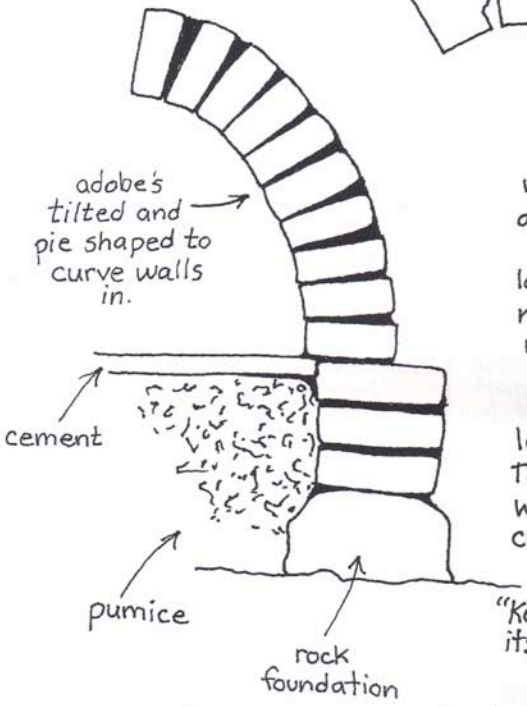


For brick floor, place Firebrick on top of pumice. Fill holes with mud.

⑤ walls built up at angle.







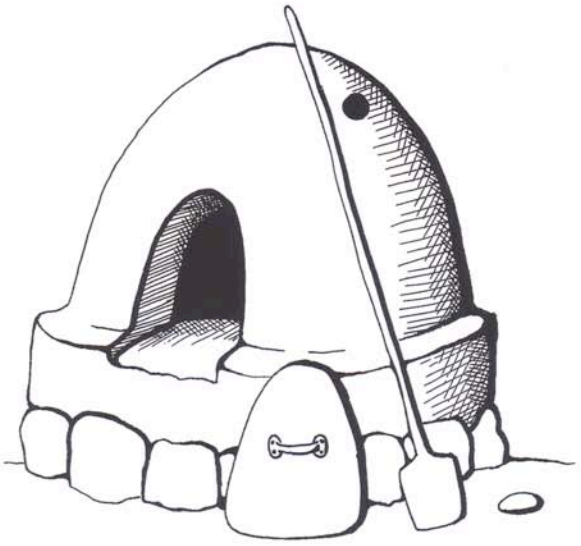
Adobes are cut in half with a slight angle to make a circle when layed.

When building dome, each layer is slightly lifted up with mud and adobe chunks to make walls curve in.

Each row of adobes are locked in by the "key stone." This is the last angled brick which ties all bricks together creating a strong dome.

The last brick on top, "keys" the whole dome onto itself.

As the ovens shift from heating and cooling it compresses more onto itself making the oven even stronger.



Finished Pante

After the walls are built, the inside and outside of pante are plastered with mud. The inside mud has no straw (it will just burn out). The outside mud is mixed with straw. The mud is hard-troweled to make it smooth.

A round stone is found to place in the smoke hole.

A door is made to fit opening.

Now we are ready to bake.

Our Pante recievers for 2008 are:

Carol Brewer
Pat Cata
Pam Warren
Tillie Begay
Cynthia Dasheno

Congradulations to all who recieved a pante.

Thoughts on the Pante Project

This has been an amazing project; coming together as a community; persevering through hard labor and hot days has given us a sense of really giving something back to the community.

As Santa Clara Pueblo people, we were traditionally builders. We built amazing adobe and stone structures that stood for centuries. Within the last 50 years, so much of this technology has been lost. As outside ideas of building and living penetrated our tribe, we slowly stopped building our own homes, growing our own food and living our own ways of life. We are becoming assimilated as each piece of our culture is lost.

Building with mud and adobe was part of who we were. We built with machines, without "building codes", and without money. We built as a community, based on the needs of the community, with what we had at hand.

We built villages that stood for hundreds of years out of the dirt we stood on and the branches of trees that we could carry.... and we knew how to care for these buildings so that they protected and held us for generations.

If we let outside contracters and "professionals" decide for us who we are and take over the building of our communities we lose a piece of our culture; a piece of who we are as pueblo people.

When we build with our hands out of local materials we empower ourselves again. We bring back a sense of knowing how to do things again. We become more capable of caring for ourselves and those around us. We don't need to look outside for our survival because what we need is right here in our own back yards.

For me, the pante project is an effort to re-introduce simple building skills and at the same time support our own community in its traditions of working together for the good of the whole; sharing knowledge with each other on building while keeping the use of the pantes alive and well.

We all feel proud of the ovens that we built. We will forever be connected to them while their owners will be forever reminded of what their community gave to them freely. Now they are given the gift to give back to the community in the form of using these ovens and

teaching their family members how to use them and care for them.

The Pante Project is one small piece, but it is these small pieces, these seeds, that make the garden grow.

Thank you all very much,
Roxanne Swentzell

The End

PANTE MAINTENANCE

For those who received a pante, here are some guidelines you should be aware of:

Your pante is made of adobe and you will need to plaster it every year or cover it with a tarp to slow erosion.

Erosion is natural. Your pante will last much longer if you do NOT plaster it with cement. Remember cement and adobe do not go together well and will cause the adobe to crumble. Plaster with mud when needed. This is a good time to practice your long lost heritage of playing in the mud. Don't lose this knowledge; teach your children how to plaster and what kinds of mud to use.

Your pante will create its own stress cracks when heated up. Let it. They will close up when it cools down. This is the way it breaths, its OK.

Crossword Puzzle

C	O	O	K	E	Pante
T	S	V	O	P	Pies
O	H	E	S	U	Sticks
P	A	N	T	E	cake
I	F	S	I	B	Se-ho
E	K	A	C	L	Pueblo
S	O	A	K	O	History
M	U	D	S	B	Fire
D	S	H	O	R	Bread
U	F	I	R	E	ovens
M	U	S	E	A	pits
P	I	T	S	D	cook
L	L	O	A	F	dumplings
I	O	R	D	N	loaf
N	S	Y	O	R	adobe
G	T	N	B	O	mud
S	O	A	E	C	corn
W	H	E	A	T	soak
					lost

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