Reclaiming the Loaf

An Honors Thesis (HONRS 499)

by

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Abstract

Bread has been an integral part of many societies since the beginning of history, spurring social unrest at times by the lack of it, while the abundance of it portrays a utopian ideal. The American system of baking has changed significantly since the Industrial Revolution, where mechanized bakeries monopolized the production of bread. Not only is this product less flavorful than homemade, it is less nutritious and ridden with chemical additives. Bread has been an object of great significance, and it has lost that in its modern state. I went about reclaiming the loaf by baking my way backwards through history and writing about it for others to see.

This thesis can be viewed in its full, original format at:
http://reclaimingtheloaf.wordpress.com/

Acknowledgements

I would like to thank Dr. Stegman who inspired me to do this thesis through her Food Literature class, and for advising me in this project. Her guidance, patience, and understanding were a great help to me.

I would also like to thank my roommates for their consistently putting up with a doughy, floury kitchen, and for their enduring support.
This journey, though seemingly ending, has really only just begun. With all of the knowledge and experience that I have acquired, I am exceedingly more equipped to bake at home than I was before. Because bread is of great cultural, historical, political, and religious significance, I feel that gaining a deeper understanding of it is an undertaking worth the benefits. I hope that my pilgrimage of bread through time has in some small way inspired you to take a step of your own to baking your own bread.
"Now this is what you shall do to them to consecrate them, that they may serve me as priests. Take one bull of the herd and two rams without blemish, and unleavened bread, unleavened cakes mixed with oil, and unleavened wafers smeared with oil. You shall make them of fine wheat flour." (Exodus 29:1-2)

Bread has a significant role in Christianity and Judaism as well as other religions. In the Old Testament, unleavened bread plays a prominent part. At the beginning of the exodus, the people had to rush out in a hurry during the night before the bread was leavened. The Jewish holiday of The Feast of Unleavened Bread, or Passover, began in Levitical times and commemorates God's great delivery of the Israelites from the slavery of the Egyptians.

Unleavened flatbreads are the oldest form of what we would call "bread." There are many different types, according to different cultures: the Mexican tortilla, the Scots oatcake, the Indian chapati, the Chinese po bin, the Amerindian jonny cake, the Norwegian fladdbrød and the Ethiopian injera, all of which only differ according to the type of grain used. Though more common in some cultures, unleavened flatbreads still coexist today with leavened breads. A flatbread generally consisted of some type of grain, water, salt, and sometimes oil. The dough would be mixed and flattened with the hands, and placed on a hot stone to cook quickly, unlike leavened bread that requires an oven.

I cooked my own version of ancient flatbread using a dough of whole wheat flour, salt, and water. I kneaded this dough (which was very sticky and difficult to work with) and let it rest for a couple of hours before dividing it up, flattening the dough balls, and cooking them on a griddle in some oil. I can see how leavening revolutionized the world of bread. The airy texture of a loaf of bread far exceeds the quality of a flatbread.
Grains

Posted on April 19, 2012 by cefafoe

Reply

“I feel so keenly that the history of people is like the history of wheat, if you are not sown on the earth to germinate, what difference does it make, you will be milled to become bread.” – Vincent van Gogh

Bread has not always been primarily made with wheat. Breads have been made over the centuries using other grains like barley, millet, oats, buckwheat, corn, sorghum, cassava, or rye. Some cultures were entirely unaware of the existence of grains and instead ate starches like tubers, gruels of fermented taro, and fermented mashes made from the starch extracted from sago palm. The Indians of South America have always eaten starch from the cassava root, often made into a dough and cooked on hot stones to produce a flatbread.

However, the real competition to wheat was the potato. Potatoes were originally cultivated by the Incas and brought back to Europe around 1550, where it began growing in Spain and Italy. It’s widespread fame came from its use in England in 1585. In the beginning, potato was frequently used as cattle feed and as a last resort type of bread. It was criticized and viewed with suspicion, and seen as an inferior, less nutritious food source. However, it contributed many desirable qualities when added to other types of flour, reducing the harshness of barley, the dryness of Turkish wheat, and the bitterness of buckwheat. Bread made with potato flour also kept extremely long without molding or hardening, unlike bread made with wheat.

However, wheat prevails over the other grains for a loaf of bread. Its gluten content is most suitable for breadmaking. Today, we have many different forms of wheat available. In a
supermarket, several types of flour can be found. There are hard wheats and soft wheats, which have differing quantities of protein and gluten that make them each suitable for different purposes. Hard wheats are used in breadmaking for their high protein and gluten content. Softer wheats with less protein are used for cakes and pastries. All-purpose flour is the middle ground, which allows for a wide variety of baked goods. There is also whole wheat, whole meal, and stoneground, which describes the milling process that the wheat goes through.

Wheat is composed of three defining parts: the bran, germ, and endosperm. In most flours, the bran and germ are sifted out and the endosperm, mostly starch and protein, is left. Only whole wheat, whole meal, and stoneground flours contain all parts of the wheat berry. Flours that have sifted out the bran and germ are enriched because the separation process removes so many of the nutrients.

For my loaves, I used bread flour with a mix of white whole wheat flour. For the naturally leavened bread, though, I used stoneground whole wheat flour because the naturally occurring yeasts are killed in roller-milled flours. We are extremely privileged to have so many varieties of flour at our fingertips. Baking in our generation has much more potential than is utilized, but a change is happening in which people are realizing the real wonders of homemade bread over Wonderbread.


Pompeii oven

Posted on April 16, 2012 by celafoe
Reply

There are many different types of ovens that have been used throughout the history of baking, but the most widely used throughout Europe was modeled after the famous Pompeii oven, also termed a wood-fired oven. This was a stone or brick chamber over a flat floor, with a draft for the smoke and containers for ashes and water. A fire would be made inside the oven to heat up the stone floor and the chamber, and once it had been thoroughly heated, the ashes and embers would be moved. Large ovens like these would often be used to serve entire villages, unlike the clay cupola which was fragile and had a limited capacity. Galen, a famous 2nd century physician, stated that "Bread baked in large ovens... excels in all good qualities, for it is well flavoured, good for the stomach, easily digested, and very readily assimilated."
This type of oven has been used for many centuries because of their lasting, well-engineered structures. They can still be found in Pompeii today, and some bakers still use the same concept to achieve a more natural, artisanal type of bread. I was able to attempt my own hand at this kind of oven. I got in touch with our ceramics department on campus, who owns a wood-fired oven, and the professor graciously allowed me to use it for a day, and instructed me on how to go about using it. I built a fire inside the oven, which burned for quite some time before the oven heated up enough and the ashes and embers were pushed to the back of the oven. My dough was then laid on the stone floor of the oven using a peel, where it baked for a little more than an hour. The fire in the back had to be maintained to keep the temperature up and to keep the level of smoke down. I watched as my semi-collapsed dough transformed into a respectable loaf. This was a hugely educational and rewarding experience.
I had a visitor, as you can see!


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**Bread and wealth**

*Posted on April 5, 2012 by celafoe*  
*Reply*

Chaucer famously demonstrates one historical perspective of bread as a social status in *Canterbury Tales*. A small excerpt of his description of the Prioress (the head nun of a convent) says, “She had some little dogs, too, that she fed / On roasted flesh, or milk and fine white bread.” The absolute absurdity of feeding a dog white bread at the time represented her immensely lavish and frivolous lifestyle. At the time, the peasants were lucky to even receive brown bread. Contrarily, the Second Nun only ate brown bread as a signifier of her strict adherence to her vow of poverty.

White bread was for many centuries denoted wealth and luxury while brown bread marked poverty. In Medieval times, bread that was made with mostly wheat at all was for the wealthy. Bread was frequently adulterated with numerous other ingredients, only sometimes at the knowledge of the consumer. Camporesi recounts the story of the writer Giovan Battista Spaccini from Ferrara in 1596, “it is believed that the cause of many illnesses, of which numerous people die, is the bad breads which the people eat, namely that of beans, cabbage and plain oil”. He goes on to quote another excerpt of Spaccini that narrates a destructive replacement of wheat:

“On the 21st, a Sunday, with Monday approaching, Master...[blank in the manuscript] Forni, Judge of provisions in the square of Modena, was arrested, along with the bakers, for having had forty sacks of bay leaf ground to be put in the wheat flour to make bread for the square, where it caused the poverty to those who bought it to worsen, so that for two days there were many people sick enough to go crazy, and during this time they could not work or help their families.”

This is an example of a wheat substitute that had harmful side effects, as did some other adulterants. Some of these caused dizziness, nausea, hallucination, and drugging effects on top of malnourishment. Some other substitutes consisted of: water brambles, acorns,
turnips, lupins, parsnips, wild radishes, pine-nuts, fir seeds, laurel berries, wild asparagus, hazelnuts, pumpkins, elm leaves, broad beans, mixtures of other grains, and many other things, including sawdust, rock, and other inedible substances.

In 1775, the price of bread in Paris suddenly increased and began what was termed the “flour war.” Bakeries were attacked and looted, and eventually it was announced that rye would be used in order to save wheat, and that it would even be served at the royal table. But not even rye was available; Paris was out of bread and people were demanding it. It was at this time that Marie Antoinette’s made her famous rumored remark, “If they have no more bread, let them eat cake!” Eventually, prices for bread were fixed in 1791 and it was decreed that bakers could only bake one kind of bread, pain d’egalite, which contained a blend of 3/4 wheat and 1/4 rye, including the bran. White flour was prohibited.

Not much changed for France in the next century. Bread was still expensive and a disastrous harvest in 1846 left more than 2/3 of Parisians needing assistance to buy bread. Throughout the century, white bread only increased in its status as a food of the wealthy while bread made with bran was for the poor. Bread continues to be associated with affluence and success. Bread is still subsidized in many Third World countries, and attempts to raise the price of bread have resulted in social unrest, as in Poland and Romania in 1981, Tunisia in 1984, Jordan and Russia 1990, and Ukraine in 1994. In the United States today, a reverse effect has occurred where white bread is cheaper, and darker breads with more grains, which are considered healthier, are generally more expensive. The mechanization of bakeries has made a major impact on the way we view bread.


The Egyptians have been accounted with the discovery of leavened bread. It is rumored, and reasonably so, that naturally occurring yeasts in the bread were stumbled upon by simply leaving out a dough of flour and water and returning to it fermented and bubbly. When baked, it created a light, airy dough unlike that of unleavened flatbread. However, this dough required an oven. Flatbread could be cooked on a hot stone with heat only coming from one source, beneath it. A loaf had to be heated from many directions for it to cook evenly through its raised structure. As evidence, there are frescoes in Egyptian tombs that illustrate well-structured bakeries. In the fifth century B.C., Herodotus mentions Egyptian bread that was leavened and baked in a brick oven.

H.E. Jacob speculates:

“One suggested that it was needless to obtain the yeast from the air; a piece of the old sour dough could be saved in order to “implant” the leavening in the new dough. This would sour the dough more quickly and thoroughly. The suggestion proved valuable – and from that day on “reproductive sour dough” was as sacredly preserved in Egyptian households as was the hearth fire among other peoples. They dared not lose the precious primal stuff of baking, the stuff that “raised” the bread.”

The same sort of sentiment is often seen today among artisan bakers and avid home bakers alike. The sourdough starter, also called the ‘chef’ or a ‘mother starter’, is frequently treated as a baker’s baby or a treasure of precious value. Some have been maintained for many years, and with each time, the taste changes and evolves. This method of using a sourdough starter is the longest standing method for baking leavened bread.

When the water and flour is left to sit in the right conditions, tiny bubbles begin to appear in the mixture, signaling the production of carbon dioxide. When heated, the elastic gluten becomes firm and traps the bubbles inside, keeping the bread raised. Historically, many grains needed to be toasted before threshed, which made it chemically impossible for the yeast to survive on the wheat germ and produce a leavened bread. However, it is believed that they had developed a type of grain that could be threshed raw by the beginning of the first dynastic period, which allowed for the raising of bread. This type of grain remained specific to the Egyptians until later on.

Another type of naturally leavened bread can be achieved using beer or wine. According to Pliny, the Gauls and Iberians skimmed the foaming head off their ale, giving them a ‘lighter kind of bread than other peoples’. The Greeks and Italians soaked their grains in grape juice or wine, since they did not drink ale.
In my attempt at *pain au levain*, I used Whitley's instructions in *Bread Matters* to create a starter that takes 4 to 5 days to ferment. I started with a paste of whole-wheat stoneground flour and warm water and let it rest. Each day at the same time, I added more flour and water (by the 4th day, unbleached all-purpose flour was added). It was supposed to be in a consistently warm environment of around 82 degrees, but since it was cool outside and I had no way of keeping it that warm, my mixture took a bit longer. By the 4th day, it had grown very little, but a heat wave happened and warmed up our house, and I kept the mixture under the light of the microwave as well. When I woke up the next morning, I had a raised bubbly mixture that was ready to be a part of a loaf. I then "refreshed" my starter, which includes more water and flour, tightening up the dough, and letting it rest for about 4 hours. After that time, I made a dough with flour, salt, and water, and kneaded it before adding some of the starter. I let that rest for an hour, then folded it over on itself a few times to make a more vertical dough. It then sat proofing for about 5 hours before being baked at 425 for 10 minutes and 400 for 40. I must admit I am rather proud of my achievement of my first *pain au levain*. It is quite a feat, indeed, and I feel much more in touch with ancient bread history.
Dutch oven

Posted on March 10, 2012 by celafoe

During the time of the pioneers, before the use of a common household oven, there were fireplaces inside the home called hearths by which the food was cooked. An assortment of cast-iron pots and pans would be used, one of which was a Dutch oven. This simulated an oven, hence the name, for people who did not have access to one. They were multipurpose, being used for breads as well as stews and other foods. They were used prior to this time in Europe, before they were brought to America.

I simulated this type of baking with my Dutch oven at home, using the recipe for a simple loaf.

Biscuits

Posted on March 1, 2012 by celafoe
Reply

Biscuits, derived from the Latin “bis cotus” meaning twice baked, were a staple in the diets of our grandparents and the many years before. Because biscuits were cheap, preserved well and could be transported easily, they were very common. As my grandmother stated, her mother made biscuits every morning for breakfast and they were often eaten throughout the day. Almost every nineteenth century cookbook contained recipes for biscuits. One of these cookbooks was Mrs. Goodfellow’s Cookery as it should be.: A new manual of the dining room and kitchen ...(1865). Her cookbook contained multiple recipes for biscuits, one of them called “Soda Biscuit.” She writes,

“Stir into one quart of flour two teaspoonfuls of cream of tarter, and one teaspoonful of salt; dissolve in three gills of new milk one teaspoonful of soda; stir it into the flour quickly; pour all on the board, and roll out and cut into little cakes; bake them in a quick oven.”

Other recipes, like Mrs. Goodfellow’s Maryland Biscuit, call for more ingredients, like lard. In 1911, Crisco was invented, at which time it began replacing recipes calling for lard. Some recipes, like the Maryland Biscuit, did not call for soda or leavening of some sort but instruct the reader to beat the dough to create lightness.

Another type of biscuit that was consumed, different than the standard biscuit, was hardtack. This was a type of biscuit or cracker that was cooked four times and used particularly in the military because of its long “shelf life”. It could keep in a soldier’s pocket for long lengths of time, or on long journeys by ship. The extremely hard biscuit would soften over time in humidity, but if kept dry in storage, could keep for years.

For my baking experience, I made the softer version containing flour, milk, salt, baking soda, and fat. I made one batch with Crisco for a more recent version, as well as one batch with lard. It was quite an interesting experience buying lard in the supermarket. It had a more waxy consistency than shortening, but ultimately produced the same results. They went well with some homemade gravy, which is a common pairing with biscuits, as they were often hard and needed softening with a mixture of what was usually already on hand: milk, flour, meat drippings, (though mine contained meat as well), salt and pepper.


A timeline on bread

Posted on February 27, 2012 by celafoe

Reply


The Simple Loaf

Posted on February 25, 2012 by celafoe
Reply

Before the use of a common bread machine or the Chorleywood Bread Process, a simple loaf of bread was baked in the home by hand for many years. A simple loaf of bread containing flour, salt, water, and yeast (and often, milk and sugar) was the bread of our grandparents and before. My great grandmother baked all of her family’s bread with this method, and most people on the farms made their own bread. As told by my grandmother, her mother made homemade yeast bread 2-3 times a week. She would make loaves and a pan of rolls (which my grandmother called buns). Every morning, my great grandmother would also make biscuits. They ate a lot of cornbread, as well, because my great grandfather wanted to have bread at every meal. As told by my grandmother, when they ran out of bread, she and her brothers and sisters would have to take biscuits to school instead of yeast bread. She hated taking biscuits because that was a sign that a family was poor. She would have her mom make the biscuits very large to look like more like yeast bread. When asked about commercially made bread, she explained that bread trucks came from a city about 45 minutes away and delivered Wonderbread to a country store in town. She said that homemade bread was coarser, but tasted similar to store-bought (though she liked homemade better).

This process, though seemingly simple, has many variables. The temperature, humidity, type of ingredients used, shape of the dough, time spent rising, and much more determine the end result that is produced. With experience, results may be much more consistent, but handmade bread creates a sense of accomplishment and pride that bread machines cannot. You become much more aware of the way the dough should feel in its different stages, and you invest your time into a delicious, crusty, mysteriously airy loaf.

True to my grandmother’s baking, my most recent handmade bread involved very little measuring and more feeling out the right texture and consistency of the dough. Mixing warm water and milk with yeast to activate it, I then added a flour mixture with some salt and a little sugar until the dough formed something manageable. After some kneading, and little bits of flour added after a while (around 10 minutes), I set the dough to raise in a clean bowl. After 1-2 hours, I “knocked back” the bread, separated it into loaves, and let it sit to proof for about another hour. Bake at 400 for 10 minutes, then turn to 375 until golden. Spread with butter and enjoy!
The Machine

Posted on February 3, 2012 by celafoe

Besides the loaf of bread commonly found in the supermarket, the next most convenient, and most recent form of bread baking is done with the use of a bread machine. This machine was first used in Japan in 1986, and consequently spread to the United States as a simple way to achieve a home-baked loaf of bread. There are numerous bread machine recipes, but the basic white bread calls for water, flour, salt, sugar, and butter. Unlike most supermarket breads, this contains no preservatives, artificial flavors, colors, enzymes, or other additives. It fits conveniently into the busy schedules our lives demand today, producing better bread with minimal effort. You put the ingredients in, turn the machine on, and your next step is to remove a baked loaf of bread. You can also use it to make dough, which expands its versatility considerably. Unfortunately, there are just a few setbacks. The bread produced in a breadmaker lacks a good crust, and the shape of the loaf is somewhat unattractive and boringly uniform. There is also a hole in the bottom of each loaf from the paddle, which is used to mix and knead. Baking in this way also lacks a certain quality that can only be achieved by working the dough with your hands, feeling the changes happen. However, with our busy lives, we often cannot fit handmade baking into our schedules, and this is by far the better alternative to supermarket bread.

These loaves were made with water, flour, salt, sugar, yeast, and butter. The last two photos show a loaf of bread made using the dough setting in the breadmaker, then switched to a hot stone to bake in the oven. I used a smaller recipe for that loaf, and it turned out to be a very wet dough that produced a dense loaf. Breadmaking is a fragile process, which I will surely continue to experience.

**Current Affairs**

Posted on January 25, 2012 by celafoe

Reply
Today's state of bread is in dire need of an overhaul. The bread we are buying from the supermarket is hardly worthy of the title. Andrew Whitley, author of *Bread Matters*, details the downfall of the production of bread. He explains how machinery fundamentally redesigned the way we made bread, which began churning out loaves in less time than ever before. This system, called the Chorleywood Bread Process (CBP), significantly decreases the amount of time the dough spends rising and fermenting, replacing this important step with additives that attempt to mimic the action. This industrial bread, the majority of what we are consuming, contains a cocktail of chemicals and inferior ingredients. This not only results in poor taste, texture, and quality, but it is also causing health problems. The number of people with gluten intolerance has skyrocketed. Because of all these factors, we have begun abandoning bread altogether.

I attempted to schedule a tour inside a Wonderbread factory to further investigate this process for myself, since I obviously do not have the means to bake using the CBP. I was disappointed, though not surprised, that I was denied entry into the factory due to "safety policies and insurance coverage". Mostly, I imagine they don't want the word to spread that their methods are subpar and hardly create something that can be rightly called "bread".


**The Method**

Posted on January 16, 2012 by celafoe

Reply

As stated in my mission, I am trekking the history of bread. However, my plan for this has yet to be revealed. Here goes:

I am baking counter-chronologically. Beginning at the most present form of bread baking, I will work my way backwards. I will begin using a bread machine, and proceed to bake in increasingly more primitive ways over the next few months. In doing this, I will experience the history of bread from a first person perspective, gaining understanding from practice. What better way to learn than to be part of something yourself?
My mission

Dear reader,

It is my mission here to inform you and persuade you. I want to inform you on the historical, cultural, even political significance that bread has had on our world, and persuade you to begin a bread baking journey in the process. I am embarking on my own pilgrimage as we speak, researching the way bread has impacted our lives as well as gaining a personal experience of bread. I want to share my findings and my experiments with you in the hopes that you will gain an interest in this most mysterious and fascinating food. I look forward to sharing this journey with you.

Your fellow baker,

Carol
Works Cited


