The Learning of Bread
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The duty of the bread maker in the home. She must be a lady — a loaf giver.
It is a well established fact that people, as a rule, value that least which is to them a daily occurrence. The doing constantly of an act forms eventually a habit, and finally grows upon one until it becomes a life-long companion. The rose we all esteem for its beauty and fragrance, the green of the trees, and grace, the bright sunshine, all evidence of Nature's regard for us, may cease to please us, because we become used to them. So too, the existence of things about us, their origin and development often cease to cause admiration or wonder, and then in fact to appreciate the real worth of objects in our sphere of life. Not only in the world of Nature and in our lives is this true, but in the home with its activities, repeated again and again is it the case.

Take the simple act of eating the food which is daily prepared and placed before us. Of the many interesting things which are centered around this act, none is more es
than the tracing of the origin of that food. Among the numerous foods we might investigate, we have bread, well known perhaps for its universal use. This food furnished us with the topic for our considerations.

Bread is one of the very oldest, as to origin, of the foods, much mention being made of it in the Bible.

When the angels were guests of Abraham on the plains of Mamre, Sarah was commanded to bake cakes on the hearth. Doing this she gave to the visitors, bread.

In many places in the New Testament we find reference to bread, but this bread consisted simply of crushed grain and some water, made into cakes and baked. This was the Passover bread of the Israelites, and here it is that the leavened bread first came into existence. The leaven used being the ferment of some dough left from a previous baking.

Later we find that the Egyptians made cake and loaves of many kinds which
they flavored with aromatic seeds. The Greeks, it is said, had no less than sixty-two different kinds of bread. We are told that the professional bakers were introduced into Rome in 160 B.C. The government had at this time full control of the bakeries. The grain was to be delivered at certain places and magistrates were appointed to superintend the public baking of bread. Thus as now, bread was considered the "Staff of Life." The word bread is derived from the word to braze or pound, which expresses the old method of preparing the grains. Bread is therefore made of something leavened, as leavened wheat or leavened rye. Today we find bread in all parts of the world, differing in the several nations in material, in kind and in use. In Sweden, rye is used almost entirely. In Northern Europe, the rye cake is used. These cakes form the bread of the peasants and are made but four or five times
pu yarn. They are, in consequence, very hard. The oat cake of Scotland forms the natural bread of the sturdy race. In Central Europe we find the black loaf made of rye or barley. It is hard and dry, but tasty. And the loaf beside the bow and muscle, as the white loaf will not do. In America, the wheat from is used for the greater part of our bread, although corn and rye are sometimes used. The colored people of the South live upon the bread made from corn meal, but also. Their corn meal being a characteristic dish. Bread making in its modern sense consists in mixing and baking in different forms, for human food, the products of various grains, after they have been crushed by milling or grinding. In every sense, bread making is an art, one in which each cook should be skilled. Bread is made principally from wheat flour, because wheat is the only grain which contains the right amount of
Gluten necessary to make light, spongy bread. Rye flour makes sticky bread, while corn meal used alone makes a dry, crumbly loaf. The gluten of the wheat is a tough elastic substance consisting chiefly of vegetable fibrin, capable of stretching four or five times its original bulk. Wheat also contains a large amount of starch and more mineral matter than any of the grains. Bread is a very nutritious food, containing on average of 8% of albumen, 47.4% of starch, 36% of sugar, 1.6% of fat; it is thus essentially a carbohydrates food, giving 55% of carbon, and 17% of nitrogen. The different kinds of wheat, however, vary in these proportions. In Egypt, India, and South America, the wheat yields 15% of gluten, while that of the wheat belt of the Northern part of the United States yields less than 10% of gluten. The different grades of flour depend somewhat upon the process of grinding the wheat. In the earliest times, the grains of wheat were crushed
between stones, from this milling process was developed the Hungarian or whole wheat process, by which the finished flour is now made. The degree between these two processes are varied, but step by step the inventor has improved the machinery for making our best flour of to-day. The whole flour, now on the market, has nearly all the gluten in it, for it contains the germ of the wheat, while the so-called "best flour" of a few years ago, contained but little gluten, it was largely starch.

Having the flour of the best quality, first in importance comes the yeast; if that be good, to have perfect bread, the one who muddles and bakes the loaf must be skilled in his art, for bread making is an art, one must neglected in cookery. To make bread light—a perfect loaf, a ferment is used. This causes a chemical change in the flour. Thus we make a distinction between leavened and
unleavened bread or raisied and
unraised bread. The ferment used
to accomplish the raising of the
bread is some albuminoid sub-
stance, in a state of change or
decomposerions, which when intro-
duced into any other albuminoid
substance causes the fermentation
of the wholesome mass. These germes
of the ferment are always present
in the air, and when a substance
containing large quantities of starch
sugar or gluten are exposed to these
germes of the air, with warmth or
moisture, the germes grow and
the substance upon which they
feed, fermente, new compounds
being formed.
Of these
fermentations there are three kinds:
Acetic fermentation, which occurs
when much sour. Alcoholic fer-
mentations, the change taking place
when the fruit juices ferment for
when wine is made from the juice
of grapes, or beer from the fer-
mentations of grain. Acetic fire-
infection, which is caused by allowing the alcoholic fermentation to go on too long, or in too great a degree of heat. In the alcoholic fermentation carbon dioxide (CO₂) is produced, and on account of this fact, the alcoholic fermentation is unsuitable for bread-making.

One of the objects in bread-making being to puff up the dough quickly and then, if moist, be baked while in this state. In wheat flour there is beside starch and gluten a ferment called diastase, and when this is moistened and heated a change will take place. This change or decomposition may be hastened by adding a substance already partly decomposed, so we use yeast.

Yeast is a tiny sporadic plant of the fungus tribe, and is one of the smallest forms of vegetable life. Each tiny cell is made up of an albuminaceous membrane and a liquid. Growing rapidly these
small cells permeate a substance and decompose it. The process is more complete if sufficient moisture is given to it. One of the causes of the keeping of the "life" in yeast is the regulating and preserving of the right temperature. We have dry, liquid and compressed yeast, each made by a different method of treating the yeast during the process of fermentation. In making bread we put the yeast into the flour, moisten the whole, and keep it warm. The flour furnishes a food upon which the yeast may grow. Thus yeast cells feeding upon the dough multiply and so change the flour. The diastase ferments and changes the starch into a kind of sugar, then the sugar is further changed into carbon di-oxide and alcohol. The dough being elastic is stretched by the carbon di-oxide, in seeking to escape and thus the loaf is made light. If the ferment by accident changes to the acetic stage the bread becomes sour, and
in them unfit for use. The keeping of the yeast in the best condition is another requisite for good bread. While the dough is filled with carbon dioxide gas, and while the fermentation is still alcoholic, the fermentation is checked, so that the active stage may not enter. The dough is now ready to be baked in a hearth oven.

During the process of baking, the alcohol escapes into the oven. The starch grains are broken, and some of them are changed into a gum which forms the delicate brown crust of the loaf.

Another method of raising bread is by the use of soda or baking powder. The object here being to get an acid and an alkali, so mixed as to form the required gas. With these are new sour or sweet milk, the only chemical necessary is that all of the acid or alkali shall neutralize the other. The baking powder is a comparatively recent invention, and about the first on the market was Correll's.
Phosphate powder. Acid phosphate was supposed to be the principal element. These baking powders raised the bread and supplied some of the elements of the flour, which had been removed during the grinding of the grain. Many different baking powders and soda are on the market and their qualities vary greatly, for they are easily adulterated. The most common adulterant is alum, which cheapens the powder, at the same time making it dangerous to use. An absolutely pure baking powder will entirely neutralize itself, and no residue will be left. Another essential is the making of good bread is that it be baked properly, and this one thing must be studied by the beginner in cookery, if she would excel in bread making. There are no certain rules to follow, each cook must know her own oven and learn to regulate it, that the heat may be just right. Testing the corn with a thermometer is not always sure, testing by the length of time...
one can hold her hand in the oven, will vary with each hand. Experience, therefore, is the best teacher, as to the exact heat, remembering which kinds of fuel give a quick heat, and which a steady, slow heat. The bread maker must fix her own standard and abide by it. Bread requires a hot oven, of about five hundred degrees of heat. The loaf must be brown evenly and be of a delicate color, and inviting flavor, also symmetrical in form.

The kneading of bread is another consideration in bread making. The length of time for kneading or working the dough depends upon the quality of the flour. If the flour is absorbable the moisture must to spoil the gluten, no good bread can be made with any, though it be kneaded indefinitely. Not only must the bread be kneaded and worked, but it must be pulled and stretched, also, and when the ingredients of the dough are good, a great amount of kneading is not necessary. When
ready to put to raise for the oven, it should be a smooth, firm mass, very elastic and not sticking to the hands or moulding board. now, it may be made into any desired shape. to be able to tell just when the dough is light enough to bake is another requirement for a good loaf. when the loaf is ready to be baked it should have raised to nearly double its size. it will feelareth all through, and when enighed in the hand it is found to be light, or when dented with the fingers, it immediately springs back into place. just before the loaf reaches the perfection in lightness it should be put into the oven and baked. the care to have perfect bread should not cease with the putting of the loaves into the oven, for it must receive a certain finishing after it is baked. the loaves in which it is to be put should be well greased, to insure a smooth crust. the bread in the
loaf should bake from fifty to sixty minutes, while rolls and biscuits
but thirty or thirty minutes.

After the bread is well baked and done, remove the loaves immediately
from the pan and place them where the
air will circulate around them, and
then let them cool. To give a soft tex-
ture consistency to the crust of
the loaf, while still hot, in cloths.
Or if any special flavor is preferred
sugar and water, or milk may be
added to moisten the crust of the
warm loaf. When thoroughly cool,
the loaf should be put away in a
stone jar and then well covered
with a cloth or stone lid. Have
again much the watchful eye of
the house keeper be vigilant for
mold, as the base of the bread jar
to attack the fresh loaf and de-
port there its green growth.

So, cleanse the bread jar often
and keep out of its altogether the
stale pieces of the brevstone baking.
Then you may be able to keep the
loaf sweet and wholesome.
From the time the flour, yeast, and
water are mixed into a dough,
until the fresh white slices of bread
are placed upon the table to eat, a
certain pleasure is felt by the cook
in the accomplishment of so daunting
a task, for a perfect loaf of bread
represents to her, what left inside
and a clear brain may do, and for
claims her the possession of a talent
worth acquiring. She is now a lady
a loaf of.
The cook of a household is wise if
she is mistress of this art of bread-
making, for the perfection of this "stuff
of life" means much towards the
welfare of the household she may be
of the food. Let her remember that she
is, through her cooking, responsible for the
habits and decree of the persons for whom
she prepares the meals, and that to keep
this responsibility rightly she must be
an adept in all branches of
cooking as well as in that one of
bread-making.
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