

## THE PEOPLE'S INSTITUTE OF DOMESTIC SCIENCE





NALL races, of all times, there has been on the table the staff of life in some form. "Our daily bread" in our daily prayer is used in a comprehensive sense, but it suggests how important is this food in the day's meals. You would think that this universal food would arrived at perfection, having the foundation of centuries of use and Well, have you ever eaten of the bread of bitterness, sogginess indigestion? Of course you have.

The more you break and cat the staff of life, the more emphatically you recognize the truth that there is always room for imprevement. thing is the least valued.

Today this page is presenting to members of the Institute an intellit, practical exposition of the subject of bread. Miss Barrows invades tchen, backed by her wide experience, and every one will be the beter for her discussion. We are glad to contribute to the best bread of the er tables of the country.

OOKING means the knowledge of Medea, and of Circe, and of Calypso, and of Helen, and of Rebokahl, and of the quoen of Sheba. It means the knowledge of all herbs, and fruits, and balms, and spices; and of all that is healing sweet in fields and groves, and savory in means; it means carefulness, and entireness, and watchfulness, and willingness, and readiness of appliance; it means the comony of your great-grandmothers, and the science of modern chemistic means much insting, and no wasting; it means English thoroughness, French art, and Arabian houpitality; and it means, in fine, that you are to serfectly and always "ladies"—"loaf-givers."—JOHN RUSKIN.

By Anna Barrows

WO HUNDRED years ago, Dean Swift, in his "Tale of a Tub," made the assertion, "Bread is the staff of life." The same rison doubtless occurred to ers in earlier times. A late writer es further, and claims that, if bread he staff of life, bread and butter st surely be a gold-headed cane, read long has held a leading place ong foods, and the word itself is quently used, as it is in the Lord's ayer, to imply all that is needed austain the human body.

eading scientists have predicted a lay, not so very far beyond our own when the demand for wheaten ad will exceed the supply.

et this is one of the cheapest forms od. A pound of flour affords 1600 les; a pound of bread, 1200 calories; nd of milk, 300 plus; a pound of , 800 to 1100, according to the fat it

Yet bread is growing more costly g with other foods. This is parlly due to the cost of production partly to the flavors we add to it. ts, dates, raisins and spices are nbined with the bread dough, and it we call it bread rather than to, and eat butter on it and jam gh breads are made from many

ins and flours secured by grind-other dry vegetable substances, eat is especially adapted to this

pose.

le story of wheat has often been

L It has been associated with
human race from prehistoric

ss. Wheat follows civilization,
also may be said to stimulate
illeed life.

lized life.

Typtian tombs and the ruined dwellings have yielded wheat sels and implements for milling baking that show how necessary food was to the ancient peoples. hose days and until well into the steenth century every community. teenth century every community t supply itself with wheat and r grains.

r grains.

ing then, improved apparatus for ing and reaping the crops, the last human milling machinery, the ads, the grain elevators, the aph and the cable, have grad-brought about what has been "an international fellowship of

Red River valley has been bed "the bread basket of the la," but other sections further t and north may also lay claim

and north may also lay claim
in: citle.

Lasional tests have been made to
wisitors from the old world
rapidly wheat may be turned
bread. An acre a minute has
a reaped and bound with a sufnt number of machines.
generation or more ago it was
aght wonderful that grain standin the morning might appear on
table in the form of bread at

rapidity of modern harvesting milling machinery is indicated by my that comes from the state of sington. No unusual special machinas supplied for this test, except that utomobile was used to carry the two miles from the field to the The first head was cut at \$ A. M., at the end of three minutes the twas threshed; four sacks were to the mill. At \$.19 the first four red, and a baker seized it and at assed biscults to the spectators. In the interest of efficiency in a since the days when "two women tribuding at a mill" the bousehold of curse of bread has by no means pace. In the primitive days, mill-and baking so the were women's in the home; now milling is pracy all done cutside, and haking is pollowing. It seems inevitable this abould be so. In ploneer life woman must be a 511 of all at under more civilized conditions must avail herself of the tools has made, and these produce their results with large quantities of the four mill may send out

The finished product should be wrap-ped during transmission to the con-

Miss Caroline L. Hunt, an expert on ome economics, employed by the United States Department of Agriculture, in a paper on "Woman's Public Work for the Home," given at the ninth annual conference on home economics at Lake Placid, N. Y. said as follows: "Women have spent a large amount

of time and energy in contending that every family should bake its own bread. If they has spent half that time in the effort to agree upon a standard for good bread and in the insistence that the baker's product must come up to that standard, they would not now in their servantiess condition be dependent on the use of a kind of bread which in no way comes up to their ideals as to quality, and which is frequently sold and delivered without proper protection from dirty hands, from dust and from files." In the half dozen years since that was written there has been a marked improvement in the quality of bread, and women have grown much more intelligent in relative values of foods and of labor. The housekeepers of two generations ago did many things which their granddaughters are just discovering through efficiency studies. Oththings which the grandmothers did are unnecessary today because of changed conditions of life. But in the niddle generation the daughters cling to

these standards of the past and seem, to feel that their daughters have abanloned all the household gods when they put certain processes outside the home. Before me now are several estimates of the relative cost of homemade bread and that from the bakery, which have

been cut from household journals. One calculates the time thus; Twenty minutes for mixing and twenty more for molding, putting in pans, turning out after baking; wages for a housemaid, \$4 a week. The time of baking varies from thirty to fifty minutes in a gas oven with eight burners, each burning ten feet per hour, at \$1 per 1000 feet. On this basis, it was estimated that one-third more nutriment was obtained from 'homemade than from baker's bread, at the same price. From such data it is evident that the number of loaves mixed and baked at one time is a most important factor. It will not take twice long to mix two loaves as it does to do one, and an oven full of loaves will require little more fuel than the single oaf. Hence the small family usually is better off to buy loaf bresd as needed and prepare only the occasional het bread. Whatever value per hour is given to the maid's time depends on more than the actual wages per week-her board must be considered. How does value? Sometimes it is much more valuable; again, the best way some women can sell their time is to bake bread and pastry at home instead of buying such

pastry at home instead of buying such things.

Where a coal fire is to be kept in the kitchen all day, especially in the winter-time to help warm the house, the baking of bread virtually costs nothing; but if a gas oven is heated for that purpose only, the cost is considerable.

Another estimate on the cost of bread allows 16½ cents for materials for four loaves, and adds only two cents for the cost of gas for baking them all. Here the cost is further worked out that four pounds of homemade bread will cost about 18% cents, while four pounds of baker's bread will cost 25 cents, As no allowance is made for labor, it is evident that a housekeeper who baked bread under such conditions would receive 6½ cents for the labor on efour loaves of bread. According to the other estimates, at least forty minutes would be required. That would mean a rate of about 10 cents per hour for a woman's time. These figures differ sufficiently

for herself before she can decide whether it is most economical to make or to

The economy is not all that must be considered. Digestibility, palatability and autritive value must be taken into-account. Homemade bread is often more palatable and nourishing than baker's bread, because more milk, fat and sugar are used in making it, all of which adds to the cost. It often is too compact to allow the digestive fulds to penetrate it readily. This is because the housekeeper's ideal is a "fine-grained" bread, and ahe has worked toward this standard by making a stiffer dough and baking the loaf before

it is fairly risen.

Another popular demand is for moist bread, with little crust; this, and the width of many loaf pans, leads to underdone bread, which is generally agreed to be exceedingly undestrable food.

Ideal bread should retain the full nutrition of the grain, and be prepared

in such a manner that these healthgiving properties may be assimilated. It should be palatable, that we may be attracted to it and enjoy eating it. Well-baked crust and porous crumb require chewing and absorb the saliva.

which aids in complete digestion. Much coarse meal or bran in bre causes rapid muscular action in diges-tion, and is wasteful, because some of the nutritive principles pass through the digestive tract and are not absorbed. The same result is ascribed to sour bread and to slack-baked, where the yeast is not fully killed.

Another side of this question of mak-ing bread at home has been presented thus by Jane Addams:

"A girl who takes her bread out of oven and places the loaves in a v on the table, however tired she may be, has at that moment a thrill of having accomplished something. She alone has been responsible for those fragrant loaves from the beginning of the process to the end, and even the element of chance that the yeast may have been too old or the oven too hot is not without its interest. "Compare this with the girl who has

spent the day packing in a tox, crackers which come to her hand down a chute and are whirled away from her in the packed boxes upon a ministure trolley. She has not had even a momentary interest in the crackers, save to count them, because her wasces are dependent upon the number of boxes she fills.

"And she has never seen how they are made, for the factory proper is rated from the packing room by which says. No Admittance."

were unleavened, and were baked in the thin forms which would be palatable and discatible even if not porous The bannocks tortillas, noodles, Passover bread and griddle cakes are probably survivals of these original forms. The beaten biscuit and pastry doubtless show the ingenuity of early cooks in folding air into the dough. Salt-rising bread is another survival of a primi-tive way of collecting some of the yeast always present in the atmos-

Often a portion of dough was reserved from one baking to start the dough for the next, and this was known as leaven. Frequently it became sour and, perhaps for this reason, additions of carraway and other seeds, nuts, raisins and spices were made to the dough.

Because our remote ancestors took a plece of dough kept over from a previous mixing to start their raised cakes is no reason why we should do it if we can find a more efficient way. Any one who has patiently mixed eggs, butter, sugar and fruit into a mass of stiff raised dough has found it no easy task, and would prefer to start the mixture in a simpler man-

Here is the introduction to a modern recipe for French bread, sent out by one of the leading milling firms, which shows how old traditions hold us still:

"Soften a yeast cake in one-fourth cup of boiled water cooled to a lukewarmth, stir in about three-fourths of a cup of flour to make a kneadable dough. When smooth and elastic cut across the top in both directions. Have ready a pint of boiled water, pooled to a lukewarmth. Into this put the ball of dough. It will sink, but in fifteen minutes will float, a light, puffy sponge. Turn water and sponge into a mixing bowl," etc.

All this involved beginning because centuries ago the baker or housewife took the ball of left-over dough out the sign of the cross upon it, then dropped the ball into warm water to be sure that the yeast in it was atill lively.

There is no space here to consider the relative merits of homemade yeast, whether made with potatoes, raw or cooked, or with the addition of hops as a preservative, or the use of the dry or compressed yeast cakes. Good results may be obtained with any lively yeast. The compressed yeast cakes, wrap-

ped in tinfoil, since they were introluced to the American people through



the Vienna bakery at the Centennial. in Fhiladelphia, in 1876, have practically driven the homemade yeast out of our houses, and the dry yeast is rarely used where the compressed is accessible.

Where the dry cake must be used, the most satisfactory plan usually is to make a cupful of batter of flour and water, or of grated petate scald-ed, or of mashed potate added to the flour and water. When this has cooled to about 75 degrees F., a quarter or half of a dry yeast cake is crumbled and stirred into the starchy mixture. In a few hours a feaming, bubbling yeast should result, to be used like any liquid yeast or dissolved compressed yeast. Such yeasts are rather slower in action than the

Authorities differ regarding proper temperature for the growth of yeast; some advise 75 to 30 degrees F., others still higher. It is probably safe to say that bread doughs will do well in a kitchen where the temperature ranges from 75 to 85 degrees F. degrees F. are likely to impair the

degrees F. are likely to impair the life of the yeast.

The result is not markedly different where a small quantity of yeast is allowed to rise a long time, or a larger quantity a short time in the same amount of dough. For school purposes, the writer has had bread made with one-sixteenth of a compressed yeast cake to one cup of liquid, or one-fourth to each quart, up to two yeast cakes for each cup of liquid. Medium proportions would usually be more acceptable but a fair quality of bread may result from each extreme.

Professor Harry Snyder tells us that a flour in which gluten is abundant and tenacious can resist a much stronger pressure of gas than one with scant or weak gluten, and that long fermentation may injure the physical qualities of the givten.

That strong flours will bear more yeast than the soft ones is the experience of most housekeepers.

These strong flours—from the hard wheat of the northwest—will absorb about 65 per cent water, while the soft flours of the southwest will not

take up over 55 per cent of their own weight in water. Or, to put this in another phrasing: One pound of flour is about one quart, and one pound of water about one pint. If the flour will take up two-thirds of its weight in water, or 65 per cent, each cup of water will require about three cups of flour to make a dough that may be handled.
For bread making there is no need

of many recipes. The essential ingre-dients are flour, salt, liquid and yeast. The flour may be white or brown, or any combination; the important point is to know how much liquid it will bear. The hard wheats planted in the spring in the northwest make the best four. The flour should be sifted to aerate it and remove anything out of place, and should be measured after sifting.

The liquid may be milk or water or half-and-half. Often fruit or vegetable pulp, like stewed apple or potato or squash or cooked cereal, are used in bread. Those are mainly water, and too much should not be used. One measure of any one of these to one or two of other liquid is ample. The less shortening in the dough the better; but melted fat brushed over the shaped rolls or loaf prevents evaporation from the surface while rising, and makes the crust tender after taking.

Sugar is an yeast food, but an excess concentrates the liquid and retards the action of the yeast, and appears to have a softening effect on the gluten.

Gluten flour for invalids is obtainable, but much that has been sold under this name contains an excess of starch.

action of the yeast, and appears to have a softening effect on the gluten. Gluten flour for invalids is obtainable, but much that has been sold under this name contains an excess of starch. Bran bread is prescribed for hastenins digestive processes, and may be made by adding bran to any douzh.

The general directions for all yeast doughs are these: The usual proportion is one measure of liquid to three of flour. Scald milk before using. Melt shortening, dissolve salt and sugar in hot liquid. Cool to about 80 degrees in hot liquid. Cool to about 80 degrees Fahrenheit before adding yeast. Soften yeast is water to be counted as part of the total liquid. Proportion yeast to time available. Increase when dough must be kept at low temperature.

For ordinary bread and rolls make a straight dough, that is, flix in the flour until stiff enough to handle, then knead before rising, and sgaln later to shape for the pans. One-half pint liquid will make a medium-sized load of bread, or from eighteen to twenty-four rolls, according to the size desired.

For fancy rolls, buns, etc., make a sponge first. Usually milk is trechusen liquid, and some shortening and sugar are added with the salt at first. Half of the total flour, or about 1½ measures for each measure of liquid, is mixed in at first. After this better becomes light and foamy, more shortening and sugar spice, fruit, eggs, nuts, etc., may be added, with the remainder of the flour. The mass is then kneaded and allowed to rise again before shaping for the pans. The general direction is to allow doughs to double in bulk in the pans before baking. Byen these they should expand somewhat in the sown. Much of the variety of rolls is due to the shaping. Any intelligent woman who is keen of eye and tuste can secure samples from a high-class bakery and imitate the flavor and shape of such variety of rolls and cut and folded. Or it may be apread with soft butter, spiced swar and placed on end in a pan before baking. Byen these they were such that this is one reason why our bread



Hindy Woman Making Dresd

## MENUS AND RECIPES FOR A WEEK FROM AN EXPERT IN COOKERY

SPECIAL NOTE-During the month of November this department will be in charge of Miss Margaret J. Mitchell, of the Bruce School,

## By Caroline L. Hunt Washington, D. C.

yearly. Why should the woman grind

the grain at home, where so many tasks

A single bakery occupies ten acres

of floor space and, by the aid of

machinery, turns out 100,000 loaves of

bread daily, besides rolls, cake and ples.

Why, again, should the woman's tired

out a cleaner, more palatable bread at less cost than she can make it if her

time and labor are of value in other

This does not mean that we shall never have homemade bread or that ev-

ery housekeeper will find it for the best terests of her household to buy all the

bread used there. But few housekeepers have yet studied this question fairly.

If they give it any attention, they undervalue the cost of materials, fuel

and their own labor, and they are apt

to compare the poorest bakery prod-

ucts with the best grades possible in the home kitchens.

Bakeries should be under expert in-

spection. There should be every facility

for light, air and cleanliness on the part of the workers. The cellar bakery

has little in its favor and should be

The materials should be cared for and

THE effect of the development of the art of bill-of-fare making among American women has, strange to say, been to simplify the individual meal. Diversity is now secured not so much by serving a large number of dishes at one meal as by introducing a large variety in the course of a week or of a month. The ability to make simple bills of fare comes with an understanding of food materials. It is only the person who does not understand that potatoes, rice, macaroni and hominy are very much alike in their nutritive ingredients, consisting chiefly of starch, who uses two or more of them in one meal. We have ceased to serve fish salads at dinner, because we realize that the fish is much like the meat in composition and that the wellbalanced bill of fare calls for crisp vegetables in the saled course rather than animal foods.

The rapid improvement in the means of raising and transporting foods and the introduction of new plants into the country are increasing the number of available food materials. The wise housekeeper is taking advantage of this fact for the purpose of diversifying her meals, realizing that variety from day to day makes simplicity possible.

MONDAY BREAKFAST LUNCHEON Cheese and Corn Southe Tea Chocolate Cake

DINNER

TUESDAY BREAKFAST Dates and Apples Breadcrumbs with Cream Coffee LUNCHEON

Beef Stew with Olives Coosa DINNER Spinach Cream Soup Jysters French Fried Potatoss Lettuce Salad Strawberry Jam Crisp Crackers Coffee

WEDNESDAY BREAKFAST Baked Pears Crisp Corn Cereal Corn Muffir

LUNCHBON . Cream of Calery Boup Cream of Calery Boup and Bacon Burawberry Jam Crackers Tea DINNER

DINNER

Best Soup with Cheese Drops

Boiled Potatoss

Mock Rabbit

Excalloped Cabbare

Cheese THURSDAY BREAKFAST

Chipped Beef on Tonas Coffee Rhubarb Marmalade

PRIDAY

Pried Scallops Mashed Potatoes
Chilled Asparagus with Hot Hollandaise
Sauce
Apple Pudding with Biscult Crust
Hard Sauce
Coffee

SATURDAY BREAKFAST Waffles with Syrup LUNCHEON Lima Beans and Endive Salad Rolls Apple and Bread Pudding Scalloped Sheep's Tongue Mashed Potatoes

Banana Fritters Cream Pla Coffee SUNDAY BREAKFAST

Stewed Figs Cornmeal Mush Baked Potatoes DINNER

Pricesseed Chicken on Baking Powder
Blecuits
Glazed Sweet Potators
Endive Salad
Cheese Coffee Lettuce Sandwiches Cake

Corn and Cheese Southe Corn and Cheese Souffie

One tablespoonful of butter, 1 tablespoonful of chopped green papper, 4 capful of flour, 2 cupfuls of milk, 1 cupful
of chopped corn, 1 cupfuls of canned,
cheese, 3 cggs, 5 teaspoonful of salt.

Melt the butter and cook the pepper
floroughly in it. Thicken the milk with
the flour and add the cheese; add the
corn, yolks and seasoning; cut and fold
in the whites beaten stiffly; turn into a
buttered baking dish and bake in a
moderate oven 30 minutes.

Take a place of beef from the r or the lower round, weighing 4 a pounds, cover with vinegar or wit half-and-half mixtures of vinegar water, add a sleed onion, I hay less and a few mixed whole spices and allow to stand a week in winter

and keep covered. When ready to cook, remove from the liquid, and bake for haif an bour in a moderate oven. Pour around it a pint of sour cream and % a pint of stock, Bake until tender, basting frequently. Reduce the liquid in which the meat has been cooked to a small volume and pour over the meat.

Reef Stew With Olives Beef Stew With Olives

This can be made with either fresh or cooked meat. Fresh meat should be browned in a little fat and then covered with water and cooked slowly until it is tender. Shortly before serving olives should be added. They should be stoned in such a way as to leave the olive in one piece. It frequently happens that brown gravy is left over from dinner. In this case, theat thin slices of cold meat in the gravy and add the olives.

Cheese Drops

Cheese Drops

24 tablespoonfuls of milk, 1 teaspoonful of butter, 14 cupfuls of flour, 15 teaspoonful of sait, 1 egg, 2 tablespoonfuls of grated parmesan cheese or dry American cheese.

Heat the butter and milk to boiling point, add the flour and the sait and stir thoroughly. Remove from the fire, add the egg, sait and cheese and stir until well mixed. When cold, drop in small pieces into deep fat and brown.

Mock Rabbit

4 pound round steak and 1 pound.

This should be made with a lattice crust. The filling is made by mixing 2 cups of seeded raisins with the juice of 1 lemon, 1 cup of cold water, 1-3 cup of sugar, 14 cup of chopped walnuts, tablespoontus of butter and 2 table spoonfuls of flour.

Date Muffins

ful melted butter, I cup milk, 2 eggs, I cup dates stoned and cut into small pieces and dredged with flour. Sift together the dry ingredients and add the milk and egg yolks and beat thoroughly. Finally cut and fold in the well-beaten whites and dates. Bake in buttered muffin pans twenty minutes. Chilled Asparagus With Hollan-dails Sauce

daile Sauce

For this purpose use canned asparagus. Remove the asparagus from the liquor and chill it thoroughly. Serve on very cold plates, and pass hot.

Scalloped Sheep's Tongue

Six sheep tongues, 2 carrots cut in small pieces, 1 pint boiling water, 1 large onion cut into small pieces, 3 slices bacon, 34 cup capers, 3 small cucumber pickles, sait and pepper.

Scald and blanch the tongues, removing the akins: then throw the tongues into cold water until ready to use. Out a sitee of bacon into fine strips, and lay them in the bottom of a saucepan; place over this the lamb tongues, seasoned with sait and pepper, and over the tongues another layer of bacon in very fine strips. Add the minced carrots and onions and the sait and paper. Let the tongues simmer for about 15 minutes and the small the period with a pint of boiling water or broth. Cook slewly for about 3 hours. Then take out the tongues, place them on a hot dish, strain the sauce, reheat, and add 14 cup of capers and the cucumber pickles, sliced thin. Stir well, and let the sauce boil up once. Pour over the tongues and serve.

## ARE YOU A DRUDGE?

If You are a drudge in this day you ought to be ashamed of yourself: If you can smilingly disavow all claims to that title you are
to be congratulated on a worth-while escape. In either case, this
page holds out a helping hand. To the drudge-it isn't a pretty word,
is it?—the Institute will hold out new and easy methods that will put
intelligence into her daily duties and insure efficiency and success. To
our smiling members this page offers the inspiration of workers who
have a great sympathy with all in the home, and who know how to say
the right thing at the opportune time.

the right thing at the opportune time.

Keep your eye on this page. We are not afraid of the closest accruting. For will be the gainer.

The next discussion will be on "The Law and the Home." Mrs. Alice Gitchell Kirk will tell you some very important things in next Sunday's