SOME SANITARY ASPECTS OF found their way into the blood and BREAD MAKING.

BY CYRUS EDSON, M. D.,

Realth Commissioner, New York City, It is necessary, if one would understand the sanitary aspects of bread making, to fully comprehend the present theory held by scientists of germs and the part played by them in disease, The theory of disease germs is merely of those germs by medical men, a knowledge which is the result of innumerable experiments. Being this, the old term of a "theory" has become a misnomer. A germ of a disease is a plant, so small that I do not know how to express intelligibly to the gengerm is introduced into the blood to dough. It attacks certain elements of the blood or tissues, and destroys them, at the same time producing new

of events.

I have already pointed out that the germs of disease are to be found in the air and dust. The longer any substance to be eaten is exposed to the air, the greater the chance that germs will be deposited on it. Bread raised with yeast is worked down or kneaded the name given to the knowledge had | twice before being baked and this process may take anywhere from four done this, disappear. Its leavening hours to ten. It has, then, the chance strength has been found superior to of collecting disease germs during this other balding powders, and as far as I ing each of which it may gather the avoids the long period during which raised with yeast, goes through this there is also no kneading necessary. or tissues of the body, its action appears to be analogous to that so no bread save that raised with yeast cream of tartar and soda are perfectly germs.

But the germs of the greater part of the addition of heat when the pan is ing been taken up to form the carbonic the germ diseases, that is, of the infec- placed near the fire produces an enor- acid gas. More than this, the proper tions and contagious diseases, will de mous growth of the yeast fungi-the velop or increase in number without yeast "germ," in other words. These the most thorough mixing with the being in the body of a human being, fungi effect a destructive fermentation



" DISEASE GERMS FOUND THEIR WAY INTO THE YEAST BREAD."

after certain changes, feed.

It is necessary to remember at this when introduced into a mixture of glu- called raising the bread. sose or starch, in the presence of warmth and moisture sets up a ferdough the yeast first changes a portion composes the glucose by changing it into two new substances, viz., carbonic seid gas and alcohol.

Now the gluten, which is also a constituent of dough and moist starch, offords, with the latter, an excellent find very favorable conditions for their growth.

I do not wish to "pose" as an alarmist, nor am I willing to say there is very much chance of the germs of typhus and of cholera reaching the stomachs of the people who cat bread which has been raised with yeast. But while I am not afraid that cholera and typhus will be greatly spread by yeast-raised bread, I have not the slightest cause to doubt that other diseases have been and will be carried about in the bread.

I have met journeymen bakers, suffering from cutaneous diseases, working the dough in the bread trough with naked hands and arms. I suppose I need scarcely say this was put a stop to in very short order. I have no reason to suppose bakers are less liable to cutaneous diseases than are other men, and I know, as every housewife knows, yeast-raised bread must be worked a long time. This is an exceedingly objectionable thing from the standpoint of a physician, and for the reasons that the germs of disease which are in the air and dust and on stairways and straps in street cars, are most often collected on the hands. So well do physicians know this that there is no ablution practical equal to that which they undergo before they perform any kind of surgical operation. Any person who has ever kneaded dough understands . the way in which the dough cleans the ands. In other words, this means that any germs which may have found a lodging place on the hands of the baker before he makes up his batch of bread are sure to find their way into the dough, and once there, to find all the conditions necessary for subdivision and growth. This is equivalent to saying that we must rely on heat to kill these germs, because it is almost certain that they will be there. Now, underdone or doughy bread is a form which every man and woman has seen. It is a belief as old as the hills that underdone bread is unhealthful. This

In experience of countless generation, and no careful mother will wish her chidren to eat bread that has not been throughly cooked. The reason given for this recognized unhealthfulness has been that the uncooked yeast physician would be apt to think of disduring the process of baking as a cause of the sikness following the use of uncooked y-ast bread. Yet this oven, and having done it, disappears. result from this cause is more than probable. I have not the slightest the brand of baking powder to be cerfound their way into the yeast bread,

provided always you give them the of a portion of the starchy matter of proper conditions. These conditions the flour-one of the most valuable are to be found in dough which is be- nutrient elements in the flour. The ing raised with yeast. They are fermentation produces carbonic acid warmth, moisture and the organic gas, and this, having its origin in matter of the flour on which the germs, every little particle of the starch which is itself everywhere in the flour. pushes aside the particles of the dough folly of follies to open a single chanpoint that yeast is germ growth, and to give itself room. This is what is

It needs but a glance to see that it mentation. If the mixture be a starchy | mechanical. The dough, which was before a close-grained mass, is now of the starch into glucose and then de- full of little holes, and when cooked in call light. This porous quality of bread enables the stomach to rapidly and easily digest it, for the gastric juices quickly soak into and attack it have shown how that danger may be from all sides. The fermentation of nidus for the development of germs of the dough, however, uses up a portion which in this case is neither difdisease as well as for the yeast germs. of the nutrient elements of the loaf. The germs of cholera, as of typhoid If it be possible, therefore, to produce ly worth many pounds of cure, fever, would, if introduced into dough, a light porous loaf without this de- and the best thing about it is struction and without the "kneading" that it may be relied on almost abso-

It is well to sound a note of warning that the call for our services which in this direction or the change from followed, has rounded off this sequence | the objectionable yeast to an impure baking powder will be a case of jumping from the frying pan into the fire.

The best baking powder made is, as shown by analysis, the "Royal." contains absolutely nothing but cream of tartar and soda, refined to a chemical purity, which when combined under the influence of heat and moisture produce carbonic acid gas, and having process of raising and it has two peri- know, it is the only powder which will ods of working down or kneading dur- raise large bread perfectly. Its use dirt containing the germs from the the yeast made dough must stand in eral reader its lack of size. When this baker's hands. As no bread save that order that the starch may ferment and

which takes place when yeast is added has so good a chance of gathering harmless even when eaten. But they are combined in exact compensating What is meant by "raising" bread is weights, so that when chemical action begins between them they practically disappear, the substance of both havmethod of using the powder insures flour. The proper quantity being taken, it is mixed with the flour and stirred around in it. The mixture is then sifted several times and this insures that in every part of the flour there shall be a few partieles of the powder. The salt and milk or water being added, the dough is made up as quickly as possible and moulded into the loaves.

These are placed in the oven and baked. But the very moment the warmth and moisture attack the mix ture of cream of tartar and soda, these two ingredients chemically combine and carbonic acid or leavening gas is evolved. The consequence may be seen at a glance, the bread is raised during the time it is baking in the oven, and this is the most perfect of all conceivable methods of raising it.

Here, then, there is no chance for germs of disease to get into the dough and thence into the stomach, more than that the bread is necessarily as sweet as possible, there having been no time during which it could sour. This involves the fact that the bread so made will keep longer, as it is less likely to be contaminated by the germs that affect the souring process.

It will be strange if the crowds of visitors to the world's fair do not greatly increase the number of contagious disease, which we will have to treat. Under these circumstances is it not nel through which these germs may reach us? Is it not the part of wisdom to watch with the greatest care all is, in its effects on the dough, purely that we cat and drink, and to see that none but the safest and best methods are employed in the preparation of our food? To me it seems as though there this condition is what we ordinarily could be but one answer to questions like these.

I have shown the danger of using the yeast raised bread, and with this I avoided. The ounce of prevention ficult nor expensive is certainprocess, which fills the dough with lutely. Those who during the coming germs and filth, and without the long summer eat bread or biscuits or rolls



BREAD WITHOUT YEAST-"THE MOST PERFECT OF ALL CONCEIVABLE WATS OF RAISING IT."

period during which the raising process | made at home with Royal baking goes on, the gain in food and the gain | powder may be sure they have abso in the avoidance of the germs is exceedingly plain.

But while we can easily see the dancertain that the vesiculating effect so strongly urges for general use, should produced by it on the dough is to the royal Baking Powder Company, New York. that every particle of gluten produces its little bubble of gas and that therefore the bread is properly raised that is, it is raised everywhere. It is apparent that if we are to substitute any other system of bread making we must pretty daughter the very first day he have one which will give us, first, mechanical results equally as good, that the house where the young man was carbonic acid gas throughout the mass the girl introduced him, saying: of dough. Now it is in no way difficult to produce carbonic acid gas chemically, but when we are working at bread we must use such chemicals as these are not hard to find.

The evils which attend the yeastmade bread are obviated by the use of a properly made, pure and wholesome baking powder in lieu of yeast. Bakdough is very difficult to digest, and ing powders are composed of an acid this reason has value. No one but a and an alkali which, if properly combined, should when they unite at once ease germs which have not been killed destroy themselves and produce carbonic neidgas. A good baking powder does its work while the loaf is in the

But care is imperative in selecting doubt that could we trace back some tain that it is composed of non-injuriof the cases of illness which we meet ous chemicals. Powders centaining in our practice we would find that alum or those which are comgerms collected by the baker have pounded from impure ingredients, or those which are not comthat the heat has not been sufficient to bined in proper proportion or eare-desirey them, that the uncooked yeast fully mixed and which will leave either read has been eaten and with is the an acid or an alkali in the bread, must he play?" "The hose." - Brooklys bolonies of germs, that they have not be used

lutely stopped one channel through which disease may reach them.

But while we can easily see the dangers which attend the use of yeast it is certain that the resimulation of the bread which Dr. Edson for sanitary reasons

He Had Seen the Scarecrow.

One Somerville young man, who has just been spending a fortnight in the country, lost all chance of making a favorable impression on the farmer's came. Her father came by the front of is, that will produce minute bubbles of trying to make himself agreeable, and

"This is my father, Mr. Smythe." "Oh, yes," responded the young man, turning toward the old man, and slowly holding out his hand, "I saw you stand are perfectly healthful. Fortunately ing over in the cornfield a little while ago, when I came up the road."-Somerville Journal

Mr. Chimpanzee-"That ostrich eats enough for two birds. What do you suppose makes him so greedy, Mrs.C.?" Mrs. Chimpanzee-"I heard the keeper say he swallowed a pair of strong eye glasses yesterday and they magnify his appetite."-Vogue.

-"Do you go to school, Tommy?" "Yes'm." "Does your teacher like you, Tommy?" "You bet she does. Every evening most she hates to have me leave and keeps me in."-Arkansaw Traveler.

-"I met Jack Stageloon last evening. He tells me he is going out with a company next season which will produce 'Fireman Fred.'" "Indeed; what does HIGH ART IN COOKERY.

How the Appetite May be Tempted by Artistic Garnishing.

The scientific branch of cookery comprises the devising of dishes and sauces. The artistic branch constitutes the art of garnishing, and this plays a most important part in the outcome of the kitchen, as, by means of it, dishes please the eye before they please the pulate. First impressions go a great way, and when one sense is captivated by an agreeable and inviting appearance the dish must be bad, indeed, which fails to stand the more scarching ordeal of taste. Besides, people who suffer from jaded appetite have a better chance of eating their dinner when the dishes which are put before them are pleasant to the sight.

Art, however, is not a thing to be taught. You may show a man how to mix colors, but you cannot teach him how to use them. I will only attempt to explain that what it cookery is meant by garnishing is not the traditional parseley of the cook, and I will describe what cooks, properly so called, mean by garnishing, of what garnishes are made and how the different materials are prepared for the purpose. The conditions of these things are too infinite to allow of more than a general exposition. They wholly depend on the talent, skill and taste of the operator. The one and a great thing to avoid as much as possible is the using for purposes of garnishing things which are not catable.

"Garniture," which is rendered into English by "garnish." may be defined as all that is added to the chief material, which constitutes the dish, Thus tomato sauce in a dish of cutlets or fried potatoes around a steak are garnishes. These things fall naturally under two great heads-the hot garnishes, which accompany every savory dish, and the cold garnishes, which go with cold meats, sainds, etc. Vegetables are the chief material of hot garnishes. By judicions combinations they will produce very pretty effect of color. For instance, turnips, potatoes, artichokes, cauliflowers, celery and vegetable marrows will give whites; carrots, tomatoes, beet roots supply the reds: truffles and mushrooms, blacks; and then there are the endless shades of green given by beans, peas, sprouts, cucumbers, asparagus, etc.

To be used, all such vegetables as will admit of it, must be cut into uniform shape by what are called vegetable cutters, the successful use of which requires some practice. Vegetables are usually cut before cooking. It preferred, they may be cut with a knife. They should always be hot when sent to the table. Besides the cut vegetables, mushed potatoes are also used for garnishing. After being mashed, shape in various forms, or they may be made into croquets.

Brend sippets, which are used to garnish many dishes, should be invariably fried in butter, and fried to a uniform color all over. They ought to be cut out of stale bread, and should be of the same shape and thickness.

Force meat, quenelles, tongue, hardboiled eggs, olives, etc., are all used in garnishing. In the matter of garnishes for cold dishes there is a wider scope for artistic feeling. Cold meats may be ornamented with jelly, parsley or with curled garden cress, which, while one in the mood for dancing it resembles parsley, has the advantage of being entable when raw. But it is with salads the greatest taste may be displayed, and patience, too, will be required.—Philadelphia Press.

SHE WANTED SOME HELIOTROPE.

Wistful Longing of the Middle-Aged Matron in a Hospital Cot.

The women who carry to hospitals the flowers collected by the different "flower missions" are greeted, as a rule, with gratitude warmly expressed. Their posies are welcome, whether flaunting Rudbeckias from the fleids or the rarest of sweet peas from the garden. Probably poor little Peggy, the flower girl in the poem, was the only human being who ever was "sick of the smell of roses."

An enthusiastic flower missioner from Evanston once met with indifference to her nosegays, but it was only momentary. The middle-aged woman in one hospital cot turned her head away from the basket.

"Don't you care for a flower?" she was asked.

"I dun no. What you got?" This in the dullest of tones.

"Why here are roses, and daisies, and

pinks and heliotrope." "Heliotrope! Have you got some heliotrope? Let me see a piece of that, will you?"

The Evanstonian was touched. Her fancy quickly wove a story or two about the life of this commonplace matron. Perhaps, long ago, there had been heliotrope growing in the garden where she had been wooed when more wooable. Perhaps a little child, now dead, had loved the scent of heliotrope.

She put a big spray in the coarse hand. "Ah!" said the heroine of her imaginings, "I've wanted to see some heliotrope for ever so long. They say it's such a fashionable color."-Chicago Tribune.

Spiders Eat Their Mothers.

One of the most unnatural things in nature, if the expression is allowable. is the manner in which the young of the common wolf spider, found everywhere in this country, treat their mother. After the little creature has laid her eggs she envelopes them in a silken covering, so as to make a ball about the size of a pea, and this she carries about with her wherever she goes, and will defend it with her life. When the young are hatched, they climb on her back, giving her a monstrous appearance, and ride about until nearly half grown, and as soon as they discover their strength they fall to and devour their mother. As a rule the maternal relation is recognized in the animal and insect world only as long as the necessity for protection exists, but instances of the young actually devouring a parent by main force and common consent are extremely rare -London Nature.

A Simultaneous Reply

A six-year-old son of a family living on Seventy-second street was informed the other morning that the rector was expected to call in the afternoon. After luncheon his mother began to coach him in his catechism, his name, uge, etc.

"He will ask you your name," she said, "and you must tell him Frankie Jones.' Then he will ask you your age, and you must say 'six years old in June.' He will ask you who made you, and you must say 'God;' and then if he asks what He made you of, you must say 'dirt."

The rector came, and, sure enough, he asked the little fellow his name, whereupon Frankie shouted: "Frankie Jones, six years old in June, God, dirt!" all in one breath.-N. Y. Times.

Aroused and Regulated

By that purest and best of botanic alteratives, Hostetter's Stemach Bitters, a dor atives, Hostetier's Stomach Bitters, a dor-mant liver renews its secretive action and impels the bile into the proper channels. This welcome change is accomplished by a disappearance of the yellow tinge of the skin and cycballs, uncasiness in the right side, constipation, morning nausea, dizzi-ness, furred appearance of the torque, and sourness of the breath, which accompany liver trouble. Rheumatism, dyspepsia, ma-laria and kidney compliant, are removed by laria and kidney complaint are removed by

Charley—"So. Jim, you are extravagant enough to pay twenty dollars a dozen for your handkerchiefs. Don't you think that was a good deal of money to blow in?"— Columbia Spectator.

Pure and Wholesome Quality

Commends to public approval the California liquid laxative remedy. Syrup of Figs. It is pleasant to the taste and by acting gently on the kidneys, liver and bowels to cleanse the system effectually, it promotes the health and comfort of all who use it, and with millions it is the best and only remedy.

"John, what a lovely place! If we could only manage to raise the rent." Mr. Hun-ter Howes—"Oh, I've no doubt the landlord would see to that in a couple of months.' Brooklyn Life.

SCURVY and scorbutic affections, pimples, and biotches on the skin are caused by im-pure blood which Beccham's Pills cure.

WHEN the suspicious man sees a balloon sailing away toward the clouds he is justi-fied in thinking there is something up.-

S. K. Conuns, Mgr., Clarie Scott, writes: "I find Hail's Catarrh Care a valuable rem-edy." Druggists sell it, 75c.

Doctor—"You need a change in climate."
Patient—"What is the matter with this climate?" Doctor—"It's too changeable."—Chicago Record.

A PAIR lady becomes still fairer by using llenn's Sulphur Soap. Hill's Hair and Whisker Dye, 50 cents.

A curiors thing about politicians is that just as soon as they have a finger in the pie they begin to talk of getting there with both feet.—Philadelphia Times.

ACADEMY AND SCHOOL HOME, Las Vegas, New Mexico. Climate, a certain cure for students with weak lungs. Circulars.

Miss Pedagogue-"Name the principal parts of the verb to marry." Young Miss Wabash—"To marry, married, divorced."— Chicago Record.

"Do you look to the future with cour-

THE fine wheat will insure the farmer and

A WELL-DIRECTED snowball puts most any-

What the farmer's boy sighs for is the last rows of sammer. Plain Dealer.

An average record—the consus.-Truth.

The usurer takes lots of interest in hi business.—Philadelphia Record.

CHARITY begins at home; but that's n place to call it by that name. -Puck

It quite often happens that the lover lose his heart so that his wife a es precious hit tie of it after marriage.—Truth.

The way of the transgressor is to put in a general denial.

Some one has asked: "Where do flies go a winter?" We do not know, but we wish in winter?" We do not know, but we wish they would go there in summer -Texas

"How MANY servants do you keep?"
"None; but we have no end of 'em as casual visitors."-Pack

"Din Slugger get day or week board at its that place?" "Well, I suppose it's the the last pince?" "Well, I suppose it's the latter, for he's lost fifteen pounds since he's been there." - Inter Ocean.

Do NOT get angry because the street car conductor appears to you unnecessarily trazen. Brass is a good conductor.—Boston

First Dress Serr - What are you, a waiter or a gentlemant" Second Dress Suit or a gentleman!" Second Dress Sur (haughtay)—"Sir, I endeavor to be both."

HARMONY is all right in its place, but the barber and his razor should never under-take to pull together.—Buffalo Courier.

Darguten-"Our iceman is dead, papa," Father - What an awful change it will be

Ir you want to make sure your advice will be taken have it engraved on your umorelandle.—Troy Press.

Fora French sportsmen fired simultane ously at a rabbit, but it escaped: then they asked all together: "I wonder who missed

"August Flower"

I had been troubled five months with Dyspepsia. I had a fullness after eating, and a heavy load in the pit of my stomach. Sometimes a deathly sickness would overtake me. I was working for Thomas McHenry, Druggist, Allegheny City, Pa., in whose employ I had been for seven years. I used August Flower for two weeks. I was relieved of all trouble. I can now eat things I dared not touch before. I have gained twenty pounds since my recovery. J. D. Cox, Allegheny, Pa. @

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He has tried it in over eleven hundred cases, and never failed except in two cases (both thunder humor). He has now in his possession over two hundred certificates of its value, all within twenty miles of Boston.

A benefit is always experienced from age?" he asked the maiden. "Yes," she replied, "pa says nerve is everything in the wheat business."—Detroit Tribune. The first bottle, and a perfect cure is war ranted when the right quantity is taken.

When the large are affected it cause. the first bottle, and a perfect cure is war-

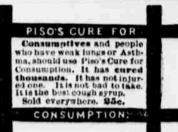
When the lungs are affected it causes shooting pains, like needles passing through them; the same with the Liver or Bowels. This is caused by the ducts being stopped, and always disappears in a week after taking it.

If the stomach is foul or bilious it will cause sque mish feelings at first.

No change of diet ever necessary. Eat the best you can get, and enough of it. Dose, one tablespoonful in water at bedtime, and read the Label.







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