JOHN HARVEY KELLOGG (1852-1943)

Lectures, Speeches, Notes, and Articles, ca. 1890-ca. 1943
(undated by topic)
Meats, Tobacco, Tea, and Coffee
I dedicate this book to the Farmer, the Stockman, and to the humble people, as a work of enlightenment on the Meat Packers' inmost secrets, that they have so successfully kept hidden from the public.
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## CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Pack Tactics</td>
<td>1</td>
</tr>
<tr>
<td>II.</td>
<td>Profit Hunger</td>
<td>15</td>
</tr>
<tr>
<td>III.</td>
<td>Lesser Victims</td>
<td>19</td>
</tr>
<tr>
<td>IV.</td>
<td>Fatted Quarry</td>
<td>24</td>
</tr>
<tr>
<td>V.</td>
<td>Developing Appetites</td>
<td>27</td>
</tr>
<tr>
<td>VI.</td>
<td>Wolfing Trade</td>
<td>29</td>
</tr>
<tr>
<td>VII.</td>
<td>Depredation</td>
<td>32</td>
</tr>
<tr>
<td>VIII.</td>
<td>Interesting Excursions</td>
<td>41</td>
</tr>
<tr>
<td>IX.</td>
<td>Fear Pricks</td>
<td>40</td>
</tr>
<tr>
<td>X.</td>
<td>Tidbits</td>
<td>50</td>
</tr>
<tr>
<td>XI.</td>
<td>Foul Carcasses</td>
<td>54</td>
</tr>
<tr>
<td>XII.</td>
<td>Pack Loyalty</td>
<td>70</td>
</tr>
<tr>
<td>XIII.</td>
<td>Wolf Craft</td>
<td>76</td>
</tr>
<tr>
<td>XIV.</td>
<td>Watered Trails</td>
<td>80</td>
</tr>
<tr>
<td>XV.</td>
<td>Sheep's Clothing</td>
<td>96</td>
</tr>
<tr>
<td>XVI.</td>
<td>Pack Interest</td>
<td>101</td>
</tr>
<tr>
<td>XVII.</td>
<td>Under Cover</td>
<td>104</td>
</tr>
<tr>
<td>XVIII.</td>
<td>Pack Policies</td>
<td>111</td>
</tr>
<tr>
<td>XIX.</td>
<td>Pack Politics</td>
<td>118</td>
</tr>
<tr>
<td>XX.</td>
<td>Vermin</td>
<td>122</td>
</tr>
</tbody>
</table>
"Industry's Status Helped by Giving Out Information, Says Swift."

"Chicago, Oct. 21.--Experience has proved to the meat packing industry the wisdom of taking the public into its confidence, since it has been shown that the public is fair and judge fairly on the basis of facts, according to C.F. Swift, vice president of Swift & Company and chairman of the committee on public relations of the Institution of American Meat Packers, in his annual report, made public today, to the convention of the institute in session here.

"The industry has given out information of the most intimate nature concerning sales, profits and operating costs," the report continues. "As a result, neither the producer of live-stock nor the consumer pays much attention to the demagogue's cry that the price of meat to the consumer could be lowered and, at the same time, the price of live-stock increased by removing the packer or hedging him in with additional legislative restrictions.

"The public now understands that profit figures, which, a few years ago, seemed to a few unduly large, were, as a matter of fact, very moderate; that packers throughout the country, from the smallest to the largest, operate on an extremely narrow margin that takes from the consumer, on the average, a profit of less than two cents per dollar of product sold, or only a fraction of a cent a pound."
"SWIFT & CO. EARNINGS UP.

Chicago, Jan. 8.—Swift & Co.'s financial statement, which was issued today and which marks the rounding out of forty years as a corporation, shows that the company's sales in 1924 amounted to $775 million dollars, compared with $2 billion dollars in 1923.

Net earnings for 1924 were $14,125,967, compared with $13,185,000 in 1923 and $5 million dollars in 1922. Net earnings are computed after paying interest on debts and amount to less than 2 cents on each dollar of total sales."

I want to quote Mr. G. F. Swift, Vice-President of Swift & Company, in a newspaper article of October 21, 1924. Mr. Swift says, "The public now understands the profit figures of the Packer." I beg to differ with you, Mr. Swift. The public does not understand and never has understood the Packer's profit figures. Expert accountants have tried to solve this riddle and failed. Every avenue of getting at the net profit to the Packer has been blocked. No army general ever laid out a defensive campaign with greater strategy than the Packer planned his defensive to keep the his profit figures from the public.

In this book I will show the reader the true net profits. These people will not lay their cards on the table. For example: A general superintendent of one of these plants called into the Kansas City, Kansas, courts to tell some of the Packers' workings, and when the prosecuting attorney said, "You are the general superintendent of such-and-such plant, are you not?" He said, "No, I am the fire marshal and have no information whatever." And he made it stick, regardless of the fact that there were more than one hundred people in the court room who knew him and the position he held with these packers.
Mr. Swift says, "The people now know the Packers' profit figures." I say they do not and never will know, unless the barriers with which they have surrounded themselves, are broken down. Mr. Swift's article, in packinghouse language, is spoken of as "Educating the Public and making them like it."

Now let my readers judge as to how much they have known of the Packers' profit figures, for in the following pages of this book I shall lay the subject bare.
Can you imagine a farmer procuring a loan for five percent interest? No! The Banker knows the farmer must wait until harvest for his profit or loss, as the case may be. Therefore, he who is really feeding the world, must pay a high rate of interest, while the Packer, with his advantage of quick returns, has this low rate of interest to help him.

Again, rarely ever does the Packer buy on a rising market. This is the way it is worked: when the Packer has his cellars and coolers full of meat, he and all, or almost all of the packers in his town, stop buying. What are the consequences to the live-stock raiser? Just this: the stockyards are filled with stock; the shipper has to pay the board bill to the stockyards company, and after the stock has been in the stockyards a few days, the prices begin to lower. They continue to lower. The shipper cannot stand the board bill. Then what happens? Just this: the Packer rushes in, buys right and left at the reduced prices, fills his house with meat, then practically stops buying until he can perform the same manipulation all over again. If the Packer fails to break the house of the same price by not buying for a day or two, what then? Why some other company in a locality where hogs are cheap, simply loads up and is able to take care of the orders from the branch houses where hog prices are high. Simple, is it not? Just a case of button, button, who’s got the button?
When the shipper looks around for a good market to ship to, and thinking he has found one, ships; by the time his stock arrives he finds a falling market. Meanwhile, from St. Paul, or Chicago, or Omaha, or some other market, he gets a report that shows a raise in stock prices. The very place he had been thinking of shipping to,—but they had a falling market! He ships to Kansas City, and his was the falling market. The stockraiser and shipper know there is something wrong but they are powerless to help themselves, while the Packer has everything as easy as A.B.C. Just make the shipper think he has a good market, then as the stock commences to come in, change the location and price every few days and the Packer can have the prices his own way.

Then, too, every time you pick up a paper you will read where some politician says the government should help the farmer. This is nothing but campaign thunder. Same old stuff year after year. The farmer and stockraiser need help and need it badly. The Packer could pay him a good living price for his stock, cut ninety percent of his present profit and still be making a tremendous income.
The price of hogs fell $2.50 in three weeks, or the equivalent of $6.25 dead loss to the stockraiser on every 250-pound hog he shipped, with a comparatively greater loss on lightweights.

"A BIG REBOUND IN HOG PRICES."

"The first substantial advance in hog prices since the market broke from the high lever of the past four years, reached early last month, occurred at the Kansas City stockyards today, under the influence of big reductions in receipts at most packing centers. The nearly $2.50 decline in prices in about three weeks finally resulted in a curtailment of the marketward movement, although Chicago receipts continued fairly liberal.

"A 15 to 20-cent rebound in prices today carried best fat hogs to $9.60, or 55 cents above the low level of last Friday. Light lights, which have been depressed most severely recently, were 50 cents higher."

If these 250-pound hogs were worth $6.25 more three weeks ago, they are worth just as much today. This is nothing but a deliberate steal from the farmer and stockraiser; just as much so as that of any other bandit or highwayman. Think of the destruction this great drop in prices caused. The profit to the producer was actually wiped out on the hogs that had arrived in the Kansas City markets, for weeks,—the profit that was to help pay the notes the farmer and stockraiser owed,—the money that was to do the many, many necessary things to improve his farm, house his stock and care for his family. The Packer stepped in and with his hellish manipulation of the prices, whisked into his own pocket the humble farmer’s legitimate earnings.
Examination of this situation brings up the further question, does this manipulation lower the price of pork to the consumer? The facts speak for themselves. Between the farmer and stock raiser getting robbed on one side and the consumer on the other - Mr. Packer, watch out, watch out. The handwriting is on the wall. People have come to the conclusion that if the laws will not keep these wolves away from their own and their families' throats, they will have to find some other way to defend their homes against these bloodsucking monsters of the packinghouse industry. Mark me. You shall see.

Another very great wrong perpetrated by this manipulation of the market against the livestock man, who has his all tied up in stock, is this: The Banker is afraid to trust him, for well he knows the stock conditions. The Banker knows there are only three who cannot lose - the Packer, the Railroad and the Stockyard Company. This being the case, to lend to the shipper is too speculative to be safe. Consequently, the livestock man must pay a high rate of interest for his accommodation.

In this country, we have laws to burn, but they are brought out only on rare occasions. As the well known attorney, Clarence Darrow, remarked, "A good attorney can break most any law." This country has the laws, but the Packer has the best attorneys money can procure. We have a wonderful country, however it is overrun with these wolves in sheep's clothing. If it were not a wonderful country, it would long ago have succumbed to these hordes of wolves and buzzards. Additional pack tactics are evidenced by the following report in the Kansas City Star under date of November 5th, 1924:
"EXPECT HIGHER HOG PRICES."

"There are apparently fewer hogs in sight for next year than any time since 1920," says the Department of Agriculture. "The corn situation indicates lighter weight hogs, and the trend of hog production in Europe is about the same as here. All the factors in the hog situation seem to mean more than an even chance for higher hog prices. A drop in hog production might play some part in the beef cattle situation. The country is apparently still 'long' on cattle. The run of beef stock to market is heavier than last fall and it is going to slaughter rather than to feed lots. Cattle raisers probably are now in the most distressed position of any major group of producers."

The above clipping from the Star of November 5th reveals the wind-up of these millions-of-dollar steals from the Farmer and Stock raiser. The clipping suggests, "All the factors in the hog situation seem to mean more than an even chance for higher hog prices" next year.

Let me ask you in all honesty, how could the Department of Agriculture tell anything about next year's prices? They are not buying these hogs. This is merely clever bait to induce the farmer and stock raiser to increase the hog production for next year, and incidentally to provide the Packer fresh opportunity to subject his victims to another detrimental manipulation of prices. Just more propaganda from the Packer and the Packer's Allies, and many unwary farmers, as usual, will walk into the trap.
Fatted Quarry

Again the Packer gives Aladdin's lamp one more magic rub and out comes fair quarry fatted for the killing by the pack. Beef Extract!

Beef extract, as made in the packinghouse, consists of the residues from the cook room kettles, the bones from canner cows after the chuck and other cuts have been boned out, and the neck and shanks from the canner cows. All of this material is sent to the extract room, put in a large cauldron and cooked until nearly the consistency of paste. This is then drained off into fifty-pound lard cans, and kept until a number of filled cans have accumulated. The contents of these cans are finally dumped altogether into a large mixer, to blend in color and consistency. As one cooking may be a light brown, another medium or dark brown, the same is true of the consistency, so all are thoroughly mixed and blended and then prepared for the retail trade.

The preparation of beef extract for sale costs approximately nine to eleven cents per pound, depending on the cost of canner cows in the stockyard. Armour's wholesale price list on this date, December 2nd, 1924, quotes one
case of twelve, 8-ounce cans at $15.95. The case contains six pounds of extract at $2.66 per pound and is made up from the offal that would be difficult to use for any other purpose. Do a cost to the Packer of eleven cents per pound and a selling price of $2.66 a pound, sound like a net profit of less than a cent a pound? Remember that is Mr. Swift's statement.

Canner cows are quoted on today's stockyard market as low as $2.00 per hundred pounds. We will say a cow of this description costs the Packer fourteen or fifteen dollars. The bones, neck and shanks alone, made into extract, will far more than cover the cost of the cow and the Packer still has the valuable hide and even more valuable guts to dispose of, together with several hundred pounds of meat to be made into smoked beef and sausage that wholesale from fifteen to forty-five cents per pound. Hence a Packer with fifteen dollars invested in a canner cow can make it realize for him, after he has waved his magic wand over it, ten times fifteen dollars in one day on each cow.

Does this strike you as legitimate business, or just plain robbery?

When doctors prescribe this beef extract for some poor, aged, under-nourished body, it is small wonder if such an one does not find it difficult to pay the price. Also consider the patients in the charity hospitals.
Undernourished and a charity patient? Did you ever stop to think why there must be charity hospitals? Or why undernourishment plays such a prominent part in the lives of sick and crippled children of just our city alone? Did it ever strike you that these terrifically high prices everyone must pay for food, often place the most nourishing food beyond what many a poor man is able to provide for his family?
VII

Depredation

As a rule the veterinarians and government meat inspectors in the packinghouse are a class of intelligent, honest men. Of course, like all of us, they are human and not infallible. But so far as I have known them in my sixteen years and more of packinghouse experience, they are ever striving to really improve conditions, raise the quality rather than the price of food and do eliminate as much of the packinghouse filth and contamination, as possible. However, their hands are often tied by what the government says they may or may not do.

For instance, a hog that has a sexual odor is condemned,—this is perfectly right. A hog with any odor, other than good, clean meat odor, should be condemned. Then why are chitterlings allowed to be passed for food? Since chitterlings are made from the big gut or colon, the reservoir of the waste products of the hog's food, and simply reek with this fecal odor. To be sure it is washed, but if you think this relieves it of this awful fecal odor, come with me to the chitterling department and before they are placed in brine, just dip your hands into a freshly cleaned tub of them and fill your nostrils with the odor and you will agree that what
I have told you about them is not half the story.

Packers know these things are not fit for human food, but they have not been made to stop using them. Every meat inspector and veterinarian who ever spoke to me about this, said it was a foul outrage for such things to continue to be passed for food; but they still are passed.

Why?

One reason chitterlings are still passed is this: the wholesale price of this product is eight and one-half cents per pound and each gut weighs on an average of three pounds, bringing twenty-five and one-half cents to the Packer—while if it were sent to the tank, it would only bring him one and a half cents per pound. Very naturally he tries by every known method to keep the Bureau of Animal Industry silent on chitterlings.

In a previous chapter you learned this gut offal was very valuable, and just this one by-product nets the Packer more than enough to take care of all cost of "hog-kill", hog cutting and "hog offal."

While we are talking about the by-products of the hog offal, I want to call your attention to the hog liver.
that
Those livers have been badly mutilated, go into "liver wurst." The others are sold to cheap restaurants and small butcher shops. Mutilated? you exclaim in horror, -how is that? Hog livers, as we all know, are very susceptible to disease. These livers, many of them at least, are dotted over with small cysts. Each liver, as it comes from the hog is inspected by a meat inspector, and if found with cysts, it must be retained. A workman, not an inspector or veterinarian, is then ordered to cut these spots out, which he does; that is, he cuts out those which he can see on the surface. The liver is never dissected to find more; and this is where the danger comes in. There may be many more cysts throughout the liver, but if they hunted for these, the liver would be cut to ribbons and become worthless. So when this pile or truck load of livers has been cleaned on the surface the inspector again goes over them and they are passed on for food.

I almost hope you do not know what a cyst is. If you do not know I hope no one enlightens you while you have a piece of liver in your mouth. However, I will refer you to "Gould Medical Dictionary," which gives sixteen kinds of cysts, any one of which, I am quite sure, you would rather had not been on the piece of liver you are eating or on those con-
tained in your "liver wurst spread."  

Again the meat inspector is on the job and gives each tongue individual inspection. When a tongue is found with abscesses, (these abscesses as you know, are just plain pus sacs), the Packer's workman is again allowed to cut them out, under the supervision of the meat inspector. This mutilated tongue is passed on for food. It is too badly mutilated to be sold as it is, because the careful housewife would suspect something wrong. Hence, it is sent to the canning room where it goes into the potted meats, being ground and spiced up, and sold for a delectable spread. I suspect you have often eaten potted meat on bread, have you not? Delicious, was it not? Well, these tongues I have just told you about, are a part of its ingredients.

Another legalized act the Packer perpetrates on the unsuspecting public, appears in connection with the sterilization and sale, under the caption of "sterilized meat," of the flesh of diseased hog carcasses. After the hogs are killed and the head severed from the body, a veterinarian or meat inspector cuts the thyroid gland, which is situated at the upper part of the trachea. If this hog has tuberculosis and the gland shows pus, the inspector tags it "retained" and it is sent to the government retaining
room for a post-mortem examination. Here not only the head but the stomach and intestines are examined by a veterinarian. If, in his opinion, the disease has not developed to any great extent, the carcass and head are given back to the Packer, who may use it for sterilized meat.

How many of you, my readers, have bought this "sterilized" meat and thought you were getting something extra clean, put up under extra sanitary conditions. This is exactly what the Packer wants you to think; but these tubercular hogs were the originals of your "sterilized" meats.

Let me emphasize right here, the Bureau of Animal Industry clearly states that these diseased hogs for sterilization must be butchered and worked up and kept entirely isolated from the healthy hog. The Packer conforms to the command (by compulsion of course); but with what result? Simply this: they are allowed, through government ruling, to take the fat from this diseased hog, put it in their tanks, and from it make steam lard. Personally speaking, I am not fond of live germs, neither am I crazy about dead ones.

The lean meat from this hog for sterilization, is taken care of by a different method. This lean meat must also be cut up in an isolated room,
in order that it may in no wise come in contact with good healthy meat and possibly contaminate it. It is then returned to the Packer under seal. Then the ruling is, that the only way this meat may be used is to cook it until these germs have died,—have turned up their toes. The meat is then canned or put up in sausage and sold under the label of "sterilized pork." Sounds good, does it not? It probably did until you had this peep behind the scenes.

Remembering that this diseased hog was kept isolated from the healthy hogs, what of the hog that was sent to the retaining room as a "suspect" and after having passed inspection by the veterinarian as a healthy hog, was pushed out of the retaining room? It has not only been in the same room with cholera and tubercular hogs, but has been handled by the same men who handled the diseased carcasses. It is practically impossible for a clean, healthy hog to go into the retaining room and come out free from contamination.

Further contamination may arise in some killing rooms, where the floors have not been laid out according to the best packinghouse plans. The rail on which the hogs hang and travel was not built high enough above the floor to give a good clearance between the hogs and troughs underneath. Many animals,
after having been beheaded, trail their necks around on these troughs.

A diseased hog comes around the rail, his neck hanging over these troughs, then follows a long hog, with his neck trailing in the blood left by the diseased carcass. Or, the severed head, left hanging by a thread of skin, is left to wallow through this poisonous and contaminated blood. Positively, the thought is revolting.

To rectify this mistake made by the man who planned this killing floor would cost several hundred dollars, but if the Packer can "get by" the Bureau of Animal Industry, he does not worry about the contamination.

When the hogs are switched from the main line for the retaining room, all but the very shortest hogs come in with their heads dragging on the floor of the retaining room. At times the foreman stations a man at the retaining room switch, to cut off the heads of the hogs that drag and hook them on the backs of the hogs to which the heads belong; but this does not overcome the contamination. The man cutting off the heads is just a workman and he has no way of knowing which hog will be condemned and which will pass inspection, consequently he does not know when to sterilize his knife or his hands. Therefore, he is not only handling
the greater number of heads that come from the retaining room, but he is using the same knife and unsterilised hands in severing diseased as well as healthy hogs' heads.

Some up-to-date killing floors have a better arrangement than this, but, evidently, the superintendent, who was responsible for the construction of this retaining room, did not take into consideration the length of a large hog.

Another way hogs may become frightfully contaminated is by falling off the trolley that carries them on the rail.

When the above described killing floor was planned, the man who was responsible for the floor, did not give the troughs under the rails enough incline, so instead of being able to keep a running stream of water down these troughs all the time, carrying all refuse with it, the pig bag (in which are the unborn pigs), the wormy pigs, abscesses and all other refuse, lies where it falls until a workman comes along with a high pressure hose and by order of the foreman or inspector, flushes it down the trough. Every now and then a hog falls into this filth,—possibly forty to sixty a day. It becomes fouly contaminated, and, in most cases, is hung back upon the rail and continues in its ghoulish way, infecting the hogs that it touches on
touched on either side.

These mistakes in construction could easily be rectified; but the superintendents does not intend for his employer ever to know of the defect. This is one of the reasons why I say, if the money expended to put up fancy white tile walls and other fanciful contraptions to hoodwink the public, had been spent to correct these mistakes made in building the retaining room and other places, it would have been money well invested. But this horrible contamination goes on behind a seven-foot partition where visitors are never taken.
VIII

Interesting Excursions

Let us step back into the hog offal department. The first department we come to is for the chitterlings, presided over by colored men and women.

There are about one and one-half pounds of fat that is used for lard and if this big gut or colon were never broken this fat, when rendered out, would be perfectly wholesome and palatable. But (and this is a great big but), many of these big guts, distended with feces and gas, become broken in the handling. What happens? The colon empties out this fecal matter all over the fat. Contaminated, wouldn't you say?

Following is the process for remedying this contamination. One of the workmen on the job turns this material into a tank of water, picks out the pieces he can see, that is, the larger pieces any way; (of course, many are overlooked), and from such a cleaning (?) this fat is dumped into "steam lard." Remember, this lard is branded "First class." The odor of this fat as it goes to tank is second only to the chitterlings. I do not believe a self-respecting dog would eat it.

From here, let us go to the hog head table, where the hog heads are cut up for sausage, head cheese and other by-products. Around this
table, mostly colored men are working. The inspectors require the Facker to furnish cuspidors for them and they have three to four cuspidors to thirty men. These men are working at topmost speed and if a cuspidor is close by they will expectorate at the nearest one in sight, sometimes hitting but more often missing it, until the floor becomes covered with miniature pools and lakes. Of course, meat will fall on this floor and lie there until some one sees the foreman or inspector coming, when it is hurriedly scooped up and put back with the other meat.

Now, as I have heretofore told you, some of this meat has been up against the diseased carcasses in the retaining room, and again, some of these heads were dragged through the troughs on the killing floor, and now in the head room they are contaminated further with expectorated filth. In this condition, the meat is now ready for sausage, so far as the "head room" is concerned.

Of course, has the inspector seen any of this meat on the floor, he would have condemned it at once; but neither he nor the foreman can be there all the time. I have given men their "time" for being careless about dropping meat on the floor, but with many places requiring the attention and presence of the foremen and inspectors, they cannot be in any one room all the time.
We will follow the head-meat step by step to its final destination, the inside of a casing or gut. From the head room, this meat is sent to the cooler to be spread out thinly in pans for the purpose of removing the animal heat. This meat arrives in the cellar through a chute ordinarily, where men meet it with forks and pans and here again portions of it are contaminated. In transferring it from the chute to the pans with these forks, portions dropping on the floor are forked up and sent on with the rest.

At last the day's work is done, the men wash up to go home and the meat is cooling for the morrow in hundreds of pans. At night, the rats come out of hiding by the thousands for their evening meal, come out to eat, to play, to fight and to court, yet and to mark on this meat. Well, we will pass over this nightmare in this cellar and come to work with the men in the morning. The first thing in the morning is to fork this chilled meat into trucks for delivery to the sausage room, where again it is forked into large grinders to be ground.

The usual custom is for the man who did the shovelling, after he has started the grinder, to scrape up all the meat that may have fallen on the floor and put it back with the meat that is being ground. Contamination again.
for just before he started to work, some one passed over that floor who had
probably been down to the livestock yards or had just come out of the retain-
ing rooms.

From the grinder the meat is sent to the mixer, where the spices, cere-
sals and water are blended into it. As it is shovelled into and out of the
mixer, more meat drops on the floor. From the mixer it is again sent to the
 cellar till wanted. ........The rats are there by the thousands, just as they
were in the other cellar.

After a day or two in this cooler, the meat is again brought to the
sausage room to be stuffed into the guts and packed in other ways. It is again
put into and taken out of the trucks, the operator using his hands, fork or
shovel,—more meat on the floor, more slapping it back with the other meat.
I have wondered many times if there were one pound of meat in a hundred pounds
that was not badly contaminated and reeking with filth and germs. The thought
certainly leaves a bad taste in the mouth and creates a desire to seek fresh air.

If you, my dear readers, doubt one word of this, you can prove it all
to your own satisfaction, or horror, by going to work in a packing house. If
you went as one of a committee, and passed through the office, you would not be
shown these conditions. If you did go along this path where I have just led you,
it would be only after word had been sent ahead to "watch out, there was a committee coming." I promise you, you would see very little.

When it is reported that the head government supervisor from some other house is to pay a visit of inspection, or a travelling supervisor is to stop off, all the packers know about it and storm signals are sent out. While so far as a committee from Washington is concerned, it is a huge joke. The Packer is "tipped" off and everything is "rosy" when the committee arrive. They are met, escorted, dined and censored until they do not know whether they are in a packinghouse or a vineyard. To illustrate, I will give you an example of this by telling you of a certain experience that came my way several years ago while I was working as foreman in the smoke house and canvass room. The Packer for whom I was then working sent me a message to get the barrels of borax and boric acid hidden away. (We robbled hams in this to keep them free from skippers and to help preserve them). We removed the barrels and the next day came another message to dig the cracks out where the barrels stood and have the floor thoroughly washed out with a solution of salsoda. By this time my curiosity was working overtime, and to better understand this frenzied hurry, I asked the general superintendent what was going on. With a laugh, he answered me that they had been "tipped off" that
a congressional committee might come and he wanted everything in "apple pie order." So you see how well the Packer is prepared for a committee.

As for the men who are working there telling anything-well-jobs are scarce.

Enough said?
Tid-bits

If you can survive another trial at this inspection business, I will take you up to the "cooking room." .................................

In this department the same old system is in evidence; the meat is shovelled into the kettles from the troughs, more or less is spilled on the floor, picked up and put back.  At one end of this cooking room a number of old colored women sit around a table and "bone out" some of this meat (potted chicken.  These are not young chickens, by any means, that are used for this delicacy, but old, decrepit hens and roosters whose usefulness as barnyard fowls was over years ago.

One day, I jokingly asked one of these old colored women if it were not easy on her table expenses at home to be working there.  Her answer was "fer the good Lord, man, does you think I would eat any of dem chickens?  Just you go over there and 'take a look' at dem chickens dat man is done shovelling in dem kettles.  Thinks I want to eat 'em?" And Aunty's look told her disgust.

I walked over and "took a look."  Some chickens!  Old skinny fowls that had been in cold storage so long they had begun to get soft
and slimy; too poor a quality for even the restaurant trade. There they were, being put into "delicatessen",
Now just a word about another kind of a summer sausage, which is the aristocrat of the sausage world. Why should it not be? It is composed of sixty per cent ham, five per cent fat, thirty-four per cent beef and one per cent spice. This sounds fine, doesn't it? But let me raise the corner of the chip again and let you see the conditions here.

The hams used are in such a condition that they cannot be sold as whole hams. They may have been partly rat-eaten, or they may be slightly sour. These places must be cut out and, of course, these mutilated hams must be disposed of in some way. To assist in that dilemma, this brand of very high-priced summer sausage was especially originated. This sausage wholesales at forty-seven cents a pound. So you see Mr. Packer not only has an avenue through which to dispose of this rat-eaten and partly soured meat, but he can dispose of it at as good a price as a first-class ham could be sold for. .................I would be greatly amused to see a Packer trying to eat some of this sausage. Not that I ever expect to,—it just is not being done. Packer's tidbits are to tickle the public palate at a rich profit to the Packer.
XI

Foul Carcasses

Probably there will be many of my readers who have gone through a packinghouse with a crowd, a guide having been furnished by the Packer, and have come away with an agreeable remembrance of the things they saw, and the interesting things the Packer's guide told them. Now let me tell you this, dear reader, you were following (in mining vocabulary) a "salted trail" every foot of the way.

The interesting things the guide told you had been rehearsed as carefully as any comedian ever rehearsed his lines before he appeared behind the footlights on the stage. In fact, all the things you saw and heard had been carefully, very carefully prepared for you. Each and every visitor has been taken over the path that is always prepared for visitors. To prove this to your own satisfaction, the next time you visit the packinghouse, just try to stray away from your guide, as if you were going on a little tour of inspection of your own. You will at once realize that your guide is closely herding you and the visitors you are with. He will probably tell you, "Please do not go in there," or "Do not open that door; it is very dangerous and you might get hurt," or some other excuse.
He is afraid you will see some of the horrors I am telling you about in this book. Well he knows if you do see them, the very things he is employed and trained to keep you from seeing, there will be another guide in his place next morning.

As an example of the time and money spent and thought devoted to camouflaging for visitors, I will cite for you what the Packer has done and the expense he has incurred in order to leave a good impression on the visitor. In one packinghouse in this city, they have veneered the walls in the room in which the hogs are killed, from the floor up some eleven or twelve feet, with white tile brick. And as this room has about six hundred linear feet of wall space you can see that the cost was enormous just in this one room; and it is all for the purpose of making a favorable impression on the visitors and nothing else.

In this same hog killing room, where the Packer has spent thousands and thousands of dollars in this fancy tile wall, he has also spent more thousands to build a tight partition, seven feet high, in front of the hogs as they pass in front of the veterinarian, so the visitors can not see the terrible abscesses that are being cut out of the carcasses, and these same hogs are passed on down for food. Food that may be on your table or mine a few
days later? No, I will say this,—it may be on your table, but it will not be
on mine, for we will not eat pork until conditions improve at least one hundred
percent.

Not only do the veterinarians cut out these abscesses here, but the
wormy kidneys as well,—some days, thousands of them. Not only sometimes,
but many, many times, the kidneys are so infested with worms that they extend
into the fat, surrounding the kidneys. While this is bad enough, the abscesses
are even worse,—many of them expelling two to three quarts of this foul smell-
ing pus. Then on goes the hog for food. How do you like it? Think we should
have a law to stop it? But these are the things the visitors do not see.........
Would you deliberately want to eat this pork, knowing an abscess or tumor
twice the size of a cocoanut had been incised, and had expelled probably
two quarts of foul-smelling pus? And then this meat from this hog was passed
on to your table for your family to eat? How would you like it? Yet our
Bureau of Animal Industry says it may be done.

From the camouflage of the hog room, let us journey to the chipped
beef room where the infamous "Government Issue bacon" was put up in cans,
and also where the chipped beef is packed in cans and jars. Here the visitors
always see long rows of young women, all spick and span in clean uniforms and white caps - they make a very good impression on the visitors as they deftly pack the meat in jars. Then, too, in this same room they have a manicurist to keep the employees' hands in good condition! Just for the visitors to see, to admire, and to wonder about........

The guide now turns toward the mince meat room and tells the visitors that "We make enough mince meat in this room in one season to make two million delicious mince meat pies." Please let me say right here that in the summer time the guide is most careful to paint this room out from a distance to the visitors. The simple reason being that he is afraid if they ever did see conditions as they are, they would not have much appetite for this packing-house mince meat. One reason in particular, is that this room is literally alive with flies. Disease-germ-carrying flies!

I built eight large Homemade barrel shaped fly-traps and it was a seem to poor day that I did not catch a bushel of flies. Even this did not do much good, for with all the edibles unprotected from them, more than one fly walked in at the window to one that went into the trap. These conditions went on for six years that I know of, because I was foreman here for six years.
.... Although the Packer's workman may have ground all the teeth out of the jaw bone, there may be a deep-seated abscess at the root of a tooth or an injury and a spoonful of pus can be secured from such a cavity in the bone. Fine steam lard, I will say! This should be stopped and stopped at once. These jawbones should all be sent to the grease tank. The smell from a truck load of jaws (hog) that have passed inspection is nauseating beyond description.

I will now conduct you to the nearest meat cooler and as I turn the switch, you open the door and look in quickly, and tell me what you see. A hundred rats scampering off the meat piles you will exclaim? well, that is a common occurrence. I will tell you of an experience I had with these rats one time.

I ran down into one of my hog coolers as I had been told that the rail the hogs hang on had been broken. Now, while there was light at one end of this cooler, the end into which I ran was dark. I do not think I had taken more than two or three steps, when a rat which I suppose was trying to get out of my immediate vicinity, must have lost his bearings, for he ran up my leg inside my trousers. Ye gods and little fishes! And me with my B.V.D.'s on.

Good night! Talk about a thrill that comes once in a lifetime!
I had a whole bunch of thrills, fits, convulsions and spasms, all over that cooler. Yes, I was scared.

I will now take you over to the "gut shanty", as it is called in packinghouse language. Here the guts, that the "pork link" and other sausage come packed in, are washed out. This division is branded by the Bureau of Animal Industry as an "inedible department." In spite of that fact, this Bureau allows the Packer to take these guts and use them for containers of foods. This is something I could never understand. Inedible, not because they are glass or wood or crockery; but because they are filthy guts, they are inedible. However, our food may be packed in them and lay for weeks and even months before they are consumed.

Now I am not accusing the Bureau in any way—no one is infallible; but when I think of the method of cleaning these guts—well, we just do not eat sausage at our house any way. The method of cleaning is to let them half rot in a barrel until they are all in a slime, then the slime is scraped off and they are packed in salt until wanted as a sausage container.

I asked an inspector why this was allowed and his explanation was that the consumer could peel the casing off if he felt so inclined. I asked this
same inspector if all the guts were inedible, as the Bureau claimed, why was it that the big gut or colon was allowed to be sold as shitterlings. His answer to this was that it was a "mighty hard question to answer." He went on to state that in his opinion all guts were inedible and the sale of them for food should be stopped at once, but as it was one of the most profitable by-product departments of the Packer, he was afraid it would not, or could not be stopped. When I asked him why it could not be stopped, he laughed and said, "You know as well as I do that the Packer gets what he wants," and I suppose this is the truth. I could take you over to the cattle, calf and sheep departments and show you much more, but I will leave that until my next book on our friend, the Wiley Packer.
"UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ANIMAL INDUSTRY
Washington, D.C.

Address reply to
"Chief of Bureau of Animal Industry"
Y-I.139.I
March 9, 1925.

"Mr. A. Little,
3424 Kenwood Ave.,
Kansas City, Mo.

Dear Sir:

Replying to your undated letter postmarked March 5, 1925, regarding disposal of diseased organs and parts of hog carcasses slaughtered under Federal meat inspection, you are advised that in the main your inquiries are of such a general nature that reply thereto cannot be undertaken in this letter. In order that you may be informed regarding the disposal of diseased carcasses and parts, there is enclosed herewith S.A.I. Order 211 (Revised). Regulations Nos. 10 and 11, you will note, deal with the post-mortem inspection of animals, and no doubt will answer your requirements.

Very truly yours,
(Signed) A.J. Fistor
Acting Chief, Meat Inspection Division."

I will quote paragraphs and sections from the regulations concerning the "meat inspection" of the United States Department of Agriculture and will interpret them for you, as complied with by the Packers.

"Paragraph 2. In all cases where carcasses showing localized lesions of disease are passed for food or for sterilization the diseased parts shall be removed before the 'U.S. Retained' tag is taken from the carcass, and such parts shall be condemned."

Just cut out the diseased parts that the veterinarian can see, then the balance of the carcass is considered palatable. At least so the Department of Agriculture holds. What do you think?

"Section 6. Paragraph 1. When a carcass is to be dressed with the skin or hide left on, the skin or hide shall be thoroughly washed and cleaned before any incision is made for the purpose of removing any part
th ereof or evisceration.

Paragraph 2. All hair, scurf and dirt, including all hoofs and claws, shall be removed from hog carcasses, and the carcasses thoroughly washed and cleaned, before any incision is made for inspection or evisceration."

Now this is perfectly right, but it is not always complied with.

"(a) Heads showing lesions of tuberculosis shall be condemned, except that when a head is from a carcass passed for food or for sterilization and the lesions are slight, or calcified, or encapsulated, and are confined to lymph glands in which not more than two glands are involved, the head may be passed for sterilization after the diseased tissues have been removed and condemned."

If the carcass had been "passed" for food and the head is tubercular, it is all right! Just cook it! Of course, the carcass that had the T.B. head is quite good for human consumption, or so the ruling holds.

"20 Reg. II. DISPOSAL OF DISEASED CARCASSES, ETC.

Rule 6. Carcasses showing lesions of tuberculosis should be passed for food when the lesions are slight, localized, and calcified or encapsulated, or are limited to a single or several parts or organs of the body (except as noted in rule A), and there is no evidence of recent invasion of tubercle bacilli into the systemic circulation. Under this rule carcasses showing such lesions as the following may be passed, after the parts containing the lesions are removed and condemned in accordance with rule 5."

Let the veterinarian cut out such of the diseased meat as he can see, then you will eat the rest if you really care to. If you do not care for a repast from this hog try the one below.

"Paragraph 2. Carcasses of hogs affected with urticaria (diamond skin disease), Tinea tonsurans, Demodex folliculorum, or erythema may be passed after detaching the affected skin, if the carcass is otherwise unfit for food."
Just take off the diseased skin and "Presto" the carcass is fit for food-well, "maybe"?

"Section 17. Carcasses of hogs affected with tapeworm cysts (Cysticercus cellulosae) may be passed for sterilization, but if the infestation is excessive the carcass shall be condemned."

The above (Sect. 17) is left to the individual judgment of the veterinarian, if he does not use good judgment, a few people are going to get a mouth full.

"Paragraph 4. Fats of carcasses passed for food or for sterilization, under the provisions of paragraphs 2 and 3 may be passed for food provided they are melted at a temperature of not less than 140° F. The edible viscera, except the lungs and heart, of carcasses passed for food or for sterilization under the provisions of paragraphs 2 and 3, may be passed for food without refrigeration or other process of sterilization provided they are found to be free from infestation upon final inspection. The intestines, wishbones, and bladders from beef carcasses, affected with Cysticercus bovis, which have been passed for food or for sterilization may be used for casings after they have been subjected to the usual methods of preparation and may be passed for such purpose upon completion of the final inspection."

"(a) If an article becomes soiled or unclean by falling on the floor or in any other accidental way, it may be cleaned and presented for re-inspection."

If the Packer made any attempt to follow this ruling, we would all be supremely happy.

"(b) If an article is found to have absorbed a foreign odor, contains mold or similar substance, or in the case of lard there is present the condition known as tank-water sourness in the first stage, and the article is capable of being rehandled by approved methods for food purposes, the official establishment may be permitted, if the necessary steps are immediately taken, to so rehandle it in a manner prescribed by the chief of bureau.

"If upon final re-inspection the article is found to be sound, healthful and wholesome, it shall be passed for human food; otherwise it shall be condemned."

"Paragraph 5. Portions of casings which show infestation with Aesophagastrium or other nodule-producing parasite, and wishbones infested with the larvae of Hypoderma lineatum, shall be rejected, except that when the infestation is slight and the nodules and larvae are removed, the casing or wishbone may be passed."
"Paragraph 4. Intestines shall not be used as ingredients of meat food products, except under such terms and restrictions as the chief of bureau may specifically prescribe.

Paragraph 5. The fermenting and salting of hog and sheep casings shall be done only in compartments separate from those in which either edible or inedible products are handled."

Paragraph(4) is very amusing. Intestines shall not be used as ingredients in meat food products, because they are not edible, of course; but it is perfectly all right to put meat food products into intestinal casings.

Remember these casings and guts are in a half rotten slime before the Packer makes any attempt to clean them. It does not take as much labor to clean a gut when it has aged ("rotted" enough to get good and slimy) as it does a fresher one. There you have the Packer's view of it.

"Paragraph 5. Meats passed for sterilization may be used for the preparation of such meats and products as canned meats, sausages, cooked or boiled meats, meat loaf and similar products, provided all parts of the meat are heated to a temperature not lower than 170° F. for a period of not less than 30 minutes, and further, that the articles so prepared be marked in accordance with bureau requirements."

Understand this sterilization, please. The meat from diseased carcasses may be used for your canned meats, your sausage, and your cooked meats. Would you not think this would be delicious? Just when do you expect to eat some of the products I have just mentioned?

"Section 10. Paragraph 1. Heads for use in the preparation of meat food products shall be split and the bodies of the teeth, the turbinated and ethmoid bones, ear tubes, and horn butts removed and the heads then thoroughly cleaned."

The hogs' heads as used in the packing houses for head cheese, etc., are split and the ethmoid and turbinated bones removed, as well as the bodies of the teeth. But how about the roots of the teeth, any one, or all of which may be badly decayed, or abscessed? Or the root itself getting in the headcheese? Any sane man would say the entire tooth should be removed.
However, as bad as these decayed roots are, I shall tell you of something a hundred-fold more horrible that the meat Packer puts over on the public. A butcher ordering a head or heads from the Packer does not get them even in this good a condition. They are cleaned as to hair and scurf, with the external part of the ear drum removed - but how about the inner ear being full of wax and filth? Now when the butcher gets the heads they are put into a large kettle and cooked for head cheese, etc. Ordinarily they go into the kettle, ear canals, teeth, many of them decayed, the turbinated and ethmoid bones and all, to flavor your head cheese.

The turbinated bone is the small bone at the lower end of the nasal or mucous passage and the ethmoid bone at the upper part of this passage and is the reservoir of the mucous in a hog's head, from which I have seen as much as half a cup full of this mucous drained.

So when your butcher says he is making up a quantity of head cheese and you must be sure to get some, you will get it, plus the ear wax, teeth, roots and mucous. How do you like the flavor? Don't be in a hurry to take the second bite, for the first one has a return ticket.

The Packer as well as the Bureau of Animal Industry, knows the condition of these heads. Regardless of this fact, though, they are shipped all over the land in the condition mentioned. If the Packer were compelled to conform to the laws of sanitation and health, and clean these heads for shipping and local sales, as he is required to clean them for his own house, he would lose from one to two cents per head.
"22  REG. II. DISPOSAL OF DISEASED CARCASSES, ETC.
Any organ or part of a carcass which is badly bruised or which is affected by a tumor, an abscess, or a suppurring sore, shall be condemned; and when the lesions are of such character or extent as to affect the whole carcass, the whole carcass shall be condemned. Parts of carcasses which are contaminated by pus shall be condemned."

The Department of Agriculture states that any organ or part of a carcass which is badly bruised, or which is affected by a tumor, an abscess or a suppurring sore, shall be condemned. This does not mean that the whole carcass shall be condemned. I, personally, think this an outrage on every man, woman and child, to allow a hog with one of these awful tumors or abscesses, its system more or less poisoned thereby, to be passed on for food, after the affected parts have been cut out.

When the hog is in this deplorable condition, if the Packer insists on buying affected hogs knowingly, (and he certainly knows the hog is so affected when he buys it or he has a blind hog buyer), he should be forced to keep this hog isolated until it recovers or dies. It positively should not be butchered, while in this condition, for you and your family to eat. The Packer knows he will not partake of this meat so why worry about the other fellow.

Wipe out foul carcasses from your daily menus. Write your congressmen. Write your senators. Overwhelm them with your outcry for strict, sanitary food laws—Pure Food Laws—and for the enforcement of pure food laws. Write now. It will cost only two cents, but doctors' visits come at three dollars each, and the prices of coffins and funerals are still going up.
Let us turn back the pages of time a few years and view the scene as it was when America entered the war. How everybody threw their hats up in the air and shouted their loyalty to their country and their flag. Let us see how "Judas, the Packer" showed his loyalty.

The government had to feed her boys who were going to the front, and, as always, wanted the best and most wholesome food money could buy. There was a call for "issue bacon," millions of pounds of it. The Quartermaster's Department at Washington, D.C. put out these calls for bids on good, wholesome bacon. The Packers, to show their loyalty, agreed to furnish this bacon for thirty-six cents a pound, packed in three-quarter pound cans.

The strange part of it was, that the Packers all bid thirty-six cents,—quite a coincidence, was it not? However that may be, this was just fine for the Packers. For at that time their freezers, coolers, and cellars were full of months-and-months-old bacon,—an accumulation of old, flabby sow bellies. This grade of bacon was formerly shipped south for the colored trade; but it had accumulated so much faster than the south could use it, that in consequence, the overstock was becoming alarming. There was even some talk of tanking it for lard and trying to realize something out of it in that way. Then along came the war and solved their problem. And this was what went into the cans of "Issue Bacon":—old flabby sowbelly bacon, sold by these front-row loyalists to their government for the "boys over there", who were giving their all for their country, and incidentally for the Packer and his breed. This was "our boys'" food for trench life or battle line; this was to help keep life in him while he fought the good fight for his home and loved ones and that the Packer...
and his ilk might live safely at home ....................

I have read from time to time, where the government had brought suit against different firms, corporations and so forth, who had overcharged and defrauded the government. I wonder what the "Powers that be" in Washington think they got, when they accepted these old, sloppy, flabby sowbellies, that cost the Packer six cents and the government thirty-six cents per pound? If this discrepancy in prices (and in time of war, too) is not defrauding, I do not know what is — do you?

Of course the men who accepted it will say this was fine bacon, and so forth, but the men in the Packinghouse know differently. I do not say that this meat would cause ptomaine poisoning or dysentery, but do you remember what the rotten beef did to the boys of the Spanish-American War? Do you know of the soldiers that died of dysentery down in the rice fields or came home to drag out a miserable existence with this dread disease until they crossed the Great Battle Field? (Rabalmed beef is a matter of record). Who caused their deaths? Mostly these same firms who sold this old bacon to the government during the World War. If the negro deserved his eight years for his five-dollar hold-up, just what punishment could be severe enough for these men who defrauded our government in time of war?
I would like to tell you of one more of their contracts with the government. This was for two-hundred and fifty thousand "Emergency Rations" for the army. These rations were composed of a portion of "cutter and corner" beef, at three dollars and less per hundred pounds on the hoof, two small cakes of chocolate, some parch cereal, pepper and salt. The bid that got the contract was at seventy-five cents a can. The Packer had to install some new machinery, such as one hydraulic press and some dry ovens, as this meat in the rations must be air-dried till all the moisture was out of it.

After this little order of two hundred and fifty thousand cans was out and the machinery had been sitting idle for some two months or more, I asked the general superintendent if he would not "be up against it" with all this machinery on hand, that could not be used for any other part of the house. His answer was that "If they never got another order they had made enough real profit to pay for three such sets of machinery and then some." They did get more orders later. Maybe a soldier could march one day on this "Emergency Ration", but I would hate to march one day on it unless I knew there would be a big pot of beans to finish off with.

Cannot you not see what I am telling you? How it is gouge, gouge, gouge, anyone and every one? Our government looks just like any one else to the Packer. He makes the whole world pay, pay, pay.
"Cattle from the Rim-Rock"

"Thursday, Martin Buggelin of Grand Canyon, Arizona, marketed one thousand cattle, principally cows, in Kansas City. This was the largest individual shipment from that state this year. These cattle were shipped from Williams, Ariz., the point where the Santa Fe tourist branch line turns up to the Grand Canyon of the Colorado. The cattle were produced on the forest reserve and the rimrock section of the Grand Canyon. Mr. Buggelin was born and reared at California, Mo., but for the past thirty years has been in the cattle business in Arizona."

A person reading this little clipping from one of the local papers would hardly give it second thought; but let me show you the concealed grief in store for the stockman who shipped the thousand head of cows. The price on this class of cattle was about three dollars per hundred pounds at the time the stock arrived in Kansas City. After the wolves and lions, disease and accidents had taken their toll together with freight, commission, yardage, and what-not, he would better, probably, have driven his bunch of cattle over the canyon wall when they were calves. His time and labor, his investment, brought him nothing, absolutely nothing.

Here is another clipping from the Kansas City Star. It tells the story of just one of the thousands who are in the same predicament as this poor woman:
"I believe my problem is the problem of hundreds of farm women. We live on an 1,000-acre ranch in the hills of Nebraska. Since my marriage twelve years ago I've worked very hard doing all my work and helping with the outside work, as we were not able to hire help.

While my children were little I spent fully half my time outside, and now they are older I spend practically all of it helping there. All summer I helped in the hay field while my 10-year-old daughter did the housework.

"I've never been well since my first baby came, and just the other day my strength gave out and won't come back even after several days of rest.

"My husband is the best of men, very kind and good, and begs me to stay indoors, but he has been doing the work of two men all these years, too, but knows now a man can stand much more than a woman can.

"Several of our friends who had a better or a good a start as we did are losing their homes and everything they own, and these women do no work outdoors except take care of chickens and gardens, though this is more than they should do.

"The men, as a rule, all work hard, but in the busy season hired help has taken about all the profit.

"We have 145 head of cattle, clear, but have a government mortgage of $5,000 on our place. I've always wanted my girls to have advantages and pleasures that the poverty of my parents cheated me out of, but so far their pleasures have been pitifully few. They hardly know what it is to have a new dress or coat, but wear clothes that are made over or one's relatives working for wages in cities give them.

"Now the question is: Shall we mortgage our little bunch of cattle and hire help and not plan for a future for our girls, or shall we try to carry on in the same old way?

"Isn't there something decidedly wrong with the farming and ranching business, when a man,
his wife and family all have to work from twelve to fourteen hours a day, with no pleasure, no new clothes, no modern conveniences. (I do my washing on a washboard and during the busy season do it at night after a hard day's in the fields.)

"Then I know how easy most of the city wives' lives are, I wonder that there is a single FARMER WIFE"

Years of labor, toil and hardship with no competence in their declining years. Just drudge, drudge, drudge. The husband doing the work of two men, the wife the work of two women. The children, cheated of carefree childhood happiness and like their parents, are just little drudges. Could any human being do more than this family have done? Yet it all seems so hopeless. Their neighbors were working as hard as they did and likewise were losing their farms. This is indeed bringing it home to all of us.

Why? Oh why must such conditions exist? For one and only one reason. The Packer with his big business is ever stealing from the farmer and stockraiser their every profit, their homes and their hopes of a home; stealing the comforts from the stockraiser's wife, stealing the children's education, stealing their peace of mind. Everything the farmer and the stockraiser have to sell, the Packer reaches out for, manipulates the price, suits his wishes, and his interest and away go the producers' profits to the Packer's pockets.
What was it Mr. Swift said about two percent profit? Can any man with just ordinary intelligence believe for one moment Mr. Swift made a truthful statement when he said "the public now understands the Packers' profit figures" and then went on to show you their two percent profit? Will anyone tell me how two percent profit can in one hundred years take care of all their business interests? How could they pull in plant after plant and stamp their name upon it? How could they absorb the woolen mills? How could they hold their grasp all these factories, with such terrible tenacity? How could they control and own steamship lines, railroads, yes, and governments, on a two percent profit? They could not do it and any ordinary business man would know better. It is by creating tremendous profits, by unfair and unsportmanlike competition, unfair manipulation of market prices, and by sweeping into their pockets that which so justly belongs to the farmer, the stock raiser and the ranchman in lonely places. It is by holding these humble, honest people in their giant grasp and squeezing the life blood from them for the Packer's gain. Grain grower or stock raiser, it is all the same, they lose and the Sharker Parker gains. This is just as sure a loss, my dear reader, as you would have with the shell game or three card monte dealer.
Only a day or two ago the papers carried a speech of President Coolidge, the first he had made since his election, and in this speech of the president, he says the farmer must improve his market and so forth. Pray, what does this tell the farmer? The President did not even suggest a method to produce such improvement. Even if he had, it would not have been applicable to all parts of the country, because where he was reared, about all the farm will produce is a little timothy and a whiff of a lot of hazel brush. I lived in that part of the country myself, when a boy.

The loss of the farmer's and stockraiser's financial independence is not due to the fact that he does not know his end of the business; but as I have stated, over and over again, it is due to the manipulation of the market prices so that when his output reaches the market his rightful profits have evaporated, and congeal only when they reach the Packer's pockets. Consequently, the farmer, to use the correct term, is nothing more than a 'serf' to these multi-millionaire bandits.

You of my readers who were brought up on a farm, what say you? Yet many a one will read Mr. Swift's paid propaganda thought, or would almost think the Packer was losing money. Listen. This day, November twenty-first, nineteen hundred and twenty-four, wide sheep casings (guts) are quoted at the Big Four wholesale market at three dollars and ninety-five cents per pound. Three hundred and ninety-five dollars for a one hundred pound barrel. Do you grasp it? Does it sound like losing on the offal?
These sheep guts cost the Packer fourteen cents per pound when in the live sheep. So after killing the sheep and cleaning the guts, he receives three dollars and ninety-five cents per pound for them or twenty-eight hundred percent profit. And yet Mr. Swift says that the Packer's profit is a fraction of a cent per pound and the public understands the Packer's profit figures.

Here is the way the Packer works on the small sausage maker who buys his supply from the Packer. First he pays the Packer fifteen cents per pound for pork trimmings, then he pays the Packer three dollars and ninety-five cents per pound for wide sheep casings, then he has his overhead expenses, the same as the Packer, but really a far greater overhead, on account of his small output.

The pork trim did not cost the Packer one half of fifteen cents, for hogs are quoted on December first as low as six dollars and fifty cents per hundred pounds. There is absolutely no chance for the small sausage maker, but there are many of them trying to make a living. The Packer makes one hundred percent on the pork trimmings and about twenty-eight hundred percent on the sheep casings. If this is not fixing prices what is? Call up any wholesale market of the big Packers and you will find that the prices are equable.

These sausages are what your weenies or "hot dogs" are stuffed into and are what the government calls inedible, yet the Packer is selling his surplus for three hundred and ninety-five dollars for one hundred pounds. Mr. Packer, though, is taking the public into his confidence and
telling it some very confidential things about his business. This is bunk, pure unadulterated bunk, and you can prove it for yourself, as I have told you. This paid propaganda is just trying to "educate the public and make them like it." It is for the purpose of educating the public to think the Packer is a much maligned person. The Missouri Pacific Railroad, the Metropolitan, the Standard Oil Company and many, many other big businesses are spending huge sums advertising their innocence of any wrong doing. Ida Tarbell showed the Standard Oil Company up; but what she told her readers is not nearly half of it.
XVIII

Peanut Policies

"FARM BOARD STARTS OUT

Commission Will Be Busy Until After
March 4.

"Washington, Nov. 16. The President's agricultural commission started out today by
tracing the man-sized job in a man-sized way,
thus disappointing those who thought this
effort to find out what was wrong with agriculture
would be only a political gesture.

Mr. Coolidge gave the commission full
freedom in its inquiry and the commission decided
to take it, mapping out an investigation so
comprehensive it cannot be completed until after
the end of this congress, March 4.

The President thought that it would be
possible to lay the commission's conclusions
before congress at the approaching congress
thereby doing away with the necessity of an
extra session of the next congress for passage
of agricultural legislation. The commission finds
it will be impossible to do this, although it
intends to submit some recommendations to meet
emergencies in time for action by this congress.

One of these emergencies involves the
cattle industry, which is still depressed. While
the prices of hogs and sheep and of grains have
gone up, the price of cattle has remained at a
low level and cattlemen are going broke by the
thousands. The industry has been in a process of
liquidation because of the inability of cattlemen
to obtain credit. As a result young stock is being
marketed prematurely. The commission is expected
to propose a plan for financing the industry so
young stock can be held until ready for market and
the industry stabilized generally."
You will see by this newspaper clipping "Farm Board Starts Out," that the president's agriculture commission tackles a man's size job. "Thus disappointing those who thought this effort to find out what was wrong with agriculture would be only a "political gesture." A political gesture is all it is.

On this eighteenth day of November, nineteen hundred and twenty-four, cows are quoted on the stockyard reports as low as two dollars per hundred pounds. Who buys these cows? THE PACKER and the Packer sets the price of two cents per pound. Consequently, as the clipping says, thousands of stockmen are going broke. Who is breaking them? THE PACKER, and no one else. These Wolves are leaving the marks of their fangs on every one they come in contact with,- the consumer as well as the livestock man. Are you, Mr. Butcher, getting any benefit from these two-cent-per-pound cattle? Are you, Mr. and Mrs. Consumer? We are all being held up alike.

If this much-heralded commission of the President really wanted to find out the cause of all this financial depression and distress of the livestock raiser, they should head straight for the Packer, for they will find it there and there only. If they really want to remedy the farmer's and stock raiser's ills, they could put a stop to the Packer's lawful stealing; but this commission is just one way of taking care of their friends.

On November 28th, 1924, I wrote to President Coolidge, as nearly as I can remember, about like the following:

Dear Mr. President:

I am writing in regard to the awful state of contamination that some of the meat is subject to, that you and I eat, or at least you and your family eat. Which can be substantiated
"As an example, at the Packers' Wholesale Market on this date the quotations are $8.95 per pound for wide sheep casings, "guts" that Vienna sausage is stuffed in; $2.65 per pound for beef extract made from the residue from the cook room kettles and the bones from the "canner" cattle which are quoted at the stockyards $2.40 per pound. Also I would like to call your attention to the wholesale price of smoked beef of 45c per pound, made from the cheaper cuts from these 24 canner cattle."

I also informed the President I was writing a book on the Wiley Packer but did not want to embarrass the administration. I also informed the President that these exorbitant Packer-made-prices that I had quoted, could easily be substantiated by calling up the Packers' Wholesale Market.

Of course, I thought that if the President did not take any personal interest in my disclosures to him, he would turn my letter over to the Federal Bureau of Animal Industry, or at least take it up with this wonderful and very expensive farm commission of his, or with the Secretary of Agriculture. But I was very sadly mistaken in thinking that the farmer would be helped by President Coolidge. I had relied too much on what I had read in the papers, instead of taking it for a "political gesture", as it turned out to be.

Well, just what do you think our Farmer-President did with my letter? Why, he sent it to the Federal Trades Commission who had no more to do with the subject than the committee on Naval Affairs or the "Horse Marines." I will insert the letter which I received from the Federal Trades Commission, which is self-explanatory.
It is the same old political bunk. "We will help the farmer, we will do this and we will do that for the farmer, you bet we will," and then add "nit." And this is what your farmers vote for. Do you suppose the huge campaign contributions from the Packer have anything to do with the help(?) the farmer gets? Oh no - I mean is going to get--maybe.

"Address communications to
Federal Trade Commission
J-h

FEDERAL TRADE COMMISSION
Washington

Office of the Secretary

December 12, 1924.

Dear Sir:

Your letter of November 28th
addressed to the President, has been re-
served by the Federal Trade Commission by
reference from the White House.

Your statements respecting an article
on the Meat Packing Industry have been noted.
In reply you are advised that the Federal Trade
Commission has no jurisdiction over this industry,
which, by special enactment of Congress in 1921,
was placed under the jurisdiction of the Secre-
tary of Agriculture.

By direction of the Commission.

Otis B. Johnson
Otis B. Johnson,
Secretary.

Mr. A. F. Little,
Box 24, Kenwood,
Kansas City, Mo.
Now after reading the evidence in the case I will let you, my readers by the jury. In your opinion, is President Coolidge trying to help the farmer, or is he using his position as President to block testimony that could be a help to the farmer? Is the President honest or otherwise? Looking at this from every angle, just what is your opinion?

If the "Powers that be" do not cut down this kind of propaganda, there will be another army camp on the capitol steps and it will not be Comey's hobos — it will be ruined farmers and stockmen and they will demand a reckoning.

Later.

In the speech of President Coolidge, in Chicago, at the Live Stock Exposition, the President says, "To improve the stockman's condition, he must reduce production." Now, pray tell, will this benefit the stock raiser when he is not oversupplying the market as it is? Further on in his speech, he speaks of government control of the Packers — I heartily agree with you there, Mr. President, and it will take a man of iron to do it. Put it across.
(For authority regarding the bubonic plague situation in
San Juan in 1912, my thanks are due to an article written by F.W. Dalrymple, J.E.
Sanitary Engineer for the Government of Porto Rico, and appeared in "The
Nurse" of February, 1915. The Author).

I will now take up this subject, which I abhor, but as I see
my duty to the public, I feel that I must go into it as thoroughly as
I am capable of doing. The rats and vermin in the packinghouse are
astonishing in number; for they are there in numbers that wouldicken
and frighten you. The great wonder is that the Bureau of Animal Industry
will allow such conditions to exist.

The rat as you may know is the host or dwelling place of the flea.
In turn, the flea is a germ carrier and a disease producer through its
bite or sting. While the flea has undoubtedly been the cause of many
diseases, I will only mention two, as I can give you positive proof of these:
the Bubonic plague which has broken out so many times in years past and
which Porto Rico remembers to this day—and the pneumatic plague in Los
Angeles and San Pedro, California, in the early fall of 1924. Both diseases
were directly traced to the rat flea and mortality was indeed high.

One peculiar thing about the flea, while it prefers the rat as
host, it is also poisonous to the rat and the finding of large numbers of
dead rats when no poison has been put out, is indeed great cause for alarm.
Health officials should be notified at once, as this circumstance is almost
positive proof that some plague has broken out among them.

When the rat dies the flea attaches itself to some other animal,
preferring the cat or dog to man. However, the flea is found on the ground
squirrel of Southern California, and on the prairie dog of Western Kansas and
Colorado.
In Porto Rico, when the bubonic plague broke out there, and it was directly traced to rat flea, the extermination of the rats was indeed difficult. For one thing, the founding of the city of San Juan dates back some four hundred years and many of the buildings, with walls two to four feet thick, are of very poor workmanship and crumbling masonry. Many of these walls, and especially the foundations, were found to be honeycombed with rat holes; but one thing was to their advantage; the authority of the Board of Health is absolute in Porto Rico. When they send out a bulletin, it is obeyed to the letter.

It was found many buildings would have to be torn down; other, the foundations, and houses without foundations were raised on pillars from two to three feet high, the space underneath being kept clear.

Food had to be put in rat-proof bins and all garbage burned. For rats will not go into traps when food is plentiful. Every known means was used to exterminate the rat, even keeping food from them for a time, then putting oats on water in large deep pans and barrels, so placed that the rat could jump into them for the food and thus be drowned. The fight was carried on for years and even yet they have an official rat-catcher.

In California this fall the big fight was made around San Pedro, the harbor of Los Angeles. When the pneumonia plague was first noted there, the rat and his flea were both investigated and both found guilty.

San Pedro is built on a little promontory of land that is washed on three sides by the sea, and up to six or seven years ago was just a little fishing village. Now it is a thriving little city of several thousand people, because a breakwater was built, some three miles of it, and makes a perfect harbor for the big ships that dock there from all over the world.
especially the big freighters loaded with lumber.

All of one side is lined with docks, shipyards, lumberyards and canneries, making it a veritable rat harbor, so here was where the fight against the rat and his death-dealing, ever-present flea was made.

Now & with all these things known, especially this condition of the pneumonic plague in California, must we still wait until plague after plague takes its toll of human lives, before we awaken to the dangers here in our own city? I do not suppose there is another such "feeding-ground" for rats as the packinghouses, or such homes for them as the old buildings of the packinghouses and the packinghouse district. I say, again and again, the rats are there by the thousands, yes, tens of thousands. ....

Some of these rats are so badly affected with scurvy from nothing but a straight meat diet, that they have hardly a hair left on their bodies. There are others encrusted in a gray, scabby scale. I have taken a stick and scratched it on the side of such a rat, when found dead and the scales would fall off covered with blood-sucking fleas. But as bad and as disgusting a sight as these old, scaly rats are, I am sure the old fighters with their festering sores are even more horrible.

Then as the men come back in the morning the rats scamper back out of sight and into the darker places again. I have gone into my coolers and found great holes gnawed in the tarpaulin that covered the condensed mince meat, with the mince meat scattered over the floor everywhere. It really seemed to me after they had had their fill of food they scattered as much as possible around, through pure destructiveness.
There is one and only one way to rid the packinghouses of this dangerous pest. That is to tear down all old rat-infested buildings and cement the ones that can be saved; to make firm and rat-proof every cellar, cooler and building; to make immense bonfires of old boards, rubbish or any other rat harbor. In fact, make the buildings and food bins so rat-proof that the killing off of the pests themselves will be only a matter of good judgment and a few week's time and labor.

It is time the people arose in wrath and compelled these steps to be taken. What are we waiting for? For the history of San Juan, Porto rico to be repeated here in our midst? For the plague that visited California to continue on here and deal us a death-blow? Pneumonia runs rife here every winter; who knows but what the rat is responsible for it? There is seldom a summer without its scare of typhoid. The rats that scamper about the sewers and river rubbish, where all manner of diseases germinate, may be fighting tonight over the meat or in close proximity to it, that may be on your table tomorrow. If people can carry all these so-called communicable diseases, what is to hinder the rats from carrying them? The great glaring wonder is that epidemics are not more frequent than they are.

What of the small pox epidemic that ravages Kansas City in the fall of 1921? More than one life sacrificed, and those that lived were scarred for life. Will some other calamity have to come, some terrible danger or death to your loved ones and mine, before we rise up in judgment and indignation and say these things shall no longer exist?
ATWATER ON MEAT AND ALCOHOL.

No physician in the United States, and probably no man living at the present time has given more extended or more thorough study to the composition and properties of food stuffs than has Prof. W.O. Atwater, who has for many years been at the head of the Government Department for the further study and investigation of problems relating to food. Some years ago Prof. Atwater made a very extended and exhaustive study of the properties and effects of alcohol, one of the evident purposes of which was to demonstrate the value of alcohol as a food. While maintaining this theory, however, Prof. Atwater readily acknowledged that alcohol is a poison in large doses (and inadvertently also in small doses). Notwithstanding this fact, however, Atwater maintained that it should be regarded as a food. In the course of argument for this purpose he remarked, "If we exclude from the list of foods those things which are either injurious to health or tend to become so, we must exclude alcohol, in excess, but we must do the same thing with meat. Only it takes much more meat to constitute excess, and the tendency to excess is not so great as with alcohol." In this statement Prof. Atwater clearly admits that both alcohol and meat are very "injurious to health or tend to become so." He does not, however, venture to put into this list such articles as wheat, corn, rice, potatoes, bread, milk, ripe fruit, and other substances which are universally recognized as food.

Prof. Atwater has clearly made two mistakes in his professional career, which relate specially to alcohol and to flesh food. While recognizing the fact that these substances both tend to produce injurious effects in the human body, he has been a warm advocate of their use, and until his recent mental and physical collapse has continued to maintain that proteins, especially in the form of meat, should be used in considerable amount, the quantity recommended in his "Standard Ration" being in fact nearly three times the amount
found necessary by Prof. Chittenden in his classical experiments in which the advantages of the low-protein ration were so thoroughly and clearly established. The premature culmination of Prof. Atwater's public career as a teacher by apoplexy and mental collapse is in itself a demonstration of the falsity of his teaching. On the other hand, Prof. Chittenden is an equally splendid demonstration of the truth of the contrary teaching. The latter, although well past the normal of life, and a man of very enlivened physique, is still performing prodigies of work while apparently every year growing younger and more vigorous under the rejuvenating influence of the low-protein diet which his experiments led him to adopt in his habitual dietary.

Meat and alcohol are in some way curiously related. Gautier asserts that one may acquire a meat appetite just as the drunkard acquires an alcohol appetite, so there are meat drunkards as well as alcohol drunkards. In this respect meat differs decidedly from ordinary foods. Who ever knew of a potato drunkard, or a bread drunkard, or one who had an insatiable and insane craving for any other wholesome food, except, of course, in conditions of special mental perversion? The mere fact that meat, like alcohol, opium, cocaine, and various other drugs is capable of developing such an appetite is evidence of its unwholesomeness and its unnaturalness,
Another point of relationship between flesh and alcohol is to be found in the fact that the free use of flesh food creates an appetite for alcohol. The reason for this has not been clear until recently. So far as the writer knows the following explanation has never yet appeared in print, but it is offered as the physiologic solution of the well-established clinical fact which heretofore has not been easy to explain.

Meat contains uric acid, creatin, creatinin, and various other substances which have the effect to raise blood-pressure. This fact has been clearly pointed out by Haig, Paul, and other numerous investigators. Tobacco-smoking produces a similar effect. Alcohol, on the other hand, produces the very opposite effect. By dilating the blood vessels alcohol lowers blood-pressure, while beef tea, beef extracts, and meats of all sorts raise the blood-pressure by contracting the blood-vessels. A large meat eater, then, naturally suffers from depressant headache and other unpleasant symptoms which arise from increased blood-pressure, and intuitively seeks relief in alcohol, which dissipates his unpleasant symptoms simply by dilating the blood vessels which have been abnormally contracted by the poisons absorbed from the meat. Smoking has a similar effect.

It is quite probable that other factors are involved in this interesting question, as is suggested by the following incident. Recently a patient with whom the writer was expostulating because of his use of cigars, replied, "Doctor, if I should continue the use of the Sanitarium diet I think I should very soon dispense with cigars altogether, for I observe that since I have been eating your diet, abstaining wholly from meats, I can smoke but very little. Formerly I smoked twenty to thirty cigars a day. On your diet I can only smoke half a cigar two or three times a day. Somehow they don't taste right. They have a bitter, unpleasant taste, so I am satisfied with a few whiffs. On the other hand, when I eat a meat dinner, and drink one or two glasses of champagne, or a glass of whiskey, I can smoke the
longest and the strongest cigars, and just as many as I want." This experience is wholly in accord with many others of a similar sort which have been reported to the writer by intelligent business and professional men in the last twenty years.

A full comprehension of the effects of alcohol upon digestion requires first of all a knowledge of the essential features of the digestive process. Digestion can be no longer regarded as the simple process which it appeared to be when considered in the light of the observations of Beaumont nearly a century ago. During the decades which have passed since Beaumont's studies were begun hundreds of thousands of observations made in the sick room and the laboratory have been classified and correlated by a multitude of earnest investigators, and our knowledge of the marvelous transmission processes which are carried forward in the alimentary canal has gradually advanced, until at the present time our knowledge of the several vital operations which constitute the process of digestion rests upon a solid foundation of well attested facts.

In a biological sense digestion is a function of the individual cell. This is true in the human body and other higher animal forms, as well as in minute unicellular organisms in which digestion is constantly carried forward as one of the essential processes of life. Hence in considering digestion in the human organism in its broadest sense, we must consider the process as beginning in the mouth and terminating in the tissues or individual cells of the body. In a general way the process of digestion in higher animals may be said to consist of the liquefaction and transformation of food-
stuff so as to permit them to be carried by the circulation to the individual
cells of the body, by which they are reorganized.

The materials which constitute foodstuffs as they exist in food
substances consist of highly complex arrangements of a few elementary
elements. By the process of digestion these complicated groupings are
broken up into a great number of simple molecules, which are thus prepared
for absorption into the circulation, and finally reaching the individual cells
of the body are again reorganized into those highly complex and elaborated
substances which are found in the nerves of the muscular, sensory, glandular,
and various other tissues and structures of the body. There are then essentially
two phases of the digestive process. First, a breaking down, or reduction
of complex molecules into simple ones, and second the rebuilding and reorganiza-
tion of these simple elements into highly complex molecules.

The process of solution and xmx up simplification seems to be carried
forward in the alimentary canal. The chief mechanisms involved are first,
the alimentary canal itself, which is a muscular tube extending from the
mouth to the anus. Second, various glands and other accessory organs located
along the tube. The digestive tube presents near its beginning a large
dilatation, the stomach, which constitutes a reservoir into which the food is
received, to be disinfected and otherwise changed before entering the small
intestine, in which the principal part of the digestive work is done. The lower
5 ft. of this 30 ft. tube present another dilatation, in which the food
is stored for some hours after being passed through the various digestive
processes, to afford opportunity for the absorption of those portions
which have been properly elaborated and prepared for distribution to the
tissues.
In addition to the teeth, whose function is purely mechanical, acting in conjunction with the tongue and the cheeks to grind the food, the principal accessory organs which participate in the digestive process are various sets of glands by which digestive fluids are formed, each of which contains one or more ferment—substances which possess the remarkable property of causing by their mere presence changes in the physical, chemical, and vital properties of one or more food elements. The elements upon which these several juices are required to act are starch, proteins, fats, and sugar. In order that these substances may be absorbed, circulated, and utilized in the body, all of them must undergo very marked changes. The starch must be not only liquified but transformed first into malt sugar, then into fruit sugar; the proteins must be converted into peptone; the fat must be saponified and emulsified; and the three sugars which are most abundant in ordinary foods—cane sugar, milk sugar, and malt sugar, must all be converted into fruit sugar. Fruit sugar, which consists of levulose and dextrose, is the only one of all the several food elements which requires no preparation for absorption. It appears also that maltose may, to some extent at least, be utilized when directly introduced into the blood, although in normal digestion it is converted into fruit sugar before finally reaching the blood.

The several glands by which the enzymes or ferments which effect these changes are produced may be briefly mentioned, together with the digestive properties of the several juices which they produce.

First, the salivary glands, three pairs of which pour their secretory fluid, the saliva, into the mouth.

Second, the stomach, which is a much more complicated organ than it appears. Although there is but a single pouch, the organ seems really to divide into two parts, both anatomically and functionally—the entrance to the stomach, the cardiac orifice, and the outlet, the pyloric, which are guarded by a ring of muscular fibers. Three or four inches above the pyloric orifice may be found on careful examination a reinforcement of the circular
fibers of the stomach, which has been termed the pre-pyloric sphincter.
That portion of the stomach which lies behind this point, or the pylorus itself,
is known as the pyloric portion of the stomach. The rest of the stomach is
the fundus, corpus, or cardiac portion. The mucous membrane lining the fundus
of the stomach is filled with glands which produce pepsin, renin, and hydrochloric
acid, which together constitute the gastric juice. The pyloric portion of the
stomach produces no acid, but rather acts as a mill, in which the materials
which fall into it from the fundus of the stomach are thoroughly mixed and
rubbed together, and by means of which it is reduced to a perfectly liquid
state, then forced out through the pylorus into the first part of the small
intestine, the duodenum.

Recent study by Edkins shows that the pyloric portion of the
stomach produces a secretin which he calls gastrin, the setting free of which
is necessary for the production of pepsin and hydrochloric acid. Under the
influence of certain substances naturally contained in the food, known as
peptogenes, also the products of digestion, particularly maltose and peptone,
secretin is set free, enters the circulation, and thus gives rise to the
formation of hydrochloric acid and pepsin by the glands of the gastric fundus.
This setting free of secretin appears to be under the control of both excitatory
and inhibitory nerves.

The experiments of Pavlov, and others, have shown that gastric juice,
as well as saliva, may be made to flow in abundance by psychic influence alone,
as by the mere sight of food. (I want to read page 538 of Schafer, Vol. L.)

The opening and shutting of the cardiac pyloric orifices are
likewise controlled through nerve centers and nerves. Some of these centers
are located in the organ itself, others in the spinal cord, and still others
in the brain. The interesting fact has been noted by Opanchowski that the
impulse which, passing to the stomach through the vagus, causes the cardiac
orifice to dilate, at the same time closes the pylorus.

Four inches below the pylorus the liver and pancreas discharge their secretions into the duodenum. The bile acts directly upon the fats, saponifying them and emulsifying them, and also stimulates the activity of the pancreatic juice, which is possessed of most remarkable digestive powers, containing the digestive principle which converts both raw and cooked starch into maltose. Another which another which when emulsifies fats, and brought in contact in the small intestine with enterokinase, which is produced in the upper part of the small intestine, produces trypsin, which digests proteins, converting them into peptone. Intestinal juice converts cane sugar, maltose, and milk sugar into fruit sugars. The production of the pancreatic juice, the bile, and the intestinal juice, appears to be controlled by a substance known as secretin, which is contained in the mucous membrane of the duodenum, and appears to be set free by the acid contents of the small intestine, and entering the blood it quickly reaches the pancreas, liver, and other glands, and causes them to pour out their respective secretions in rich abundance.

It thus appears that the formation of digestive fluids is set in operation by two methods. First, by the nerves of excitation; second, by means of certain organic substances which under certain conditions are set free, and entering the circulation come in contact with the glandular structures, and in some way, not yet understood, enable them to pour out their secretions.

Recent researches, especially those of Pavlov, have shown that a third element enters into these secretory processes, namely, an inhibitory action exercised through the special nerves which, through their action, prevent the control of processes whereby secretory activity is set up and maintained.

Felix's

(Here add a summary of Tolubin's views of Protein Metabolism. Add also a study of the possible relation of these views to Atwater's observation that urea was increased under alcohol.)
The saliva contains an active principle which by contact converts starch into maltose. The process begins in the mouth and continues in the stomach until free hydrochloric acid appears in the stomach in such quantity as to suppress its action. A very small amount of free hydrochloric acid is capable of checking entirely the action of saliva upon starch, and until recently it has been believed that salivary digestion in the stomach is by this means suspended within thirty to forty-five minutes after eating; but the recent experiments of Cannon have shown that while this is true with reference to that portion of the digesting mass which lies in contact with the mucous membrane of the stomach where the hydrochloric acid is being produced, the conversion of starch under the influence of saliva may be carried forward in the center of the alimentary mass for an hour and a half, or more.
"They (the artisans and work-people generally) will live, I suppose, on barley and wheat, baking cakes of the meal, and kneading leaves of the flour. And spreading these excellent cakes and leaves upon mats of straw or on clean leaves, and themselves reclining on rude beds of yew or myrtle-boughs, they will make merry, themselves and their children, drinking their wine, weaving garlands, and singing the praises of the gods, enjoying one another's society, and not begetting children beyond their means, through a prudent fear of poverty or war."

"Glaukon here interrupted me, remarking, 'Apparently you describe your men as feasting, without anything to relish their bread."

"'True,' I said, 'I had forgotten. Of course they will have something to relish their food. Salt, no doubt, and olives, and cheese, together with the country fare of boiled onions and cabbage. We shall also set before them a dessert, I imagine, of figs, peas, and beans: they say roast myrtle-baubles and beech-nuts at the fire, taking wine with their fruit in moderation. And thus, passing their days in tranquillity and sound health, they will, in all probability, live to an advanced age, and dying, bequeath to their children a life in which their own will be reproduced.'

"Upon this Glaukon explained, 'Why, Socrates, if you were founding a community of swine, this is just the style in which you would feed them up!'

"'Now, then said I, 'would you have them live, Glaukon?'

"'In a civilized manner,' he replied. 'They ought to recline on couches, I should think, if they are not to have a hard life of it, and dine off tables, and have the usual dishes and dessert of a modern dinner.'

"'Very good! I understand. Apparently we are considering the growth not of a city merely, but of a luxurious city. I dare say it is not a bad plan, for by this extension of our inquiry we shall perhaps discover how it is
that justice and injustice must take root in cities. Now, it appears to me that the city which we have described in the genuine and, so to speak, healthy city.
(SOCRATES AGAINST FLESH-EATING)

But if you wish us also to contemplate a city that is suffering from inflammation, there is nothing to hinder us. Some people will not be satisfied, it seems, with the fare or the mode of life which we have described, but must have, in addition, couches and tables and every other article of furniture, as well as viands... Swineherds again are among the additions we shall require—a class of persons not to be found, because not wanted, in our former city, but needed among the rest in this. We shall also need great quantities of all kinds of cattle for those who may wish to eat them, shall we not?

"'Of course we shall.'

"'Then shall we not experience the need of medical men also to a much greater extent under this than under the former regime?

"'Yes, indeed.'

"'The country, too, I presume, which was formerly adequate to the support of its then inhabitants, will be now too small, and adequate no longer. Shall we say so?'

"'Certainly.'

"'Then must we not cut ourselves a slice of our neighbor's territory, if we are to have land enough both for pasture and tillage? While they will do the same of ours if they, like us, permit themselves to overstep the limit of necessaries, and plunge into the unbounded acquisition of wealth.'

"'It must inevitably be so, Socrates.'"

"'Will our next step be to go to war, Glaukon, or how will it be?'

"'As you say.'

"At this stage of our inquiry let us avoid asserting either that war does good or that it does harm, confining ourselves to this statement—that we have further traced the origin of war to causes which are the most fruitful sources of whatever evils befall a state, whether in its corporate capacity or in its individual members.'

(Book 11.) from Plato's Republic.
OVID'S ACCOUNT OF THE VIEWS OF PYTHAGORAS.

He first, the taste of flesh from tables drove,
And argued well, if arguments could move;
O mortals, from your fellows' blood abstain,
Nor taint your bodies with a food profane,
While corn and pulse by nature are bestowed,
And planted orchards bend their willing head;
While labored gardens wholesome herbs produce,
And teeming vines afford their generous juice;
And tardier fruits of cruder kind are lost,
But tamed with fire, or mellowed by the frost;

While earth not only can your needs supply,
But, lavish of her store, provides for luxury;
A guiltless feast administers with ease,
And without blood is prodigal to please.
Wild beasts their maws with their slain brethren fill;
And yet not all, for some refuse to kill;
Sheep, goats, and oxen, and their nobler steed,
On browse, and corn, and flowery meadows feed.
Bears, tigers, wolves, the lion's angry brood,
Whom Heaven indued with principles of blood,
He wisely sundered from the rest, to yell
In forest, and in lonely caves to dwell;
Where stronger hearts oppress the weak by night,
And all in prey and purple feasts delight.

O, impious use! the nature's laws opposed,
Where bowels are in other bowels closed;
Where, fattened by their fellows' fat, they thrive;
Maintained by murder and by death, they live;
'Tis then for naught that mother earth provides
The stores of all she shows, and all she hides,
If men with fleshy morsels must be fed,
And chaw with bloody teeth the breathing bread;
What else is this but to devour our guests,
And barbarously renew Cyclopean feasts?
We, by destroying life, our life sustain,
And gorge the ungodly maw with meats obscene.

Not so the golden age, who fed on fruit,
Nor first with bloody meals their mouths pollute,
Then birds in airy space might safely move,
And timorous hares on heaths securely rove;
Nor needed fish the guileful hooks to fear,
For all was peaceful; and that peace sincere.
Whoever was the watch (and cursed be he)
That envied first our food's simplicity,
The essays of bloody feasts on brutes began,
And after forged the sword to murder men.--
Had he the sharpened steel alone employed
On beasts of prey that other beasts destroyed.
Or man invaded with their fangs and paws,
This had been justified by nature's laws,
And self-defense; but who did feasts begin
Of flesh, he stretched necessity to sin.
To kill man-killers, man has lawful power,
But not the extended license to devour.
From whence, O mortal man, this gust of blood
Have you derived, and interdicted food?
Be taught by me this dire delight to shun,
Warned by my precepts, by my practice won;
And when you eat the well deserving beast,
Think on the laborer of your field you feast!

Ill systems by degrees to habits rise;
Ill habits seem become exalted vice.
What more advance can mortals make in sin,
So near perfection who with blood begin?
Deaf to the calf that lies beneath the knife,
Leeks up, and from her butcher begs her life;
Deaf to the harmless kid, that are he dies,
All methods to procure thy mercy tries,
And imitate in vain thy children's cries?
Where will he stop who feeds with household bread,
Then eats the poultry which before he fed?
Let plough thy steers, that when they lose their breath
To nature, not to thee, they may implore their death
Let geese for food their leaddadders lend,
And sheep from winter cold thy sides defend;
But neither springs, nor nets, nor snares employ,
And be no more ingenious to destroy,
Nor let insidious glue their wings constrain;
Nor opening hounds the trembling stag affright,
Nor purple feathers intercept his flight,
Nor hooks concealed in bait for fish prepare,
Nor lines to have them twinkling up in air,
Take not away the life you cannot give;
For all things have an equal right to live;
Killing noxious creatures, where 'tis sin to save;
'Tis only just prerogative we have;
But nourish life with vegetable food,
And shun the sacrilegious taste of blood.
According to Regor, a quart of beef tea or bouillon contains two-thirds of an ounce of extractives, of which more than one-third has nutritive value. The balance consists of creatin, xanthin, urea, coloring matters and mineral salts, nearly all of which are poisonous. The coloring matters are highly toxic, as shown by Bouchard. Gautier has shown that the subcutaneous injection of creatin after a while produces fatal nephritis.

According to Regor, the extract of three ounces of lean meat will kill a rabbit two and one-fifth pounds. The extract of liver is six times as toxic as that of lean meat.
THE TOXICITY OF MEAT.

"The toxicity of extracted matters is real. Extracts of meat contain 22\% to 25\% of salts of potash and 10\% to 15\% extracted matters. Their ingestion, even in moderate doses, produces intestinal disturbances, notably diarrhea. Dogs fed with extracts of meat die more rapidly than dogs which receive nothing at all. A person in health may use extracts of meat in small quantities, but it is necessary to prohibit meat extracts for invalids."—Rogers.
MEAT SUBSTITUTES.

Persons suffering from uric acid poisoning as the result of the long-continued use of flesh foods need to give a great deal of attention to diet. Gout, rheumatism, and other uric acid diseases are practically always the result of wrong eating. A man never has gout unless he eats it. One who has gout, rheumatism, or any other disease due to uric acid poisoning should avoid all foods which contain uric acid. A mistake which many make in an effort to reform is in dropping meat from the bill of fare without substituting some wholesome thing in its stead. Flesh foods consist almost exclusively of protoids. There are other foods, both animal and vegetable, which furnish protoids in a more digestible form than is found in meats. Eggs, for example, are an excellent protoid food. An egg contains everything which is to be found in a chicken with the exception of uric acid.

Beans, beans, and lentils contain a larger proportion of protoids than is found in beefsteak. In the moist form in which these are served at the table, the proportion of protoid is, of course, less than in meat. A pound of baked beans, for example, contains from one-third to one-half as much protoid as an equal weight of beefsteak; but this is no disadvantage, for beefsteak is always taken with other foods which contain little protoids as, for example, potatoes, rice, or other carbonaceous foods. Beans also are excessively rich in protoids, and should be eaten with potatoes or other carbonaceous food.

Nuts are of all foods the most perfect analogue of meat. They contain both protoids and fats in large proportion. They are a perfect substitute for meats. If taken raw it is only necessary that they should be very thoroughly masticated. They are more digestible when crushed or prepared in some one of the numerous ways in which nuts are
now offered as foods. Protose and Nuttolene are perhaps the most digestible of all the nut products which are at present offered. Milk is also a proteid food which may be substituted for meat. With many persons, however, raw milk does not agree. Such persons may use buttermilk or cottage cheese.

The recent observations of Horace Fletcher indicate that most people are suffering from an excessive consumption of proteids. His experience and that of others clearly indicate that a cereal like wheat or corn contains proteids in ample proportion, so that one may live for an indefinite length of time on a diet consisting of any good preparation of wheat or corn with a small amount of fat, one ounce and a half to two ounces daily, and fruits.

V-5-17-4--3jhk.
Trainers of athletes are coming more and more to see the truth in relation to
the unwholesome influence of a meat diet upon strength and endurance. At least many
of them are becoming convinced that a large amount of meat is not essential in the
training of men for athletic contests. In a recent article in Die Umschau, Dr.
Theodor Siebert, a well-known German trainer, gives an account of a very strong man
whose diet was very simple. He ate moderately and took very little meat. Dr. Sie-
bert says:

"One of the strongest men I ever knew was the famous wrestler, Ernst Beerer,
known professionally as Ernst Siegfried. This young man came to me at the age of
twenty, and trained three months in my establishment. He's height was 6 feet 1½
inches, and his weight 191 pounds. He was very thin, and his bones were surprisingly
large. He trained very diligently and increased greatly in strength. His diet, se-
lected by himself, consisted chiefly of vegetables, bread and milk, with little meat,
and his appetite was good but not enormous. Unfortunately I did not weigh his food.
His evening meal consisted usually of less than two pints of sour milk with a little
sugar, bread and butter. On this diet Siegfried developed a degree of strength in
the hands, legs and back that I have never seen equaled, and that put him in the
very first rank of wrestlers, although he was not distinguished by great skill or
quickness of movement."
Among the most curious and in some ways most remarkable of the primitive tribes of Mexico are the Tarahuamaris, who inhabit the highest parts of the Sierra Madre range of the Rockies. According to the Scientific American, the Tarahuamaris live in small villages at an elevation of more than eight thousand feet. Many of them live in caves in the rocky mountain side.

A native Tarahuamari is small in body but possessed of most phenomenal endurance. A native has been known to carry a government dispatch a distance of three hundred miles and back in five days, carrying his food with him and threading his way among crags and peaks, along the sides of precipices, fording mountain torrents, never traversing a level space other than the beds of rivers, and using no stimulant of
Maize-Eaters -2

of any sort.

The diet of these mountain runners consists almost exclusively of maize—nothing more, except now and then a banana or an orange, a cocoanut or a few olives. It is an interesting fact that the negro porters of Africa, who perform perhaps the most arduous tasks of any class of laborers in the world, are fed on essentially the same fare, rarely taking flesh.

The Tarahuamarcas are a very primitive race. They have been so long and so completely isolated that they have not kept march with the progress of their neighbors. Their language is said to consist of only three hundred words. They are evidently a primitive people whose wants are few and who have not yet been touched by the degenerative influences of our modern civilization. Their marvelous endurance on a fleshless regimen affords another illustration of the advantages of a natural dietary.

The Diet of the Aboriginal Americans.

The idea that the American Indian when discovered by Columbus was practically carnivorous in his habits is widely prevalent, but really has no proper foundation in fact. Even as late as fifty years ago, after the Indians had been very much disturbed by frequent movings from place to place by the United States Government, the Indian still subsisted largely upon his original diet of corn. Parched corn broken up with a wood pestle in a mortar and known as tom fulla, at least by certain tribes, was the principal diet not only of the Indian when in camp, but of the hunter as well in his chase for game. Many of the frontiersmen of half a century ago proved the value of this food when on their long trading expeditions among the various tribes. The writer obtained detailed information upon this subject years ago from a man who had lived among the Indians of the Indian Territory as an Indian trader for many years before the Civil War.
Aboriginal Americans-2

Some new evidence on this subject has recently come to light. Ida A. Clute writes as follows in the Farm Journal:

"It may interest others, as it did me, to learn, from good authority, that as early as the time of Sullivan's invasion of western New York, the Indians were raising corn of a very superior quality. Sullivan's soldiers, in their raids, found ears of corn measuring twenty-two inches in length, and the first sweet corn ever seen in New England was carried there from the Indian village of Beardstown by one of the soldiers.

"The Senecas raised, also, squashes, melons and beans in large quantities.

"They had apple and peach orchards, the sites of which are still marked by single trees or by small groups which have escaped destruction. These were raised from seeds or sprouts, and in the same way pears had been introduced, though not so extensively. The wild fruits, plums, grapes, and cranberries were found cultivated extensively."
APPENDIX 3 - 10pt. Gramp. caps

THE CASE AGAINST MEAT EATING

Dr. J.H. Kellogg, M.D. 10pt. C + SC

Publisher and Medical Director of Battle Creek Sanitarium; Founder
of Miami-Battle Creek (Miami Springs, Fla.); Founder and President
Emeritus Battle Creek College; Editor, Good Health magazine; member of
Michigan State Board of Health; originator of the electric light cabinet
bath. Author of Rational Hydrotherapy (1900); Light Therapeutics (1910);
Colon Hygiene (1912); The New Piestetics (1921); Tobaccoism (1922);
The Natural Diet of Man (1923); How to Have Good Health (1923).
THE CASE AGAINST MEAT EATING

The limited space assigned for the discussion of this subject will permit only a concise summary of authenticated facts with very brief comments.

Meat is not the natural diet of man.

Each species of animals subsists upon the foods to which it has through long ages of development become adapted in structure and function. This is a fundamental and indisputable biologic fact. A classical grouping of animals divides them according to their eating habits as carnivorous, herbivorous, granivorous, frugivorous and omnivorous. A well-trained naturalist finds no difficulty in assigning to its proper class any new or strange animal which he may encounter by simple examination of its teeth and other obvious characteristics. Indeed, the adaptation of structure to function in animals is so definite and perfect that a zoologist can readily determine the dietetic habits of an animal by examination of its skeleton even though its bones may have been buried in the earth's crust for thousands of years.

If we then for a moment divest our minds of all knowledge and preconceived opinions concerning the natural dietary of the genus homo and place a man before a body of zoologic experts and ask the question, "What shall we feed him?" the reply would unquestionably be the words of the great French naturalist Cuvier, "The natural food of man, judging from his structure, appears to consist of fruits, roots, and other succulent parts of vegetables; and his hands offer him every facility for gathering them. His short and moderately strong jaws on the one hand, and his cuspides being equal in length to the remaining teeth, and his tubercular molars on the other, would allow him neither to feed on grass nor devour flesh, were these aliments not previously prepared by cooking."
The chimpanzee and its relatives, the orang-utan, the gorilla and the gibbon are primates. All primates feed upon plant products. Man is likewise a primate. All horses eat the same sort of food alone, as do all sheep, all lions, all animals of any class. We do not find one horse eating hay, oats and corn while another eats cats, grasshoppers and rodents.

Evidently, in eating meat, man has turned away from his own natural bill of fare and chosen that of another class to which he does not belong. Prehistoric man, who roamed the ancient forest with his primitive relatives, the chimpanzee and other anthropoids, was not an eater of meat. Says Prof. Elliott:

"Moreover, there was not, so far as we are aware, any carnivorous creature in the Eocene period, or one which might have been a serious enemy."

Said Dr. Ami, author of the Geological Geography of North America, one of the world's greatest living anthropologists, in a public lecture: "The diet of the human race in its earliest history did not include flesh in any form. All paleontologists agree that man did not become a flesh eater until after the arrival of the Glacier Period, when the great forests of nut trees and wild fruits, which had previously constituted his chief food resources, were destroyed by the great ice cap which crept down over the northern hemisphere."

The Heidelberg jaw, believed to be at least 200,000 years old, one of the oldest and most perfectly preserved of human relics, is recognized as taurident or vegetable-feeding in character.

Most Human Beings Eat Little or No Meat

It is a significant fact that by far the great majority of
the human race still adhere to the original bill of fare and are plant feeders. Two hundred million Hindus in India, most of the four hundred millions of China, the teeming millions of Central Africa, probably more than half the whole human race, either never eat meat or eat it in such small quantities it cannot be considered a necessary part of their bill of fare.

The race memories of prehistoric times as preserved in the most ancient writings and in myths and legends of the oldest civilized nations agree in picturing primitive man as a plant feeder.

"The oldest races of animals are plant feeders!" (Dryden)

It is likewise a significant fact that among those living races of animals whose origins date farthest back in geologic time, the oldest are plant feeders. In this group are to be found such ancient types as the elephant and its relatives as well as the anthropoids and man.

This tendency to degeneracy may be clearly discovered also in some living races. The most degenerate types are not to be found among plant feeders but among large eaters of flesh such as the Kamchatkadales, the Tierra del Fuegians and the Eskimos. The finest living types of homo sapiens are to be found among plant feeders such as the natives of the South Pacific Island discovered by Captain Cook and the Hunzas of Northern India described by Sir Robert McCarrison as the finest specimens of the human species he had ever seen.

A notable fact is the striking difference in degenerative tendencies between the highly civilized white races and the less advanced yellow races. Recent statistics show that depopulation through physical decadence has so steadily advanced during the last one hundred years in England that if continued for another century at the same rate the population of England will be reduced from 40,000,000 to 4,400,000, and a similar if less rapid decadence has been recently shown to exist.
in every highly civilized country, not excepting the United States. On the other hand, in Japan and China, the natives of which are practically plant feeders, consuming only 1 to 4 pounds of meat per capita annually, no such depopulation tendency exists. The increase of population in Japan is so rapid that that country is at the present moment making desperate efforts to find room for its growing millions.

Meat is an inferior food. While admitting, then, that meat is a substance which may be utilized as a food, there is not the slightest ground for giving it preference to other foods and still less for considering it a necessary or essential food. The truth is that while meat is in general easily digestible and readily assimilable, it is nevertheless an inferior food and one which should be used if at all only in emergency and certainly not as a staple food.

Orientals have flourished for thousands of years on a fleshless diet. With few exceptions, they still adhere to the simple, natural dietary, which has served them so well for many thousands of years, and although China and India have behind them the longest history of any civilized nation, they still retain practically intact their primitive national vigor, notwithstanding the almost entire lack of the protection afforded by modern organized sanitation, which has rendered possible the development of our Western civilization to its present high status. It is not to be forgotten, however, that sanitation with its prophylactic and protective influence is a priceless boon in saving human life, it is nevertheless a powerful factor in promoting race degeneracy through its preservation of the unfit.

In the most populous portions of the celestial empire, meats, including fish, are so little used that they are not mentioned in national food budgets, and the same may almost be said with reference to milk and eggs. The glycine of the soybean has enabled this humble
legume, known in China as "the little honorable plant," to furnish to 400,000,000 people an adequate supply of protein of the finest quality, equal to milk protein in nutrient value and superior to meat proteins of every sort.

**Human beings have no natural liking for raw flesh, and young children usually refuse cooked flesh until taught to like it.**

It is a significant fact that young children acquire the appetite for meat through training, or following the example of their parents and that not infrequently a child's aversion to meat is so great that the habit of eating it is never acquired. Said the late eminent Sir Henry Thompson, "Few children like that part of the meal which consists of meat. I am satisfied that if children followed their own instinct in that matter, the result would be a gain in more ways than one."

John Evelyn, the diarist, contemporary with the famous Pepys, wrote, "Children choose to eat fruit rather than flesh, and might persist in so doing if custom did not compel them against the dictates of nature."

The preference shown for meat by those accustomed to its use is due to its flavors, the so-called "osmazomes" of the older writers on dietetics. As a nutrient, it is inferior because greatly lacking in several important food essentials, particularly in vitamins and calcium. Meat is deficient in most of the vitamins; in fact, it is not a good source of any of these highly essential food factors. This is naturally the case for the reason that vitamins are plant products and are produced in animal bodies, if at all, in only very small amounts. The vitamin content of cooked meats is still less, since most of the vitamins are impaired by cooking and some are destroyed.
Meat lacks calcium. A pound of beef, for example, contains less than half of one grain of lime, only about one-twentieth of the daily food requirement. This is due to the fact that the distribution of the lime in the body is very unequal, 99 per cent of all the lime intake being deposited in the bones.

While deficient in calcium and other basic or alkaline substances, meat contains a large excess of phosphoric acid. As a result, its free use tends to cause acidosis, a condition which favors the development of arteriosclerosis, high blood pressure and disease of the kidneys.

Newburgh, of the University of Michigan, produced arteriosclerosis in rabbits by the addition of meat powder to their diet. He also produced acute Bright’s disease in rats by meat feeding.

Herbert Fox, Director of the Laboratory of Comparative Pathology of the Philadelphia Zoological Garden, observed that while arteriosclerosis is much less frequently developed in lower animals than in human beings, post-mortem examination made of animals that died after having been for some years in the collection showed a marked difference between carnivorous and herbivorous. Disease of the kidneys and arteries was found to be confined almost entirely to carnivorous animals.

Carnivorous animals are adapted to a flesh diet; man is not. Carnivorous animals are in both structure and function better adapted to a flesh diet than are human beings and other primates. The dog, for example, is equipped with a liver four times as large in proportion to its body weight as is the human liver. In addition, the liver of the dog and other carnivorous animals converts uric acid into urea, whereas the human liver, like that of higher apes, does not. This explains the pronounced effects of meat eating as a cause of gout in human beings. In view of the fact that beefsteak and chops contain
14 grains of uric acid to the pound and sweetbreads 70 grains to the pound (Hall), it is evident that the body is very poorly prepared to defend itself against injury from foods of this character. This is still more apparent in view of the observation by Dr. Fox that the poison destroying glands of internal secretion—pituitary, adrenal and thyroid—are larger in cats, dogs and eagles, flesh-eating animals, than in man and other animals that are non-carnivorous.

Another adaptation to meat eating which human beings and other primates do not possess is found in the relative length of the colon, which, as pointed out by Metchnikoff, is in carnivorous animals short in proportion to the length of the body (one to four), is much longer in plant feeders (10 to 30 times the body length), the same as in the chimpanzee. The short colon of carnivorous animals is evidently intended to be a partial protection against the absorption of poisons from putrefying food residues remaining long in the colon. The stools of carnivorous animals are always highly putrefactive and malodorous.

It is thus very clear that man is a low protein feeder; hence not adapted to the use of flesh foods, since the intake of protein by meat eaters is almost invariably much greater than they can utilize. Meat eaters suffer from protein poisoning. Folin, Professor of Physiologic Chemistry of Harvard University, many years ago called attention to the fact that when the intake of protein is greater than is needed for replacement necessitated by tissue wear and tear and other very limited uses, the surplus must be at once converted into urea by the liver and eliminated by the
kidneys, no provision being made for the storage of surplus protein as in the case of carbohydrates and fats. When the intake of these fuel foods is greater than needed to replenish the fuel supply of the body, the excess is stored up beneath the skin and in other places as adipose tissue and held in reserve for future needs.

These well-known physiologic facts show clearly the great importance of carefully limiting the protein intake to the needs of the body, making, of course, a liberal allowance for the body's requirements while carefully avoiding so great an excess as to burden the liver and kidneys; for these organs have to deal promptly with the surplus intake to prevent the "protein poisoning" which in some degree always results when an excess of protein is eaten.

Stefansson relates an incident in which a number of men became very ill and several died from acute inflammation of the kidneys—"an illustration of the generally accepted fact that a diet consisting almost entirely of protein leads to 'protein-poisoning,' which is poisoning only in the sense that illness results because the kidneys are overtaxed with trying to excrete the excess nitrates. This leads to nephritis. Bright's disease may in many cases, perhaps the majority, be justly regarded as chronic protein poisoning. There are of course other causes of renal damage. These naturally tend to increase the susceptibility to protein poisoning.

That ordinary meat, steak, chops, etc., do not meet the general nutritive needs of the body, is clearly shown by Stefansson's observations in the Arctic regions. Even though
enormous quantities of food were eaten, hunger was not relieved. The Indians, although supplied with rabbits in abundance, called their diet "starvation" because their hunger was not at all appeased.

Meat eating does not promote strength. The strongest animals in the world, the elephant, the rhinoceros, the hippopotamus, the camel, are all vegetable feeders. The giant sloth, the megatherium, the mammoth, and most of the huge reptiles, the mightiest beasts which ever roamed the surface of the earth, were plant feeders.

Milo, a disciple of Pythagoras, whose mighty prowess is still remembered after more than twenty centuries, was, like his master, a flesh abstainer. The athletes of ancient Greece and the gladiators of ancient Rome were trained on barley cakes and wheat.

The Arab laborers who constructed the Suez Canal lived upon wheat and dates; and De Lesseps, the great engineer who projected and successfully completed this remarkable work, was so impressed by observing the superiority of the wheat-fed Arabs over the beef-fed Englishmen engaged in the same work that he became a flesh abstainer and an earnest advocate of the fleshless regimen, and continued so until his death many years later.

Meat eaters are notably inferior to plant feeders in endurance. This toxic effect of high protein feeding affords a clear explanation of the superiority of flesh abstainers and plant-feeding animals in feats of endurance. For example, Theodore Roosevelt, in his East African hunting expedition, observed that a horse with a heavy man on his back could al-
ways run down a lion fleeing for his life in a mile and a half. Even such carnivorous animals as dogs have greater endurance and are better hunters when not fed meat. When I asked a Highland shepherd what he fed his dogs, he replied, "The same as I eat myself, sir;—broke, bannocks, and potatoes." When asked his reason for not feeding meat to his dogs, he said, "Because they would have nae so guid wind."

On inquiry of an Oregon bear hunter about the feeding of his pack, he replied that he gave them only potatoes and oatmeal, declaring that he never gave them meat. When asked for his reason for withholding meat, he replied, "Because they can not run."

Karl Mann, a grocer's clerk not professionally trained, competing in a government-supervised walking race from Dresden to Berlin, 123 miles, against the picked pedestrians of the German army and several professionals, won easily on a fleshless diet consisting of nuts and fresh vegetables which he pulled out of the vegetable gardens as he hurried by. The only protein he ate was derived from nuts.

The famous pedestrian, Weston, informed me that on his long walks he never ate meat, and on his walk across the continent lived on cereal flakes and milk.

The Tarahumari Indians of Mexico are the most tireless runners in the world. Their ancestors were the dispatch runners of Montezuma in pre-Columbian days, and they still adhere to the simple plant regimen of their forebears. A government record shows that one of these runners carried a dispatch a distance of 400 miles in three days over a roadless
mountainous region.

The feats of endurance performed every day by rice-eating jinrikisha men are well known. Baeltz, a German army surgeon, testing the endurance of a couple of jinrikisha men who subsisted on rice barley and potatoes, offered them meat; which they ate with relish, but after a day or two discarded it because they found it impossible to do their task.

Some years ago Professor Irving Fisher made a comparative test of endurance of meat eaters and non-meat eaters, the following brief account of which we quote from a compendious work on dietetics by Professor William E. Fitch, M. D., of the Vanderbilt Clinic of the College of Physicians and Surgeons of New York City:

"Fisher carried out some comparative endurance tests between sixteen meat eaters (students from Yale University) and thirty-two vegetarians connected with the Battle Creek Sanitarium. The latter had been vegetarians from four to twenty years. They not only abstained from meat, but also from coffee, tea and condiments; and they were teetotalers and non-smokers. The endurance tests were as follows:

1. Squatting on the heels and rising thence to upright position as many times as possible.

2. Holding out the arms fully extended for as long a time as possible."
The results are shown in the following table:

FISHER'S COMPARATIVE ENDURANCE TESTS

<table>
<thead>
<tr>
<th></th>
<th>Meat Eaters</th>
<th>Vegetarians</th>
<th>Percentage of Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee bendings</td>
<td>383</td>
<td>846</td>
<td>121%</td>
</tr>
<tr>
<td>Holding arms out</td>
<td>10</td>
<td>49</td>
<td>390%</td>
</tr>
</tbody>
</table>

"According to the result tabulated above, the standard of meat eaters is shown as 100, while the endurance of the vegetarians is from 121 to 390, and we may therefore draw the conclusion that strength and endurance have nothing to do with the consumption of generous quantities of protein, as was formerly a matter of faith. Furthermore, it is an admitted fact that great endurance is possible on simple food of low protein value, in support of which we may cite the example of the Japanese and the Arabs."

How meat eating lessens endurance

The physiologic explanation of the superior endurance of flesh abstainers is simple and conclusive. Endurance is controlled by fatigue poisons, and the poisons which produce fatigue have three sources: (1) Chemical changes which occur in the muscles themselves during exercise. (2) Mineral acids and other fatigue-producing substances swallowed in the food. (3) Poisons produced by proteolytic bacteria, which give rise to the putrefaction of unabsorbed protein in the colon. Poisons of the second and third classes are derived from protein, which by introducing an excess of phosphoric acid lowers the alkalinity of the blood and so lessens its power to neutralize lactic
acid produced during muscular activity, which Hill, the English physiologist, has shown may be produced at the rate of one dram per second by a speedy runner. When flesh is eaten, from 8 to 15 per cent of it escapes digestion and, while lying in the colon awaiting evacuation, undergoes putrefaction.

Dr. Lee, Professor of Physiology of Columbia University, tested putrefaction products sent to him by Christian Herter and found them to be powerful fatigue poisons.

In view of these facts it is evident that a meat eater enters an endurance test seriously handicapped by the fact that his blood is already to a degree saturated with toxic matters which cause fatigue, so that the limit of his endurance will be reached much more quickly than in the case of the flesh abstainer, whose blood alkalinity is high and his tissue fluids free from colon poisons.

Meat Eating Lowers Resistance to Disease — The same poisons which lessen endurance, thereby lowering efficiency, likewise lower resistance to disease and shorten life by encouraging senile changes such as changes in the arteries, the heart, the liver, kidneys and other glandular structures.

Captain Sanderson, director of the elephant service of the English army in India, who for fifteen years hunted wild animals in the tropical jungles, observed that lions usually died of blood poisoning after slight wounds, whereas wild buffaloes recovered after being terribly torn by predatory beasts. After having become disabled by chronic jungle fever, he recovered quickly and found, as he said, that when he followed the monkey in diet, he could follow him anywhere
and could live wherever the monkey could live. His general-
ization was of course too sweeping. Abstinence from flesh
will not insure immunity.

**Meat Eating Raises Blood Pressure**—Dr. Hunter, in studying
the influence of meat eating on blood pressure, showed
the systolic blood pressure to be 10 points higher in flesh
eaters than in flesh abstainers. He was led to make his re-
search by the fact that agents of the New York Life Insurance
Company, of which he is the chief actuary, reported finding
the blood pressure of the average Chinaman to be 8 points
lower than that of the average American.

In concluding his paper Dr. Hunter says: "Taking the
population of the United States as a whole, I believe that a
better-adjusted diet, with less animal food, would result in
a lower blood pressure and in greater longevity with an equal
ability to carry on their occupations."

A non-flesh diet increases life expectation and lowers
insurance cost. I think it proper to mention in this con-
nection the fact that a large group of employees at the
Battle Creek Sanitarium who are for the most part flesh ab-
stainers or make very little use of meat, are, because of
their health record, insured by a standard life insurance
company at a cost 20 per cent below the regular rate.

The Arabs of a large extent of North Africa live chiefly
on dates and milk. Their agility, endurance, and health are
extraordinary.

Some years ago (1899) the Emperor of Japan appointed a
commission to determine by investigation whether it was
necessary to add meat to the national dietary to improve the
physique of the race, especially to increase their stature. As regards the use of meat, the commission reported "that the Japanese had always managed to do without it, and that their powers of endurance and their athletic prowess exceeded that of any of the Caucasian races."

Commander Donald MacMillan, the famous arctic explorer, stated to the writer that "the Eskimo is short-lived. He goes to pieces at fifty, his teeth fall out, and he becomes decrepit and worthless and rarely lives beyond sixty years, never beyond sixty-five."

The arctic traveler Stefansson said to me in my office: "I do not claim to have proven that a man can live better or longer on a flesh diet, but only that he can live. Of course, the scientific argument is against such a diet."

According to McCarrison, the finest examples of physical development and vigor are to be found among the flesh abstaining Hunzas, natives of North India, "an example of a race unsurpassed in perfection of physique and in freedom from disease in general, whose sole food consists to this day of grains, vegetables and fruits, with a certain amount of milk and butter, and goat's meat only on feast days. During seven years of medical practice among these people, he found appendicitis unknown, as well as cancer, colitis, gallstones and peptic ulcers.

Meats Not the Best Sources of Blood-Building Minerals

The very generally held idea that meat is especially needed by persons suffering from anemia and malnutrition, because of its richness in iron, is not justified by the facts concerning the mineral contents of meat and the results of feed-
ing experiments with both animals and human beings. It is true that meat contains a larger percentage of iron than most foods. It is also true that there are 25 common vegetable foods which contain as much iron as beefsteak, and in many cases more. All the whole-grain cereals are richer in iron than is meat. An egg contains as much iron as an equal weight of meat, and the yolk of egg, beans and lime beans, more than three times as much. Dates are richer in iron than is meat, and the delicious avocado affords a percentage of iron more than twice as much as does meat.

Sherman and von Noorden, eminent authorities on nutrition, clearly demonstrated the superiority of fruits, cereals and vegetables to meat as a source of food iron. Says von Noorden: "If we limit the most important sources of iron—the vegetables and the fruits—we cause a certain sluggishness of blood formation."

Sherman presents convincing evidence that iron from plant sources is more readily assimilated than that from flesh foods. Plant products are equally superior as a source for copper, now known to be a necessary accompaniment of iron for blood-building. This is a matter of much importance, since copper is as essential as iron for blood-making. Although it is not a constituent of the red blood cells, as is iron, it is necessary to serve as a catalyst in enabling the body to utilize iron in blood-making. According to Sherman, meat contains only one part of copper in a million, whereas dried fruits and cereals contain four or five times as much copper; legumes, nine, and nuts more than eleven times as much as does meat.

The above facts prove most conclusively that vegetable
sources of blood-making minerals are far superior to meat as sources of blood-building minerals.

Meat Consumption Diminishing.—Not only have modern nutrition researches clearly demonstrated that meats are not superior to plant products as nutrients, but much indisputable evidence has accumulated in recent years which associates it as a causative factor with grave diseases of various sorts; it is not surprising that there has been since the beginning of the present century a notable decline in its use in spite of extraordinary efforts made by the promoters of the livestock and meat-packing industries to increase the consumption of meat.

Meat-Eating Spreads Parasitic Infection.—There are in the United States today not less than ten or fifteen million human beings who have become infected by trichinosis and are carrying in their muscles millions of trichina worms with which they have become incurably infected through eating the flesh of hogs who acquire the parasites through their cannibal habits and the eating of garbage. The trichina parasite has been a menace for more than half a century. No effective means have been adopted to prevent its spread among either hogs or human beings. If an equally serious source of injury were associated with the potato, the cabbage, carrots or any other ordinary plant food, its use would have been discarded long ago, perhaps even forbidden by law. The popular predilection for bacon and vested financial interests appear to be the only reasons for this astonishing tolerance.

Meats of all sorts are purveyors of parasites. Tape-
worms of various sorts are acquired only through the eating of meat. Still more extensive infection with parasitic bacteria is chiefly chargeable to the use of meat. This is the source of the pernicious bacteria to which colitis, appendicitis and other intestinal infections which cause an endless amount of misery and an increasing number of deaths in this country owe their origin. Mr. Tissier states that during seven years extensive surgical practice in the state of Hunza, North India, he found appendicitis entirely unknown.

All Fresh Meats Infected with Colon Germs—The observations of Tissier showed plainly that all meat becomes infected with colon germs in the act of slaughtering. This is not surprising in view of the fact that surgical cleanliness is not observed in the slaughtering of animals. The carcass is smeared with filth, to the slaughtering floor, and thence directly to the chambers where they are hung to undergo the "ripening" process, which in part consists in the spreading of the colon germs, with which they have become infected, throughout the entire carcass. Fresh meats are always found swarming with these germs, and when meat has been kept long enough to become tender, as usually served in hotels, the number may amount to a million or more per gram, or half a billion to the pound. Hamburger steak, liver, and game usually contain one to ten million colon germs to the gram.

There are strict ordinances everywhere against purveying colon germs in water and milk, and many other foods, but no bacteriological standard has been established for meat,
notwithstanding the fact that uncooked meat products are always infected with germs of a dangerous and highly infectious character. Some years ago, an attempt was made to establish as a standard for sausage 1,000,000 bacteria per gram, or 30,000,000 to the ounce. The attempt was abandoned, however, when it was discovered that such a standard would require the condemnation of a large share of the products of this sort now offered for sale.

Recently, another attempt to standardize meats bacteriologically has been made by the Board of Health of the city of Seattle, Washington, which passed an ordinance prohibiting the sale of hamburger steak containing more than 10,000,000 bacteria (colostrum germs) per gram.

Ordinary cooking lessens the number of bacteria found in meat to a variable extent, but does not completely destroy them. In rare roasted meats the number is sometimes increased, the heat being only sufficient to accelerate growth.

Sanitary authorities condemn water as unfit for domestic use when it contains two colon germs in 100 c.c. (3½ ounces) of water. Live colon germs are no more wholesome in roasts or sausages than in water.

One of the chief sources of injury through the use of meat, from a bacteriological standpoint, may be traced to the enormous development of the pernicious "meat bacteria" (Herter) which takes place in the undigested remnants of meat while awaiting evacuation in the colon. According to Strassburger, the average production of these poison-forming organisms in the average colon of meat eaters is not less than 300,000,000,000,000 every 24 hours. Ordinary stools consist in considerable part of dead bacteria.
According to Prof. A. B. Macallum of McGill University, the poisons produced by intestinal putrefaction through failure on the part of the intestinal mucous membrane to prevent their absorption, may become the cause of arteriosclerosis, hepatic cirrhosis, acute yellow atrophy of the liver, nephritis in some of its forms, angina pectoris, senile dementia and de-mentia praecox."

All pathologists may not agree with Prof. Macallum as regards the specific effects of the colon poisons, but an increasing number of both pathologists and clinicians are becoming thoroughly convinced that alimentary toxemia is a factor of first importance in the causation of chronic disease.

Prof. Macallum is calling attention to the way in which the wall of resistance against parasites and poisons which nature has provided in the lining membrane of the intestine may be broken down by the prolonged attack upon it of countless billions of pernicious bacteria and an overwhelming flood of virulent toxins resulting from their activity, showing that the colon may become a veritable Pandora's box of maladies.

Being normally intended to transport and discharge from the body the innocuous residues of a non-putrefactive dietary, the colon, when required to harbor for many hours or even days the putrefying remnants of animal flesh swallowed in a state of more or less advanced decomposition, becomes, as Prof. Macallum well said, "a portal through which a host of toxic substances enter the blood stream and carry potent causes of degeneration and disease to every part of the body." The liver, the glands of internal secretion, the skin and the kidneys, which defend the body by destroying and eliminating..."
"I was a flesh eater. I ate the dead bodies of animals and fish, the scavengers of the sea. I was afflicted with sciatica and other ills; but now that I have changed my diet and become a vegetarian, my former ailments have disappeared. So, physically, I am in a better condition to live much longer than before."

The eminent Chinese statesman continued the fleshless diet until his death, at the age of 80 years, from pneumonia, due to extraordinary exposure.
THE BACTERIA OF MEATS

Pernicious bacteria of various sorts abound in meat. The reason for this is that meat affords just the sort of nutriment that disease-and poison-producing germs require for food. Beef tea or bouillon is much used as a culture medium by bacteriologists in cultivating this class of organisms. In the process of slaughtering the flesh of animals is always infected. None of the precautions for asepsis taken by the modern surgeon in his operations are observed even in the very best slaughtering establishments. In the process of skinning the warm, raw flesh is thoroughly infected and the bacteria spread rapidly through the whole carcass. This process begins immediately after the death of the animal and continues, the number of bacteria constantly multiplying, until the flesh is eaten or otherwise disposed of. Even at temperatures close to freezing, the bacteria continue to grow. As meats are practically always kept for a few days, "hung," to permit it to "ripen" and become tender, all fresh meats contain the bacteria of putrefaction and usually in prodigious numbers.
AND THE VEGETARIAN CHICKENS

THRIVED

The Battle Creek Sanitarium Pure

Food Henrery Produces Unprecedented Results.

When Dr. Rettger, Professor of Bacteriology at Yale University, several years ago called attention to the fact that on an average, every seventh egg, as eggs go, is infected with dangerous germs, it set the Superintendent of the Sanitarium thinking.

One of the great aims of the Sanitarium is to provide its patients with food free from objectionable germs as one of the best means of helping men to get well. Of course there are harmless germs and even friendly germs, but this sort does not flourish in either eggs or meat. Fortunately, they do flourish in a perfectly marvelous way in milk, especially when the right kind of germs are planted, particularly the B. Acidophilus, the most friendly and useful germ yet discovered.

Dr. Kellogg had informed the commissary department of the Sanitarium of the sad state of infection of the American egg and every possible precaution was taken to secure for the patients the very best and freshest eggs possible. Special arrangements were made with producers of eggs to deliver the freshly laid product at the Sanitarium with as little delay as possible. But in spite of all the care taken, now and then the mischief-making micro-organisms made their disgusting presence known in unmistakable ways to the discomfiture of cooks and dietitians. Something must be done. Why discard meats, fish, flesh and fowl, "sea food" included, and maintain a special dairy to produce milk of "certified" quality at double the cost of commercial milk if the egg was to be permitted to bring in its filthy germs to reinfect the patients whose floras had been "changed", and a full
stock of "friendly" germs established in their colons?

Evidently something must be done. The only solution of the problem to be found after some years of study, was a "certified" henery. That is, the production of eggs under such conditions as to insure freedom from the bad germs B. Pullorum and other mischief makers found by Professor Rettger and others, which had been shown not only to be the cause of decay, nastiness and other bad qualities in eggs, but of fatal diarrhea in children and troublesome bowel disorders in adults.

The idea was not altogether new, for it has long been known that eggs and chickens readily take on the flavors of the food on which the fowls are fed, and so we have heard of "sunflower" eggs, "lobster" flavored eggs, "milk fed" chickens, etc. That chickens ordinarily find much of their food in barnyards is so well known that "barnyard fowl" is a common name for the domestic hen. With its ordinary diet of filth, carrion, food remnants, meat scraps, stale fish, meat scraps, oysters, lobsters, putrid meat meal and other germ infested matters, how could it be otherwise than that the hen should be thoroughly infected with germs and that the eggs issuing from such filthy surroundings should likewise carry germs not only upon their exteriors but inside their shells as well.

And so early this spring, The Farm Committee of the Sanitarium made arrangements for the establishment of an extensive egg factory in connection with the fine dairy of registered Holstein cows now owned by the institution. Several thousand chickens were hatched in incubators and suitable nurseries were provided for them under the advice and supervision of Professor Burgess of the State Agricultural College, a
specialist in all that pertains to the rearing and care of fowls. When the Professor came down for his first inspection of the young flock numbering nearly four thousand about ten days' old, his first question was, "How many have you lost?" When informed that less than four per cent of the young chicks had died, he was much astonished. He could hardly believe the report. But when he himself recorded the fact that of the last 1200 hatched, only seven died, about one-half of one per cent, he could no longer doubt.

Said the Professor, "This is truly astonishing - in all my experience I have never seen anything like it. The usual loss under similar weather conditions is twenty-three to thirty-seven per cent. At the college our best results have been fifteen to twenty-eight per cent. The average throughout the state is about thirty per cent."

The Professor at once set about to find the cause for this remarkable difference - one-half one per cent instead of thirty per cent, which meant the saving alive in the lot of twelve hundred of three hundred fifty-three chickens, worth not less than $850.00, or more than enough to pay the total expense of raising the whole twelve hundred. He found only one particular in which the care of the Sanitarium chickens differed from that given chickens at the College and throughout the state. They received no meat scraps. Their whole diet was buttermilk for the first two days, then buttermilk and bran. After a week they were given oatmeal in addition.

And how those chickens have grown. At five weeks the cockerels are crowing lustily and weigh twenty ounces! The Professor declared he never saw anything like it.

Meat scraps are no longer fed the chickens at the Michigan Agricultural College; and when a farmer writes in for instructions
about feeding meat scraps to the chickens, the answer he gets is, "Put the meat scraps around the currant bushes."

**Moral:** The hen, though counted a meat eating animal, is a better hen when she eats no meat. The same is true of the dog. The inference is inescapable that man, who is naturally a non-flesh eater, is certain to be a better man if he eats no meat.

Professor Elliot of Oxford University, England, assures us in his great work, "Prehistoric Man", that in the Eocene period, when the earliest traces of the human race appeared, "There were no carnivorous animals." The meat eating animals may be degenerates. Perhaps they might be reformed. May be the human carnivores will reform in time and profit as much by their return to biologic living as the chickens have.

And the Professor says those chickens will be laying well in July, and will keep on laying all winter if their present plan of feeding is kept up.

More later about the vegetarian hens and sanitary eggs.

Here is the official report of Professor Burgess of the Agricultural College:

"A change of plan in feeding has been made. Heretofore, we have used the common commercial meat scrap as a source of animal protein in the rearing of young chicks. The mortality rate in the state when feeding upon meat scrap along with chick feeds and mashers varies from twenty-three to thirty-seven per cent.

"Four thousand chicks on the Sanitarium farm were taken from the incubator and no meat scrap given but instead, we have fed them buttermilk entirely and for the first three weeks of the chick's life, no other liquid was furnished them. It is a source of satisfaction to state that we are rearing better than ninety-six per cent of the entire four thousand and out of the last lot of twelve hundred, we have only
had seven deaths. The chicks have grown remarkably well. Those
that are five weeks of age weigh from eighteen to twenty ounces
each. They are the White Leghorn breed of fowls."
had seven deaths. The chicks have grown remarkably well. Those that are five weeks of age weigh from eighteen to twenty ounces each. They are the White Leghorn breed of fowls."

Metchnikoff and Tissier of the Pasteur Institute showed the value of buttermilk as a means of driving bad germs out of the colon, or "changing the intestinal flora."

Millions have profited by this knowledge, and later research has shown that buttermilk made with the B. acidophilus is far superior to any other for this purpose, because it is a native of the colon, whereas the other buttermilk germs are not.

It seems now that "changing the flora," or at least keeping the bad germs out is as good for chicks as for human beings. There is no evidence that the cultivation of putrefaction germs in the colon by the use of meat does any animal any good, and it is more than probable that even scavenger animals like the hog and the buzzard suffer from autointoxication as do human beings.
If all the chickens reared in the United States were fed on milk, cereals and green stuffs, meats of all sorts being excluded, the results, according to the experience above recorded, would be the saving of the lives of not less than 150,000,000 chickens, annually, which now die, mostly within the first week, from wrong feeding, especially from the feeding of meat scraps, meat meal and meat in other forms. This would mean an addition to the wealth of the country of not less than $250,000,000.

Here is a substantial fact well worthy of the consideration of farmers who prophesy bankruptcy as a certain result of the suspension of the livestock industry.

It is safe to predict that in the not distant future our agricultural experts will be compelled to develop a new science of agricultural economics from which the rearing of animals for slaughter and use as food will be excluded as a practice too wasteful to be tolerated in a thickly populated country.
Genesis 9, Verse 4.

Only flesh with the soul thereof, the blood thereof, shall ye not eat.

1005. Shall ye not eat. That this signifies not to mingle, now follows from what has been said. EATING THE FLESH OF ANIMALS, REGARDED IN ITSELF, IS SOMETHING PROFANE, for in the most ancient time they never ate the flesh of any beast or bird, but only grain, especially bread made of wheat, also fruits, vegetables, milk and its products, butter and the like. To kill animals and eat their flesh was sinful to them, and like wild beasts. They took from them only service and use, as is evident from Genesis 1:29,30. But in process of time, when men began to be as fierce as wild beasts, and even fiercer, they then first began to kill animals and eat their flesh; and because such was man's nature, it was permitted him to do this, and is still permitted, to this day; and so far as he does it of conscience, so far it is lawful for him, since his conscience is formed of all that he supposes to be true and thus lawful. No one therefore is at this day condemned because of eating flesh.
DRUGS THAT ENSNARE

Tobacco

Tobacco Mischiefs
The Recent Rapid Growth of the Tobacco Habit
Composition of Tobacco Smoke
Poisonous Effects of Nicotin on Plants
Effects of Tobacco upon Bacteria
Tobacco Poisonous to Animals
Cases of Tobacco Poisoning
Effects of Tobacco upon the Liver
Effects of Tobacco upon the Lungs
Effects of Tobacco upon Digestion
Effects of Tobacco upon the Heart and Bloodvessels
Tobacco Heart'
Tobacco and Bright's Disease
Effects of Tobacco upon the Brain and Nerves
Effects upon the Nerves of the Heart and Lungs
Mental Efficiency
Tobacco Amblyopia
Effects of Tobacco on the Ear and Hearing
Effects of Tobacco upon the Throat and Air Passages
Tobacco Lessens Efficiency

Muscular Work
Tobacco and Infection
Tobacco and Cancer
Heredity of Tobacco Injuries
Race Degeneracy
Tobacco and Longevity
Organic Heart Disease
Tobacco and Tuberculosis
Use of Tobacco by Women
Tobacco-Using is a Drug Habit
The Moral Effects of Tobacco Using
Tobacco Inspiration
Smoker's Euphoria
Apologies for the Tobacco Habit
Tobacco in Surgery
The Effects of Tobacco upon Athletes
Eminent Authorities That Condemn Tobacco
The Crave for Tobacco is as with All Other "Dope Habits"
   an Artificial Appetite
Effects of Tobacco upon the Young
Tobacco Cures
Relation to Alcohol
Tobacco

Tobacco and Disease
The Cigarette Epidemic
Increasing Trench Miseries
Poison Bullets

Tobacco Advertisements

Shall Tobacco Follow Alcohol?

Catering to the Returned Soldiers

Tobacco and Human Efficiency

A New Intoxicant Coming (Maté)

Organized Opposition to Alcoholism

Why We Oppose Tobacco

A Mess Sergeant's Observations on the Use of Tobacco by Soldiers

Cigar Dealers Rejoicing
The Coca Cola Habit

The Aspirin Habit

Medicine Cannot Cure

8, 14, 1914
COFFEE

History-
Coffeehouses

The Poisonous Effects of Caffein

Coffee and Guano

Coffee and Idiosyncracy

The Poisons of Coffee

Tea and Coffee Drunkenness

Injurious Effects of Coffee upon Children

Coffee and Nervousness

Coffee Sophistry

Chronic Caffeinism

Tea and Coffee Inebriety

"Coffee the Drink of Intellectuals"

Coffee Advertisements

Our Big Coffee Pot

Prohibition and Coffee Drinking
The Coca Cola Habit

The Aspirin Habit

Medicine Cannot Cure
TEA

The History of Tea
Tea and Uric Acid
A Tempest in a Teapot
Tea Poisoning
Are We Becoming a Nation of Tea Topers?
"Cups That Cheer and Not Inebriate". Authorities against Tea, Coffee, Tobacco
Tea Poisoning
Prohibition Makes Opportunity for Tea
The Buzzards Are Coming
Simple Remedies for Common Ills

Abdominal Bandage
Abdominal Compress, Heating
Abdominal Sponging
Hot Fomentations
Air Baths, Cold
" " , Hot Local
" " , Indoor
Alkaline Bath
Cold Compress
Cold Sponge Bath
Hot Blanket Pack -- Chest Pack
Water Drinking
The Enema
Hot Bag
Ice Compresses -- Hot and Cold Compresses
Cold Douche
Cold Mitten Friction -- Dry Friction
Cold Towel Rub
Sweating Baths
Continuous Bath
Neutral Bath
Foot Bath
Leg Bath
Shower Bath
Sitz Bath
Wet-Sheet Pack
Wet-Sheet Rub
SIMPLE REMEDIES FOR COMMON ILLS

Girdle, Wet
Scotch Douche
Hip Back
Tepid Bath
Outdoor Bath
Cold Towel Rub
Salt Glow
Sun Bath
Saline Bath
Pail Pour
INFANT HYGIENE

How Babies Grow
How an Infant Should Be Cared For
Food and Feeding
Rules for Mother
The Artificial Feeding of Children
Disorders of Infancy
FIVE HUNDRED QUESTIONS ANSWERED

Care of Children
Foot Troubles
Skin Ailments
Sleep
Nerves
Rheumatism
Cancer
Burns
Enlarged Joints
Hay Fever
Adnoids
Pneumonia
Pellagra
Quinine
Round Shoulders
Aspirin
Cascara
Arteriosclerosis
Mineral Waters
The Blood and Bloodvessels
Bowel Disorders
The Kidney and Its Disorders
The Liver and Gall Bladder
Digestive Disorders
Catarrh, Colds, Deafness
The Teeth
Measurements and Strength of Body
HYGIENE FOR BOYS

Boys' Rights
Habits
Care of the Skin
Clothing
Care of the Eyes
Care of the Ears
A Relic of Barbarism
How to be Strong
An Evil Heritage
Make Life a Success
THE OUT OF DOOR LIFE

Modern Troglozytes
A Summer Outing at Home
Out of Door Air: How It Differs from Indoor Air
A Thousand Lifts an Hour
Outdoor Living not a Fad
Drafts
Air Moistening Important in Cold Weather
Heating Systems
Sunbaths
House Dust
Out of Door Occupations
The Smoke Nuisance
Out of Door Recreations
The Open Air School
Vacations
Cold Weather Benefits
Taking the Savage as a Tutor
The Open Air Treatment of Influenza

Indoor Danger
CLOTHING FOR HEALTH AND COMFORT

Healthful Clothing
Fabrics
More Clothing Needed (Girls and women)
Things to Avoid in Clothing
Footwear
Excess Clothing
Corset-wearing

How to Dress for Out-of-Door Sleeping
"Nervousness"—A Coffee Drunkard.

Dr. Isreal Bram mentions in the New York Medical Journal the case of a young woman who had been sent to him for treatment of "nervousness". He says: "She had been going the rounds and had visited many specialists, but she was as nervous as ever, and vowed that if I could not cure her, she would cease doctoring, as she 'was disgusted with medicine, anyway.' I permitted her to have her say, and she kept on describing her various complaints, the twitching of the muscles, insomnia, bad dreams, indigestion, headaches, palpitation, loss of weight, and much more, and she finally stopped. I noticed that, while taking a deep breath during her rapid flow of exuberant verbosity, she was chewing something. My first question was: "Madam, may I know what it is you are chewing?" She smiled a little, smiled, and said curtly: "No, it's not gum, doctor, it's just these," and opening her pocketbook, she produced a half dozen coffee beans for my scrutiny! My diagnosis was made without further ado. "How much coffee do you take in twenty-four hours" I asked. "Oh, not much. You see they help to quiet my nerves. About two cups, sometimes more, at each meal; when I feel real bad, I take a cup or two between meals. When I am not home, why I just chew it; it is better than all the medicine you doctors have ever given me." It was plain that here I was dealing with a coffee drunkard, an individual whose mental process works backward. Instead of recognizing coffee as a cause of her trouble, the thought she fostered was the opinion that eight, ten, or twelve cups of coffee, plus chewing it dry, was her panacea! The successful appeals to her reason, after considerable trials and tribulations, finally cured this mademoiselle of her "nervousness".
Coffee Crop of the World.

The world's coffee crop averages about 2,500,000,000 pounds a year, of which the United States consumes about 40 per cent. The value of the world's crop at the place of growth is about $300,000,000 per annum, and the value of the coffee imported into the United States averages a little more than $100,000,000 per annum; has averaged in the last five years about $113,000,000 per annum, the fiscal year 1918 having been $103,000,000, or slightly below the normal. The quantity imported into the United States is a little over one billion pounds, having averaged for the past five years 1,175,000,000 pounds per annum, though the 1918 figures fell slightly below this normal, having been 1,144,000,000 pounds.

TEA AND COFFEE.

The custom of using tea as a beverage was introduced into China from Korea about the year 400. About the ninth century after Christ it found its way into Japan, and into Europe in the sixteenth century.

Coffee as a beverage was in use in Arabia in the fifteenth century, and found its way into Europe about three hundred years ago.

In China the intoxicating effects of new tea are well known, and hence new tea is seldom used.

The principal ingredient of both tea and coffee is the narcotic alkaloid thein, or caffeein. Thein and caffeein are identical substances. One seventh of one grain kills a grog; five grains will kill a rabbit.

Dr. W. H. Riley has found out that one pound of tea contains 224 grains of this poison, or enough to kill 45 rabbits. A strong man will experience distressing symptoms from a dose of seven or eight grains. A dose somewhat larger will cause highly dangerous symptoms.

The word tea is from a Chinese word "teh."

The ingredients of tea are as follows: Caffein 2.3 to 3.3 per cent; Tannic acid 16.4 to 27.1 per cent; a volatile oil which gives rise to the flavor; and extractive bodies such as Xanthin, Hypoxanthin, and Adenin.

Tannic acid precipitates the pepsin of the gastric juice and irritates the mucous membrane causing catarrh.

The use of tea causes disease of the stomach, raises bloodpressure and predisposes to ear disease, and causes nervous irritability.

The average cupful of tea infused five minutes contains five grains caffeein and three grains of tannic acid.

There is enough tea and coffee used in the United States to average one eighth of a pound of caffeein for each man, woman, and child, or 960 grains.
A man has no legal right to take his own life. Now what is the difference between a man's shortening the term of his natural life by cutting his throat, or by constricting his breathing capacity. One method shortens life at one end of the lungs, and the other shortens it at the other end. The constriction may be so regulated as to cut a man's life off in a minute, in a year, or in five years; but the principle is the same. There might, however, be this difference—one might destroy his life ignorantly, and another knowingly. In such a case there would, of course, be a difference in the moral responsibility.

The excretory organs are the means by which the poisons of the body must be eliminated, and this process is the only way by which
these impurities can be kept out of the blood. Now the man who saturates his body with nicotin or tobacco in any form, or with alcohol or other intoxicating drinks,—the man who does that, necessarily imposes upon his excretory organs an amount of labor which nature has not designed them to do, and which they ought not to do, as it is an addition to their normal work in eliminating the poisons formed by the necessary wear of the body. The consequence is that these organs wear out sooner than they otherwise would, as a locomotive made to draw against the brakes, would wear out sooner than it would ordinarily. These extra poisons are to the body what brakes are when applied to the wheels of the locomotive; they paralyze the delicate nerves of the body, and in every way interfere with the bodily processes, compelling the liver, for instance, in addition to its ordinary work, to destroy the poisons of nicotin when it should be engaged in destroying the poisons of the body. If a large part of its energy is used in that way, there is not enough left to destroy the poisons of the body, and hence they accumulate.

No wonder the man who chews tobacco has a sallow complexion. It is not because the tobacco accumulates, but because the poisons produced by it cannot be removed fast enough by the overtaxed liver and excretory organs; hence they accumulate. When poisons thus accumulate within the body, the brain becomes tired, because the poisons paralyze the brain structures so that they cannot continue their work. The same is true of every structure of the body. Every movement of every organ and tissue of the body produces poison, and it is the duty of the excretory organs to carry these poisons out of the system, so as to enable the various organs of the body to perform their work properly and normally. If these poisons cannot be eliminated, the organs of the body cannot properly perform their function; and consequently the life of that person is less efficient than it ought to be.
GENERAL RULES

1. Give attention daily to cultivating health. It will pay. Study the conditions and the surroundings of the home and the business, and give careful thought to personal habits and practices with special reference to their bearing on health.

2. Recognizing that health of mind and body is one of the most valuable of all personal assets, make every reasonable effort to maintain intact, and, if possible, increase the capital of physical and mental strength.

3. Give to the body and its functions that care and study which you would accord to any other valuable and costly mechanism, so as to become familiar with its needs and the best means of supplying them.

Health at its True Value
Unfortunately health is not considered as it ought to be: it is seldom held at its true value until it is lost. People usually seem to consider themselves possessed of a capital of vitality which they can never exhaust. They draw their drafts on it, and as they are readily smashed, they think it will always be so. But by and by a check comes back refused. Nature says, "You have no more capital on deposit; you are bankrupt."

I believe that the popular practise in esteeming physical health so lightly is a vestige of the darkness of the Middle Ages. If we go back to early times, we find that the highest possible estimate was placed upon health; and it was considered the chief of all the blessings of life. Among the ancient Persians, the nobility was made up of health aristocrats. Cyrus lived, until he was fifteen years of age, on barley, watercresses, and milk, and was not allowed to take anything else; after that, honey and some other simple foods were added to his bill of fare. Among the Greeks and many other ancient nations health was so highly valued, and decrepitude and decay looked upon with such abhorrence, that a weakly or deformed child was never allowed to breathe. In the palmy days of Greece the habits of every man, woman and child were carefully regulated from the earliest period of life. The rules of hygiene were laid down by the government; a bill of fare was made out for each child up to a certain age, and from that age up another bill of fare and exercise was furnished him. It was required by law that every man and woman should be disciplined, reared, and trained in such a way as to acquire strong muscles and vigorous physical health. This resulted in producing a nation that was unsurpassed in physical vigor and endurance; and from the early ages down to the present time the Greeks have been unexcelled in
health, beauty, and physical development.

It has been very well said that physical beauty is only a material expression of a beautiful thought, -- an expression of good conduct and rectitude of life. When we see a beautiful face, it is simply an incarnated expression of beauty of conduct and character somewhere in the past, -- a long way back, it may be --- but somewhere in the past there has been a beautiful life, and this beautiful face is simply an expression of that life. Beauty without physical and moral health is impossible. The ancient Greeks wrote over their doors the motto, "A sound mind in a sound body." They did not believe it possible for a man to be sound mentally and morally without being sound physically.

Among the old Romans the cultivation of health was made the main business of life. When the Pagans ruled Rome, that city was full of the most magnificent baths. Those who have visited Italy and Rome will remember the ruins of those wonderful baths built by the Emperor Caracalla, where thousands of bathers could be served in a day. There were also the wonderful baths of Diocletian, of which the Pantheon constituted the vestibule. Those baths were in constant use by the populace, and they were patronized, not simply for the purpose of cleanliness, but for health. There were also rooms provided in connection with these baths for all kinds of healthful exercises. But, unfortunately, in the early centuries of the Christian Era, all these things were done away with, -- these magnificent baths, the means of physical health, were torn down, and their stones built into churches, of which Rome already had enough. There are hundreds of immense churches that have not more than a hundred worshipers on ordinary days, and even on special days are never filled. Thus Rome is today a city of churches, but there are no baths; and we have it on
A most eminent historian tells us that for a thousand years of that period, not a man, woman, or child in all Europe took a bath except by accident.
good authority that for a thousand years the bath was a thing unknown in Rome; indeed, writers of those times tell us that neglect of the body was counted among the cardinal virtues.

What a boon it would be to the race, if men would only become convinced of the value of health, and of the necessity of training for it! The more gold a man has, the greater are his efforts to obtain more,--and why should it not be so with health? Disease makes one narrow, morose, unhappy, disagreeable, useless; while in health there is a spontaneity of energy, a delight in effort, in work, an irresistible disposition to use the faculties. Why should we live in the slums of disease and feebleness when there is a true nobility, a genuine aristocracy, a royalty of health, which may be ours if we will make it our aim and purpose in life?

There is another reason why it is our sacred duty to care for the body, and that is because these bodies of ours are so marvelously constructed,--they are such wonders of skill. Any one who has examined the muscles through the microscope must be impressed with the wisdom, the infinite skill, displayed in the construction of the human body. The little cells of which the body is composed are so minute that three thousand of them might be arranged in a row, and the row be only an inch long. The body is a community; it has differ-
ent elements, each being set apart for doing its own work, and all working together in the most perfect harmony.

Things are not going by chance. There is no such thing as automatic law; there is no such thing in the universe as a law operating itself. These bodies are commonplace to us, but they are the most wonderful and admirable things in all the world. They are so commonplace to us that we frequently neglect them, and too often treat them like a toy with which a child is delighted to-day, and to-morrow tears to pieces and throws into the fire. There is no reason for such treatment; it is incomparably absurd, the way in which we treat these wonderful bodies of ours, in which we have the highest expression of unknowable intelligence.

During the Middle Ages, and even since that time, very erroneous ideas were held in regard to the value of the body. The body was considered worthless, a thing to be trodden under foot, a thing to be despised. This was in part due to the theological teaching which represented the body as merely "the husk"--"the shell." This led people to undervalue their wonderful bodies; and was the means of introducing wrong practises in regard to them.

"What a piece of work is man; How mighty in reasoning; How infinite in faculties; In form and moving, how express and admirable; In action, how like an angel; In apprehension, how like a god; The beauty of the world, the paragon of animals!"

Shakespeare:

This is the greatest of all reasons why it is the duty of every human being to care for his body,---so to relate himself to all the conditions of life that he can have the best possible body and the clearest possible brain, the strongest muscles, the best physique, and the best heart and stomach, so that he can be in every way the best man physically, mentally, and morally.
The important thing for every one of us is to learn how to live. How strange it is that every creature in the world except man knows without being taught how to live. There is not a beast on the face of the earth that does not know what it should eat. Man is the only creature that has to be told what to eat. Yet it is not a complicated matter; it is a very simple thing. One has only to follow closely the ways of nature. But the difficulty is that custom has so changed the established order, so many errors and evil practices have come into vogue that, seeing so many different things on the ordinary bill of fare that are customarily eaten, but were never intended by nature to be eaten, one is confused and fails to perceive any natural instinct to guide him.

Life Is Too Artificial.

Natural instinct fails to lead the man in his choice, so he has to make a selection with no guide but custom and taste.

If little children who have been fed nothing but natural food, having been fed for two years at the breast, as babies are in some countries, were allowed to choose their food from the great storehouse where there were fruits, nuts, grains, or tender leaves, and from the artificial menus of our hotels, they would choose the natural food. Suppose none of you had ever seen flesh meat on the table, had never seen anything killed, and had never heard of the killing of animals, would it ever occur to you, when you saw a peaceful animal, that you should slay that animal and eat it? A lady told me that she once saw, out in the Samoan Islands, a dog, a chicken, and a child all making a meal off the same cocoanut, taking turns, first one a bite, then the other. It never seemed to occur to the chicken to eat the dog; and in that case it did not occur to the dog to eat the chicken. Certainly it did not occur to that little Samoan boy to eat either the dog or the chicken. They
were all satisfied with the same fare.

But we who have learned the ways of the world have gotten away from our natural instincts so far we do not know how to eat or what to eat; we have lost the art of good living.

I said to a little girl one day, "Which do you think is better off, a big, splendid horse that could pull a great load, or a wild horse in a forest?" She said, "I think the wild horse is better off." I said, "Why?" "Well," she said, "because if that great horse was left alone, he would not know any better than to stand with his nose over the fence and starve to death; but if it was a wild horse, he would know enough to rustle around and find something to eat." There is something in that. The domestic horse has always been fed, has always had everything prepared for him, never was educated to take care of himself.
There is nothing in the world like getting into harmony with the universe. If we get out of the natural order we suffer every time. If a man undertakes to defy the law of gravitation by voluntarily stepping out of a fifth-story window into the open air, he comes down on the pavement and is smashed. It is just the same with the man who says, "I will not recognize the laws of digestion; I defy the physiology of digestion, I refuse to observe it." Sooner or later he has to do penance. Indeed, he has to do works of supererogation all the rest of his life.
The primitive man was very simple in his habits and required but very little to supply his needs. Did it ever occur to you how much we pay for luxuries, and how little the real necessities of life cost us? The statement was made some time ago, when thousands of people were dying from famine in China, that

One Cent A Day For Each

would save the lives of those people. I was told by a missionary from Northern India, whose field was on the border of Thibet, that the regular wages there are four cents a day for a man, three cents for a woman, and two cents for a boy; and those people are able, on those wages, to provide themselves with the necessaries of life.

The statement was made by Mr. Hill that it was not the high cost of living that was troubling us, but the cost of high living—the large amount of money we expend for unnecessary things. People sometimes pay three dollars for a hotel dinner when five cents would cover the cost of all the actual nourishment they get out of it; it consists mostly of things that are unwholesome and injurious. It does not cost very much to live, but we are paying a great deal for getting sick and dying. We pay a great deal for disease, but very little for health. Health is

The Cheapest Thing In The World.
When once lost it is hard to regain and has to be wooed for a long time; but original health is very cheap. The food we eat, the air we breathe, the water we drink, communicate health to us. If we want health, all we have to do is to reach out and take it. It hangs like ripe fruit from every bough; it flows in the juice from the luscious grape; it is in every fleeting wave, in every breeze, in every raindrop. Health is all about us, the trouble is we despise it until we are bankrupt.
The man who has health at the outset can keep it if he will. It is simply a matter of self-control, of intelligent obedience to the laws of our being that are just as immutable as the law of gravitation; and we must give attention to them; for if we do not they will execute judgment upon us for transgression.

I recently told a man I feared he was going to have Bright's disease one of these days. He had a badly coated tongue, and when I called his attention to the fact he said, "Why, I have had that for twenty years. I never have any appetite, but I go right on; you don't mean to say that is anything serious?" Now, that man is bound to have a premature death just as certainly as the sun is shining; it absolutely can not be any other way, because his body is saturated with poisons. He does not feel any very great inconvenience just at the present time, and because he does not, he imagines nothing is wrong, and he is going to get along in that way forever. But all this time mischief is going on like a slow fire burning in the walls of the house that will break out through the roof by and by, the walls will fall in, and the poor fellow will have to attend a funeral whether he wants to or not. The laws of our being are absolutely immutable; they can not be dodged any way.

Too Far From The Simple Life

It is coming to be seen more and more by intelligent physicians and people who give thought to the causes of things, that we have gone too far away from the simple, natural life; that we are suffering so many penalties from our artificial life, that we must turn about, repent of our evil ways, and come back to the simple life so far as we can.

Twenty years ago we thought tuberculosis was a hopeless, incurable disease. Now we do not think anything of the sort. If a person gets tuberculosis, we say, "Go outdoors and get well." Twenty-five years ago I used to say to patients with tuberculosis, "Well,
you will have to get a mile higher, and stay there as long as you live." We do not tell them that any more. We thought that a place a mile high out in Colorado, or in the West or the Southwest, was a pretty good place for people with tuberculosis, but it was only because the conditions were favorable for living outdoors. It was not really because the air was any better.

The fact has been fully developed that it is the outdoor life, the fresh pure air, as pure as you can get, especially cold air, that heals; and since this idea has been understood, the doctors are sending their patients to take the cold air treatment, and the outdoor life on the tops of their own houses; and even in smoky New York, where they have to breathe soot all the time, people are getting well.

One man who worked in a watch factory where his occupation was very close and confining, slept outdoors, got well of tuberculosis and kept right on with his work. Another man, a printer, kept right on with his work and got well of tuberculosis. A doctor down in New York told me a while ago that a woman teacher came to him who had tuberculosis, and he told her to establish a peanut stand on a particular corner where the wind was very fresh and swept around with a good deal of force; and that woman established a stand and sold peanuts on that corner for three years, and got entirely well. She simply went outdoors at home, and that answered the purpose perfectly well.

The nearer we can get to Nature the better, not only in going outdoors and breathing the outdoor air which belongs to us, but in diet as well, for we are naturally outdoor animals.

What are generally regarded as

The Comforts of Civilization

have done much to undermine our health and vitality. Our success in excluding the fresh air from our homes, in shutting ourselves away
from the sunlight, is reducing our vitality to the low condition where we easily become victims to colds, pneumonia, influenza, and tuberculosis. Our modes of dress are in many respects unwholesome and debilitating; while in matters of diet our tables are loaded with edibles that minister to taste and perverted appetite, while they serve to draw us into the net of disease.

Our forefathers did not know as much as we do about sanitation and architecture, and esthetics; they were old fogies as compared to our up-to-date ways and manners and rushing life; their houses were very poor compared to ours, their tables were scantily furnished with the plainest of foods, and that not of the best quality of character; they ate food that would shortly kill off many of us; and yet they were hardy and strong, because the cracks and clefts under the eaves of their houses and around their doors and windows and chimneys admitted the fresh air to their dwellings, and in their sleeping chambers the outside storm could pile snowdrifts across their beds.

They worked outdoors, walked or rode horseback, instead of lazily lolling in Pullman cars or automobiles on the softest of springs and cushions. Had they possessed the knowledge of healthful living in respect to diet, the men and women who subdued this wild country would have been people of renown, living long and powerful lives. Could we with our advanced science go back to simpler ways, to more natural methods of living, we should see great advancement in health and efficiency.
Well Balanced Constitution.

What do we mean when we say that one person has a good constitution, and another person a poor one? The constitution of an individual is precisely the same as the constitution of a wagon or other piece of machinery. A wagon with large, strong wheels and light carriage axles would stand up under a load proportioned only to the strength of the axles. The harmony of the parts must always be considered. So we may say that the constitution of the body depends upon the quality of the structure and the harmony of its parts. A good constitution is a bodily condition in which all the organs are intact, each well developed, strong, and harmoniously adjusted to each other. The harmony of adjustment is of just as much importance as the integrity of the structure.

Did you every consider the reason for uniformity of bodily growth; for instance, how the little finger always bears the same proportionate relation to the rest of the hand from infancy to maturity? Symmetrical development depends upon the proper action of the heart in its distribution through the blood vessels of the nutrient elements taken into the body. If through any defect or malformation a part gets too much blood, it grows too fast. We often see upon the streets a demonstration of this in the "rum blossom" on the drunkard's nose. Alcohol has paralyzed the nerve which controls the blood vessels of the nose, and so that member gets too much blood. If the heart beats too slowly, there is always great irregularity in the circulation: too much blood is driven with too great force in one organ, and too little in another. If the heart is too strong, the blood is driven with too great force to all parts of the body, and this excessive tension is liable to work great injury.
Symmetrical Development.—2.

Suppose the lungs are weak, while the rest of the body is strongly built. The lungs cannot purify the blood fast enough to keep up with the waste incident to vigorous muscular action, and the individual is liable to die of consumption. Another may have splendid digestion, and be lacing in vigor of liver or kidneys. Such a one will be almost certain to overlaod his stomach, and thus put too great a tax on the weaker organs. In still another, the inequality of development may be in a weak, nervous system, while the muscular system may be strong and the bones large. The condition is becoming very common, for we live in an age of nervous diseases; but its effects upon the general health are much the same. Again, suppose a man is born with lungs large enough to last a century, and bones and muscles strong enough to last, with care, for two centuries, and yet with a heart capable of lasting only forty years. He will die when the forty years are up, unless he does something to make his heart stronger. Thus a one-sided development becomes a sort of physical predestination. This explains why many persons who are apparently feeble live on to be sixty or seventy years of age, while others apparently of ten times the vigor are taken off by a slight illness. The strength of a constitution is only the strength of the weakest organ.

It is plain, then, that this matter of balance is of great importance. A well-balanced constitution is exactly like "the deacon's one-hoss shay," it should wear equally, and go to pieces by a gradual and natural process. Those thus perfectly developed, instead of being snatched away by violent deaths, would fade slowly out of existence, quietly and painlessly, as if going to sleep.