Health Commissioner, New York City.

It is necessary, if one would under-siand the canitary aspects of bread making, to fully comprehend the pres-ent theory held by scientists of germs and the jiert played by them in disease. The theory of disease germs is merely the same given to the knowledge had of those germs by medical men, a knowledge which is the result of innumera-ble experiments. Being this, the old term of a "theory" has become a mis-A germ of a disease is a plant. nomer. A germ of a disease is a plant, so small that I do not know how to ex press intelligibly to the general reader its lack of size. When this germ is in-troduced into the blood or tissues of the body, its action appears to be an-alogous to that which takes place when year is added to dough. It attacks east is added to dough. It attacks ertain elements of the blood or tissues, destroys them, at the same time producing new substances.

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that the heaf has not been sufficient to destroy them, that the uncooked yeast bread has been eaten and with it the colonies of germe, that they have found their way into the blood and that the call for our services which followed, has rounded off this sequence of events.

I have already pointed out that the germs of disease are to be found in the air and dust. The longer any sub-stance 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 twice before being baked and this process may take anywhere from four hours to ten. It has, then, the chance of collecting disease germs during this process of raising and it has two periods of working down or kneading during each of which it may gather the dirt containing the germs from the baker's hands. As no bread save that raised with yeast, goes through this long produce carbonic acid gas, and having produce carbonic acid gas, and having



But the germs of the greater part of the germ diseases, that is, of the infectious and contagious diseases, will develop or increase in number without being in the body of a human being, provided always you give them the proper conditions. These conditions are to be found in dough which is being raised with yeast. They are warmth, moisture and the organic matter of the flour on which the germs, after ce ttain changes, feed.

The secessary to remember at this point that yeast is germ growth, and when introduced into a mixture of glu-

matter of the flour on which the germs, after ce ttain changes, feed.

His necessary to remember at this point that yeast is germ growth, and when introduced into a mixture of glucose or starch, in the presence of warmth and moisture sets up a fermentation. If the mixture be a starchy dough the yeast first changes a portion of the starch into glucose and then decomposes the clucose by changing it. composes the glucose by changing it

into two new substances, viz., carbonic acid gas and alcohol.

Now the glutten, which is also a constituent of dough and moist starch, affords, with the latter, an excellent nidus for the development of germs of disease as well as for the yeast germs. The germs of cholers, as of typhoid fever, would, if introduced into dough, find very favorable conditions for their

I do not wish to "pose" as an alarm I do not wish to pose as an anomist, 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 eat bread which has been raised with yeast. But 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 have no reason to suppose bakers are less liable to cutaneous diseases than any other men, and Iknow, as every house-wife knows, yeast-raised bread must be worked a long time. This is an exceedingly objectionable thing from the standpoint of a physician for the reason 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. Any person who has ever kneaded, dough understands the way in which the dough cleans the hands. This means that any germs which may have found a lodging place on the hands of the baser before he makes up his batch of bread are sure to find their batch of bread are sure- to find their max 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 the experience of countless genera-tions and no careful mother will wish her children to eat bread that has not been thoroughly cooked. The reason given for this recognized unhealthfulness has been that the uncooked yeast dough is very difficult to digest. No one but a physician would be apt to think of disease germs which have not been killed during the process of baking as a cause of the sickness following his use of mesoked year larged. Yet the regift from this cause is more than a large in the scale of the single process of the scale of the state of the scale of n thoroughly cooked. The reason

INTO THE YEAST BREAD."

The fermentation produces carbonic acid gas, and this, having its origin in acid gas, and this, having its origin in every little particle of the starch which is itself everywhere in the flour, pushes aside the particles of the dough to give itself room. This is what is called "raising the bread."

It needs but a glance to see that it is, in its effects on the dough, purely nechanical. The dough, which was

and an alkali which, if properly com-bined, should when they unite at once destroy themselves and produce car-bonic soid gas. A good baking pow-der does its work while the loaf is in the oven, and having done it, disap-

But care is imperative in selecting the brand of baking powder to be cer-tain that it is composed of non-injuri-ous chemicals. Powders containing ous chemicals. Powders containing alum or those which are compounded from impure ingredients, or those which are not combined in proper pro-portion or carefully mixed and which will leave either an acidor an alkali in the bread, must not be used.

It is well to sound a note of warning

produce carbonic acid gas, and having done this, disuppear. Its leavening strength has been found superior to other baking powders, and as far as I other baking powders, and as far as I know, it is the only powder which will raise large bread perfectly. It use avoids the long period during which the yeast made dough must stand in order that the starth may ferment and there is also no kneading necessary.

The two metavile wood is the Bayest

The two materials used in the Royal, cream of tartar and so la, are perfectly harmless, even when eaten. But they are combined in exact compensating weights, so that when chemical action begins between them they practically disappear, the substance of both having been taken and the substance of both substa disappear, the substance of both having been taken up to form the carbonic acid gas. More than this, the proper method of using the powder insures the most thorough mixing with the flour. The proper quantity being taken, it is mixed with the flour and stirred around in it. The mixture is then sifted saveral times and this insures that in every part of the flour there shall be a few particles of the powder. The salt and milk or wa the powder. The salt and milk or wa-ter 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 mixture of cream of tartar and sods, these two incredients chemically 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 toven, 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, 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 is, in its effects on the dough, purely incline during which it could sour, mechanical. The dough, which was before a close-grained mass, is now so made will keep longer, as the less



BREAD WITHOUT YEAST + "THE MOST PERFECT OF ALL CONCEIVABLE WAYE OF RAIS ING IT."

full of little holes, and when in this condition is what we ordinarily 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 from all sides. The fermentation of the dough, however, uses up a portion of the nutrient elements of the lostof the nutrient elements of the lost-If it be possible, therefore, to produce a light porous losf without this de-struction and without the "knexling" process, which fills the dough with germs and filth, and without the long period during which the raising pro-cess goes on, the gain in food and the gain in the avoidance of the germs is

hat degree perfect. It is apparent that if we are to substitute any other system of bread making we must have one which will givens, first, mesh anical results equally as good, that is, that will produce minute bubbles of carbonic acid gas throughout the miss of dough. Now it is in no way diffi-cult to produce carbonic acid gas chemically, but when we are working at bread we must use such chemicals as are perfectly healthful. Portunately these are not hard to find.

The evils which stend the year-made bread are obtated by the use of a properly made, pure and wholesome beling powder in her of year. Her-ing powders are companied of an acid

cooked (likely to be contaminated by the germs

that affect the souring process.

It will be stronge if the crowds of visitors to the World's Fair do not greatly increase the number of conagions diseases, which we will have to treat. Under these circumstances is it not folly of follies to open a single channel through which these germs may reach us? Is it not the part of may reach us? wislom to watch with the greatest care all that we est and drink, and to see that none but the safest and best neth-ods are employed in the preparation of our food? To me it seems as though there could be but one an wer

I have shown how that danger may be But while we can easily see the dangers which attend the use of yeast it is certain that the vesiculating effect woulded. The cance of prevention which in this case is neither difficult worth many pounds of cure, and the best thing about it is that it may be relied on al most absolutely. Those who est bres l ar biscuits or rolls made at home wit Boyal baking powler may be sure the have absolutely stopped one channel through which disease may reac

Nora.—Housekeepers desiring informa-tion in regard to the properation of the pro-match, for seather, reasons, Dr. Etsp. as strongly urges for general use, should write to the Royal Buking Powier Company, New York.

France has 6,455,000 farm owners who here 11,794,000 laborers.

## THE JOKERS' BUDGET.

JESTS AND YARNS BY FUNNY MEN OF THE PRESS.

Just What's the Matter-The Two Great Divisions-Undoubtedly-The Fall of Silver, etc., etc.

JUST WHAT'S THE MATTER.

She-I only wish to break the engage ent because I fear your inability to

love one devotedly.

He—Love one devotedly! Why, could love a dozen devotedly.—[Life,

THE TWO GREAT DIVISIONS.

"Did you have a heavy rainfall yester-

"Did you have a neary manner your day?"
"No; only wet the just."
"What about the unjust?"
"Oh, they had borrowed all the umbrellas."—[Judge.

UNDOUBTEDLY.

"I'm afraid you won't be able to get your French India-rubber man into the

country."
"Why not?"
"Couldn't be be classed as a contract-laborer?"—(Truth.

Tommy (who has Leard his father discuss finance: -One, - 'Unicago Record,

A NATURAL INSERTACE. "What city has the largest floating pop-

alation," inquired the teacher. "Cork," answered the bright little boy at the foot of the class .-- Chicago Herald.

DEGAN WHONG.

"We had a terrible time with the Convention of Physicians in our city the "What about?"

They found a disease, and then couldn't discover a microbe for it."

Little Dick-What are you tryin' to

Little Dick—thank and do, anyhow?
Little Dot—Mamma has sent for the doctor to come and see me, and I is scrubbin' my tongue so it'll be fit to look at.—IGood News.

PERFECTLY RIGHT.

Whitegoods—Now, Mr. Redink, they're talking about this income tax; and, as it may affect your income. I thought it best to reduce your salary from two thousand to fifteen hundred. I don't think they'll tax any income as low as fifteen hundred.

Redink-But, Mr.—

Whitegoods—Now, not a wend! You know I never can bear to hear naveil thanked.—Puch

know I never can bear to hear myself thanked .- Puck.

A DANGEROUS SUMMER GIRL.

He-So we are engaged. Isn't it

She—Perfectly.

He—I wonder if anybody saw me when I kissed you last night?

She—I hope so.

He—What!

he-I hope so.

He--Why?

She-I mean business, and want with resses.--[Detroit Free Press.

I have been an the country— in the country— in pa, you must have to keep an awful of policemen out here.

Grandpa—Why, Beth?
Beth—Oh, there's such a lot of g to keep, off of.— Tai-Bits.

WHAT WITTO PUPA SALE

Teacher-Now, Thumy, suppose you had 25 cents, and you wanted seven tents for early, he is rapples and five for lemonade, how many cents would for lemonade or have left!

Tommy—Twenty-t ve. "I'd have them charged to papa." Chicago Tribune.

ANNOYING FASHION.

Laura (at the seastle - How anney-

Flora - What, dear? Fiora What, dear Ling through this field glass at Ch. In Chapps, and Maud Everth dewn, there on the beach and they are dressed so in the alke that I can't tell whether he has his arm around her or she has her true around him — [Indianapolis Journal.]

NO MANNELS.

Mother-Why don't you get acquainted with that nice little gir. across the street? Little Dot-'Cause she isn't used to

a'ciety.
"You are surely mistaken."

"You are surely mistaces."
"No'm. She hasn't any manners."
"Why, what has she done?"
"Why, what has she done?"
"When I grimed at her she didn't grin eet & Smith's

BOUND TO CUT HIM OUT SOME WAT

"Mamma, the little boy next door has got on a new suit. Can I have one, toe!"
"Not now, Willie."
"Then I guess I'll go out and pick a
fight with him."—[Life.

NOT RESPONSIBLE.

Summer Boarder—I saw a snake seven feet long as I came across the fields this afternoon. I thought you told me you never had aby snakes?

Unole, Exra—Wal, I don't. I been a member of the temp'rance ledge for night twenty years.—[Indianapolia Journal.]

Now THEY GROW.

First Ysar—The biggest trout I ever caught was a foot and a half long, and he had big a fish-hook in his stomach. Tenth Yerr—Did I ever tell you about the trout I once caught? It was over a long and he had been ancher in his

yard long, and had an anchor in his stomach.-[New York Weekly.

MIXED HIS DATES.

Haufry Higgins—Wen did Columbus cone to this country?
Weary Watkins—Bout 430 years ago, Haugry Higgins—Gee! No wonder a feller give me the horse laugh when I told him I was Chris's second cousin.—
Ledinanalis, Laurael

Indianapolis Journal. THE PERVERSITY OF BORROWERS.

"Couldn't be be classed as a contract-laborer?"—[Truth.

THE FALL OF SILVER.

Teacher—If potatoes were 10 cents a bushel how many bushels could I lary with this nice shiny declar I have in my hand?

Tempory (who has largely like father disc.)

odds and ends.

obus and ends.

The cloquent young orater at Bridgton Academy who chose "Farming, the
Best of Arts," as his graduating theme,
has genoine blisters on his hands. He
get them playing tennis and boating.—
Lewi-ton Journal.

If there is a man in the world brave
enough to say, "I can't afford it" when
in the presence of a woman not his wife,
too thim out.—[Atchison Globe.]

"It is a pity that you are not more soriable," remarked the cyclone to the earthquake. "Instead of taking people out and blowing them off, as I do, you give everyone the shake,"—[Indianapolis Journal.

Tis now the learned doctor
To well-earned rest inclines,
And rakes up stacks of dollars
While mild hav fever shines. - [Chicago Inter-Ocean.

' There is not much similarity between Miss Candour—I hear your copener ment with Mr. Flightie is broken
Miss Mugg—Yes; I have cast him of
Miss Candour—Perfectly right A haar your claim of the resist not I grind colors while who spends all his time with other girts; and doesn't call to see his affinned wife once in six months, explict to he cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly]

The physicians of "twenty years" cast off.—[New York Weekly] our ways of estining a livelihood," said the derist to the paint manufacturer.

No. admitted the manufacturer, there is not I grind colors while your oil grinders." [Indianapolis Jour-

BARLO ACTLE PUDDING .- Take the Bakho Achie Pupping.—Take the yolks of four eggs, six large pippins grated, three tallesposifists of butter, one-half report search, the juice and half the piec of one lemon. Heat the sugar and batter to a cream, stir in the yolk and tenon with the grated apples. Pour this in a deep padding dish to bake. Whip the whites another last grate a little natureg over the top. Eat cold with cream. with cream.

She-I mean business, and walt will research mean business, and walt will research means thick and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for an inch thick, and to make the dish look nice stamp the liver in outside for thick brown sauce round from the went to the post office and salt: then entirply over with paper and salt: then entirply over with the gas and the dish look nice stamp the liver in the liver in the dish look nice stamp the liver in the liver in the liver in the liver in the liver in

The Prentice Sandwicht is made as follows: Break a fresh egg sta a bowl and beat the registy; add one and one-half capfuls of sweet milk, a salt-spoonful of salt and a table-spoonful of salt and a table-spoonful of melted butter. Beat well and add lightly one and three-quarters capfuls of sitted flour-mixed with one and one-half teasyonfuls of baking powder. Bake in roll-shaped gem pans. When cool cut lengthwise with a sharp kuife, which will not cramble the crusts. Spread thinly with butter and cover with finely the product of the product of the court of the product of THE PREMIUM SANDWICH is made as trifle rare. As they are cut, las two parts of each multin next each other by through to that they may fit when put together.

## Riackbird Days.

Jan. 30 and 31 and Feb. 1 are famous Jan. 30 and 31 and Feb. 1 are famous at Constantinople. Bresciu and along the Danulie and the Rhine as the "Blackbird Days." A curious legend says that originally all species of grackels (blackbirds) were white, and that they became black because during one year in the Middle Ages, the three days mentioned were so cold that all the birds in Middle Ages, the three days mentioned above were so cold that all the birds in Europe took refuge in the chimneys. At Brescia, Mr. Swainson says, the three days are additionally and all three days are additionally as a second series are additionally as a second and a second a second and a second a second and a second a second and a second a second and a second a second and a second a second and a second a days are celebrated, with a feast called, "I glorni della merla," or "the feast of the transformation of the bird."—[Philadelphia Press.