

Question-Box-Lecture-at-the-Sanitarium-Parlor

Battle-Creek-Michigan-Monday-April-6

1914-at-8-p.m.

by

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I didn't know but the question box would be forgotten since I have been away so I would be excused. I think it is more than forty years that I have been standing up every week to have questions fired at me. Sometimes these questions are posers. I may find some tonight. When I cannot answer a question, however, and do not feel that I know the answer, a scientific answer, I will honestly own up my ignorance. I will tell you. We don't profit anything when we talk about what we do not know.

Q--What causes continual cold feet, especially when in an erect position, and is there any way by which mental workers may be relieved of the torture of cold feet while working?

A--Now that is a very practical question. Probably there are not less than a million people in the United States today who are just suffering terribly from cold feet and cold hands, and this ^{kind} question of cold feet really disqualifies a person to some degree. It really effects one mentally as well as physically. The discomfort occasioned by it is a constantly irritation and annoyance and distress, and besides that, when the feet are cold, the knees are cold and the legs are cold, and there is less blood than there ought to be in these dependent parts of the body and the brain has too much blood. When the brain is clogged with blood, it is no better able to perform its work properly than another organ ~~when~~ when it has a deficiency of blood. The blood is the stream that turns the wheels of life. The blood is the life as the old profit,said, the blood is the life. There is a wonderful physiologic truth in that. The blood is the life. Now that is a fundamental physiologic fact. It was not known in modern times until John Hunter more than one hundred years ago, I think nearly two hundred years ago now made an experiment which demonstrated that. He took an animal and cut all the nerves that went into one of its leg. Every nerve that went into that leg was cut so that

the leg was completely paralyzed. It is a very cruel experiment. We do not have to do these experiments. I do not, I am very glad to say and it is not necessary for them to be repeated, but there was the fact. That leg was completely paralyzed, but it was warm, it continued to grow to some degree, it retained many of the properties of life. There was no feeling in it, no motion in it, but it was still alive. Then he performed another operation without disturbing the nerves at all. He tied all of the blood vessels going into that leg. Well the leg in half an hour became cold and in an hour it was black and in a few days it was a mass of decay. It was gangrenous, decayed and fell off, so you see the blood is the life. Now the most important thing that can be done for a sick person, is to improve the blood. It is wonderfully interesting, isn't it to know that the old prophet knew that away back in the very beginning, and there is a very interesting verse in the 9th chapter of Genesis, that, if you never have read you will think it worthwhile to read. That whole chapter, in fact, the first nine chapters of Genesis have a great deal of very interesting information that no matter what your standpoint is in relation to these scriptures whether they are verbally inspired or not, the information there is wonderfully interesting. For instance, there is in the first chapter you find a statement which says, "And God said: Let the earth bring forth fruit trees after their kind and every herb bearing seed, and it was so." Now in the twenty-ninth verse of that chapter when all the various orders of life had been created, animal and vegetable, God said to Adam, "Every herb bearing seed and every fruit tree bearing fruit to you they shall be for meat and that to every beast have I given the green herb for meat." Isn't that interesting. Moses could not have hatched that out of his own brain. The very least anybody who has the smallest belief in the wholly scriptures would have to admit that it was the belief of the people who lived at that time, that in the very beginning there was no meat eaten, but rather I should say, the real meat was eaten, the fruit and grains and these tender shoots were the real meat upon which the human species were designed to feed. Now in the third chapter there is nothing said about vegetables there. You say, "How do vegetables come in?" Now in the third chapter after the happy pair had gotten turned out of Eden, then there was a statement made to them like this, "Cursed is the ground for thy sake, thorns and thistles shall the earth bring forth and thou shalt eat the herb of the field." So there came in the green things, don't you see, in addition to

the fruits and the grains, then came the green ~~fruits~~ ^{shoots}. Sometimes there ~~is~~ ^{was} nothing else to eat. They sowed the grain and it didn't grow, but here were green things growing all about and it was important for Adam to know that it was possible for him to sustain life by the juice of those green things, like lettuce, cucumbers and things of that sort and it is possible. I was very much interested in a story told me by a fine old gentleman about eighty-five years old who was one of the pioneers out on the Pacific coast. A number of years ago he told me that in the early days when he was a young man about twenty, he was sent up with a party of other people up into the mountains and a big snow storm came and filled all the valleys so there were sixteen feet of snow and there was no way to get out and they had nothing at all but corn. Well, he said pretty soon they began to get scurvy but he had noticed that the mules did not get scurvy and he watched them and found that they were making tunnels under the snow and getting down to the grass under the snow and eating the grass so he adopted the plan of those mules and he tunneled after grass and ate a handful of grass every day and he did not have any scurvy, although several of his companions died of scurvy. Now modern discovery has shown that in these green things, there are certain elements of paramount importance, so-called vitamins. The Germans have recently approached very closely to a discovery of what these things really are and while their atomic composition is not yet understood, it is known that they have certain characteristic properties so they can be separated from various substances and then have received the name of vitamins. So the reason why sailors who go out on long voyages get scurvy is not because they have been using too much salt, that is not the reason, but it is because they have been living on cooked food, it is because they have been deprived of these green things and just the moment they can get hold of a little handful of cucumbers or lettuce or some other green thing, then all the symptoms of scurvy so they are most advanced and though the patient seems to be almost on the verge of dissolution, the symptoms disappear just like magic and the ~~patient~~ patient seems to be well again. So there is something in these green things. You see then that the fruits and grains and green vegetables are naturally adapted to the human constitution, and, take any view you please as I said, with reference to the authenticity of scripture, any view you please, there is the fact, nobody can deny it, that away back there several thousand ago, it was written and it was stated that in the beginning the food of

man was fruits and grains and these fresh vegetables. Now in the ninth chapter, you will find Noah coming out of the flood and in the sixtieth chapter he is going into the ark and as he was going into the ark, the record says he was instructed to take into the ark of all food that is eaten for thee and for them. That is, for himself and for the animals, so we have reason to believe that Noah took into the ark every kind of food that was eaten. That is, herbs for the beasts and fruits and cereals and grains for himself. Fruits, of course, include nuts for himself and his family and there they were in the ark. They were there for a whole year, and entire year. At the end of that time they came out of the ark. By the way, don't you see how utterly absurd it is to suppose that there could have been such a thing as flesh eating at that time. Suppose, for instance, that Noah had had to take in sheep for the lions to eat. A pair of lions will eat a sheep a day and 360 days would have required 360 sheep you see and not only 360 sheep but he would have had to carry in food enough for 180 sheep for that entire year in order to keep those sheep alive, don't you see. What is true of the lion is true of leopards, tigers and all the other animals if they had been carnivorous but ^{they} could not have been carnivorous. Otherwise, the whole story would have been absolutely inconsistent but you see it all hangs together. The entire animal creation subsisted upon the products of the earth and that was a great biologic law. Vegetable foods are store houses. A man carries out on his shoulder when he goes out into the field to sow his crop in the spring, he carries out a bushel of corn and when it comes time for the harvest he cannot carry the harvest back on his shoulder. He carried out everything he put into the ground on his shoulder but when the harvest is ready he has to go out with teams, wagons, horses or oxen to haul back great loads, 300 bushels perhaps where he planted one bushel; sometimes more than that. Where did all those extra bushels come from? You see there is a gain

of 259 bushels. There isn't any business in all the world that yields such an enormous proportion of products and of return if the thing is done right. Unfortunately the soil is being spoiled, being abused and out west the general aim of the farmers seems to be to raise corn, not to feed themselves but to feed pigs; to raise corn to feed pigs, to buy more land to raise more corn to feed more pigs and that is the formula out west. We are beginning to find out that it doesn't pay and that is why meat is getting scarce. Of course, it cannot pay because if a man can raise on 160 acres of ground enough to keep himself and a family of five and 20 chickens 100 years in two years' time.. In two years' time a man can raise corn enough to supply his own wants for 100 Years and if you figure it out a little it is a fact and it will give every member of the family from two to three thousand calories a day. Of course, he would not live on corn. Some of his neighbors would raise peas, others barley, other beans and other things and so trading among them they would have quite a variety but he could raise in two years on 160 acres enough to feed his family for 100 years and have enough a few eggs this evening for the crumbs would take care of the 20 chickens. Now he feeds that instead to pigs. Then kills the pigs and when he comes to eat up those pigs they are all gone in five or six years. Every hog that could be raised and fattened on that corn in five or six years is gone so you see this is an enormously wasteful thing. DeLesseps the engineer of the Suez Canal became converted to the non-flesh dietary by watching those Arabs dig that canal. He fed them on wheat and he said he never could have dug that Canal without those wheat and date eating Arabs. Englishmen never could have worked in that boiling sun. It is a terribly hot place. I have been there myself and some of you have been there. DeLesseps figured out that it takes forty times as much land to support a man on a flesh diet as when he eats vegetable food. The reason is that the animal uses up a whole lot of the energy in the food in running around and having

a good time on his own account. Why shouldn't he? He has to keep warm and the greater part of the food that we eat is used to keep us warm. Four-fifths of what we eat is used to keep us warm and we have to keep that pig warm also you see so the farmers have been finding out in these latter years that it pays to keep the cattle warm so if they are going to fatten the ox they put him in the stall, shut him up, keep him warm and do not let him run about ~~and~~^{so}-if he is using up the food you see when he is running about. Now the natural order as I was saying is that the vegetable kingdom takes the energy from the sunlight, stores it up in the form of grains and nuts and fruits and then this food which is fuel is fed into our bodies and becomes the motive power of our body. You know the locomotive has to be fed coal. Food is coal to our body just as coal is the fuel of the locomotive. It is all just the same thing. All the energy of the world comes from the sun, almost all. There is just a little that comes from the that we cannot get much out of but it all comes from the sun. There is half a horse power of energy falling upon every square foot of the earth's surface every twenty-four hours, an average of half a horse power on every square foot of the earth's surface coming down from the sun. Now the food average is the natural biologic mechanism for capturing this energy and storing it. Vegetation is the natural agency. That is the way we get that 299 additional bushels of corn you see when we put one bushel into the ground and get back three hundred. When corn sells at ten cents a bushel as it did at one time in my recollection the Iowa farmers used to use it for fuel. They used to haul up a great ~~mass~~ heap of corn to the house and burn it for fuel and it makes splendid fuel. Now it is fuel for our bodies in just the same way. Now when one animal eats another it is the same thing as trying to keep up a fire in a stove by throwing in kerosene lamp you see. There may be a little oil in the kerosene lamp that has not been burned but there is the lamp beside you see so when you eat an animal you cannot

burn the whole animal. There are the bones, the skin, the hair, the hoofs, and a lot of material that you cannot use. There is a little material that you can make use of but it is dreadfully wasteful, expensive and it is unbiologic. There is a fact. Now it is interesting to see that biology agrees absolutely with what we find in the scripture way back there. Now here is another very interesting law. In the sixth chapter of Genesis after the flood when there was nothing else at all to eat, when the vegetation was all swept away, Noah was informed that, in emergency, when there wasn't anything else to eat he could subsist upon the flesh of animals. He didn't know that ^{up to} ~~after~~ ^{to} that time apparently according to the Bible record. There is no evidence whatever that he knew anything about the eating of flesh of any animal or anything about the eating of flesh at all according to the Bible record so you find this record. Every creeping thing that moveth shall be meat for you but here is a very interesting thing that comes here but the blood thereof which is the life thereof thou shalt not eat of it. Now that is the first time that that is expressed there. "The blood thereof which is the life thereof, thou shalt not eat of it". Now that is the great biologic truth that was expressed way back probably not less than 4,000 years ago and it has been recorded there and it has been read by millions of people that have lived since that time, "The blood thereof which is the life thereof thou shalt not eat of it" but that fact has been overlooked by human beings almost altogether and it is only in very recent times that doctors have come to appreciate the great meaning of that expression, "The blood thereof is the life thereof, thou shalt not eat of it". What did they do? Why, when they killed an animal they did it with solemnity, with solemn ceremony and the blood was buried in the dust and every drop of it was carefully expressed ^{flesh} ~~fer~~ from the ~~place~~ and the flesh was placed in salt and left over night to extract all the blood and then it is washed again in the morning. The

orthodox Jews do that same thing today. Twelve years ago I was in Jerusalem
 found
 and I found that the orthodox Jews in Jerusalem are just as careful to
 exclude every drop of blood from the meat they eat as the old Hebrews were
 and orthodox Jews in this country do the same thing. I asked a young Hebrew
 sometime ago who came here as a student in our Nurses' Training School, I
 was talking with him, and he said that he had been very strictly brought up
 so I had a curiosity to ask him about his diet at home. I said "you have been
 accustomed to eat meat." "No", he said, "We don't eat much meat at our house."
 I said, "Why?" He said, "Well, there isn't much taste in it and we don't care
 much for it." He said, "mother has a little place in the kitchen where she
 puts it to soak in salt over night." Then in the morning she washes and washes
 and washes it and it gets almost white and when we come to cook it it really
 doesn't have very much flavor so we don't care very much for it and do not eat
 much meat at our house" so you see meat was never intended to be an addition
 to the bill of fare excepting under conditions of emergency. It never was
 intended for an article of luxury but now see how things are changed. Go to
 Chicago or to Philadelphia or any other place, almost any place you like and go
 to a first-class hotel and there is hardly a thing on the bill of fare but meats.
 That is one of the faults I have to find with Florida. You could not get a
 thing at the hotels excepting meats and canned goods. They ship their nice things
 up north where they could get a nice good price for them and I was told that
 even the men who raised fresh tomatoes eat canned tomatoes because when
 tomatoes are worth \$2.10 a box, they cannot afford to eat them you see. Every
 tomato must go to market ~~but-they-can-be~~

10018.

Well, we didn't suffer, however, for Mrs. Kellogg and I took apartments and lived as we do at home and so got along very well because there was an abundance of good ^{clean} things down there. By the way I want to tell you, I didn't go away from home to get away from cold weather. I was pleased, however, to notice in the papers that Michigan was spared from that terrible blizzard that was spreading over the country. Michigan was spared. I didn't see Michigan mentioned once in all the reports of the storms that came south of Michigan. It was not mentioned once because it is protected by these great lakes to the south and the north and the east and the west. There is nothing but a south wind that can reach Michigan without being mitigated by coming across the big lakes. Now you see this biologic law I am telling you about is entirely in harmony with the idea that flesh foods are not needed and consequently that we do not have to have meat to eat, that it is not an essential thing but only an emergency diet. Now what has that got to do with cold feet. It is the meat eaters that have cold feet. Now let me tell you something about these cold feet that you haven't noticed. This man says he had cold feet when he stands on his feet. Did you notice that? What causes continual cold feet especially when in an erect position? Now isn't that strange. Here is gravitation pulling his blood down and still his feet are cold. Now we say he must have a weak circulation. Now that is not true at all. If ~~we~~ ^{he} ~~has~~ ^d a weak circulation, the blood ~~would~~ ^{would} accumulate ~~some~~ in his feet. If he stood up. A man who has a weak heart when he is in his feet, his legs swell but this man has cold feet and if you look at ~~xxxxxxx~~ such a cold foot, it is shrunken. The skin seems puckered in all around. It seems shrunken and it feels cold and clammy. This coldness is not due to a weak heart at all, but it is due to a spasm. It is a spasm and a spasm that is the result of poisons absorbed into the blood and affecting the vasomotor centers in the cord. Now ~~we~~ notice when I hold one hand down and the other hand up, you can see a difference in color right away. There is considerable difference. Now I change and put the hand that was up down, and the other hand up for a moment and the one that I put up gets a paler color and the one I hold down gets a deeper color. Now what is the reason. When I put my hand up, there is contraction of the arteries in the arm. The position naturally leads to contraction of these arteries and that is the reason why some ladies cannot put their hands above their head when they are weak and

feeble. The lady who has had a long spell of sickness cannot comb her hair for a long time afterwards because when she puts her hands up, she sinks away and the reason is that the vessels contract in her hands and her brain at the same time. There is an association you see. Now it is this vasomotor system that is disturbed and that is what makes the hands and feet cold and that is why they get worse when a patient stands upon his feet. This patient has another thing. These poisons ~~xxxxxx~~^{I might} incidentally mention have a relation to meat eating from the fact that it is putrefaction in the colon that produces the poisons the spasm producing poisons. Now there is another thing. This patient that has cold feet when he stands on his feet, ~~w~~ if we should examine him, we ~~w~~ould find he had a peculiar conformation of body. We would see that instead of having a normal curve or something like a normal curve of the body, that there is a swelling down there like that. There is a sinking in here and a bulging down there. Here is the diaphragm and the cause of this is that the colon and the stomach and these other important heaving organs of the abdomen have fallen down and are pulling you see. Here is the colon, for instance. Now the colon is attached to the back bone back there and to these membranes and when it is sagging down in this way, it is pulling upon all those membranes and there are millions of nerves down there that are pulled and it is exactly the same thing as if you had a pail of water tied to one finger and tried to carry it half a mile. When you eat your breakfast or your dinner and this material is in the stomach and the abdominal walls are relaxed and weak, they allow its weight to fall down and it pulls on those nerves, and produces an ache in the back of the neck and pain in the back and the cold hands and feet in many cases are largely due to that fact. The nerve centers are made abnormally susceptible and irritable by these poisons and then this enteroptosis or prolapse of the viscera becomes an aggravating cause. You say, "How do we know that?" That is not hypocrisy at all. We prove it by putting on a supporter and warming up the feet. This man that has cold feet, all in the world he has to do is to change his diet, make his bowels move three times a day to get rid of the poisons, then put on a supporter to hold his abdomen up like that and his feet are warm in half an hour. That we have demonstrated in thousands of cases. Many of you have cold feet but if you will come to me if you cannot get your feet warm by doing the things I tell you, I will pay your bill. That is a fair proposition isn't it. If we could not overcome conditions of that sort, we would have to

shut up house here, we could not do business. It is because we can cure and the reason why these conditions are cured is because we reach the cause you see. Now simply rubbing the feet would never warm them. The more you rub sometimes, the colder they get. Now you may go out and exercise, but exercise won't warm them. Sometimes the more you exercise the colder the feet will get, but we simply remove the cause, then warmth comes right away.

Q--What causes malaria?

A--I know something about this you know, for twenty years I had cold hands and feet myself all the time, summer and winter and I used to have to wear gaiters all winter and summer and I had very thick felt shoes. There are people in the institution I am sure who will remember when I used to wear felt shoes half an inch thick and wore two or three pairs of stocking, two or three under shirts, a thick vest and a thick coat and I was cold all the while and my nails were blue and my head was hot and I was really miserable. Now you know the whole trouble was, when I was ~~sitting~~ sitting in my chair at work my chest was down. I had this miserable awkward position. I didn't know the importance of sitting up straight. When I learned to sit up straight and lift my chest up and hold in these abdominal muscles and do some of the other things I have been telling you about, my hands got warm right away. So the clothes you see me wearing here tonight, I wear the whole year just exactly the same suit I am wearing now, the whole year round. I am dressed a little too warm^{ly} now because I have got a thin woolen under suit cotton lined and I wore the same clothes all last winter until just before I went to Florida along in February and I never had had on a pair of rubbers on my feet but twice. Running back and forth to my home through the snow I never had the least bit of inconvenience, never had cold hands or cold feet so I am very sure that this thing is right. Do you know there is one thing about the Battle Creek Sanitarium system that I want to call your attention to and that is that we doctors take our own medicine. We cannot always find that. (Applause) We take our own medicine and the things that we recommend to you, we do ourselves and we recommend them to you because we feel that we have got so much benefit, such splendid help from this light and these principles and truths that we want other people to have it. I had my hands full tonight and I didn't see how in the world I was going to get in here, but I insisted on coming against the honest protest of several people. I insisted on coming

12

because I said, those people there, I have got a chance to talk with them and give them a little light, and I can't stand the idea of carrying around light when the world is so bright when there ~~is~~ are so many people going on ignorantly, not knowing ~~whats~~ why they have cold hands and feet and headaches and bad taste in the mouth, feeling wretched and miserable all the time. It ~~was~~ ^{is} an awful thing to me and I sometimes feel like screaming right out, going out and campaigning the country and telling people what they ought to do to be saved from cold feet.

Now we will take another subject. What causes malaria and what treatment would you use to cure it?

Ans: Well the cause of malaria is the bite of a certain mosquito, the anopheles mosquito. The anopheles mosquito bites some animal that has malaria and he carries those germs around with him, ~~he~~ gets some of them into his blood and carries them until they multiply then the eggs of these germs or the spores get into the salivary glands of the mosquito. The mosquito is a very curious little creature and when he bites the first thing he does is to bore a little ~~hole~~, then inject a little saliva. Now what that saliva does is to paralyze the blood vessels and that brings in more blood and he can get his drink of blood very easily ,you see. He doesn't have to pump away to get it. and that is why he injects the saliva. Now if he has got malaria in his body and his saliva is full of malarial spores, then when he injects the saliva into you, you are inoculated. Then after a few days these germs will multiply and keep increasing more and more and more until by and by they get to be so numerous they produce a phenomena called malarial fever, chills and fever. If you want to get rid of it quick, the thing to do is to take some doses of quinine, but quinine does not cure in itself. I must tell you that. The only thing in the world in which malaria can be cured is for the white cells of the blood to eat up these parasites, but the parasites are very shy. They know the white cells are after them apparently, so just as soon as they are born, they hide away in the blood, get into the red cells of the blood and hide there and the white cells cannot do them any harm so long as they are inside the red cells, but they keep growing, growing and growing and by and by get so big that they burst the red cell open. Then they disintegrate and form their spores and that same time they throw off a poison which they generate and it is that poison that makes the chill and the fever that follows the

13

chill. The white cells must destroy them. All that quinine does is to weaken these parasites so they cannot get away so fast, so the white cells have a chance to catch them, but there is another trouble about it and that is, that they weaken the blood cells at the same time and if you take quinine day after day and year after year, after awhile your parasites get used to it so they don't seem to mind it very much and you may get your white cells damaged to such a degree that a dose of quinine will produce a chill, and you have heard of quinine chills, I am sure. Some of you here from the South where malaria is more frequent than it is here and I wonder if there is anybody here who ever heard of a quinine chill. I have met a number of cases of that sort, so that when a person takes a dose of quinine, he has a chill afterwards and then a fever. Now the reason for that is, ~~that~~ ^{that} that quinine has weakened his blood cells more than the parasites and has given the parasites a chance to grow and get a start so he has that chill. I have met a number of cases of that sort so we must adopt other means besides quinine for building up the vital resistance. A cold bath is one of the very best things. The best thing of all is to get out into the country where there are no mosquitoes, get into the cold air and get generally plumbed up but the cold bath is a wonderful remedy. It is possible to cure malaria without quinine. I had a dose of it once down in Mexico. I went through a region where the mosquitos were so terribly thick I could not possibly keep them off. They were very malignant mosquitos and in a few days I found myself coming down with a chill. I recognized right away what it was, so the next day I was ready for it. I had a slight chill first, then a hard one, so I knew just what it was and knew when it was coming. So when it was time for the chill to come the next day, I got into a hot shower bath. Fortunately I was in the city of Guadalajara (?) where we had a little mission, and I got into a hot shower bath and had a big pail full of water with lots of ice in it, ice cold, then I got into that hot shower bath ~~and~~ as hot as I could possibly bear it and remained until my skin was almost parboiled. Then I sprung out and had that ice water poured over me. Then I was wrapped up in a turkish sheet, then with blankets and tucked in very tight, and in a few moments I was perspiring and that was the last of the malarial fever. I have cured a great number of cases that way. I learned the trick from an old lady when I was a boy. An old lady told my mother to give me a corn sweat when I had malarial fever. So I had ears of corn boiled, then wrapped up in flannel and packed all about me, and that was put on just as

before the chill was to come on and if it is managed just right and gets the sweat started at just the right moment, it prevents the chill. The application of heat followed by an application of cold, particularly brings out into the blood an increased number of white cells and it is these increased white cells that make it possible in most cases to destroy the parasites and so break up the fever. There are some cases in which quinine won't cure the patients, then we adopt this other plan. Generally a very slight attack will be quickly cured by a dose of quinine, but it can be cured without quinine, a more thorough and radical cure, but I must say there may be exceptional cases where persons have gotten their bodies saturated with malarial parasites and it is necessary to use the two things together. I remember a young man from India who was infected with a most malignant kind of malarial parasites. He had had it for years. We tried the cold bath method very thoroughly for a couple of weeks and we didn't succeed. Before that time quinine had been used for a long time without any success but after trying the cold bath for a couple of weeks and then a very small dose of quinine made an end of the whole thing, so the two things together make a very happy combination.

Q--Is it true that by adding one hundred to ~~pm~~ your age in years, the result will indicate your correct and normal blood pressure?

A--Well, I hadn't heard of that. That is a new idea. I should hardly dare to trust that rule, I think, for estimating blood pressure because blood pressure varies with the time of days there is with exercise and varies with ones moves. If you get excited about something, the blood pressure goes up.

Q--What is the treatment for colitis?

A--It is to change the intestinal flora. Now, what is the intestinal flora? Suppose you go into a lady's flower garden, look around and find she has poppies there and daisies and pinks, roses of various sorts, and you say, "These are beautiful flowers." Now, that is the normal flora that you find in a flower garden. But suppose instead of finding all these beautiful flowers there with beautiful perfume and the blossoms, instead of that, suppose you find weeds, Canadian thistles, purslane and all sorts of weeds growing up there, then you would say, it was a bad flora. Now that is exactly what we mean when we are talking about the flora of the intestine. Germs are plants. There are good germs and bad germs. The friendly germs which enter our bodies

at birth are important that, it shows how carefully a beneficent Creator looks after us. There is a baby born without a single germ, no flowers in the garden of any kind and no weeds there. There is the feeble little infant and if some bad germs should get into its alimentary canal they might carry it off in a hurry. Most babies are killed by bad germs, so in six hours after that baby is born in the summer time, and within twenty hours in winter time, good mother Nature, that is a very poor name to use for the real power that is behind Nature, which is the real truth, Mother Nature, we say, puts into that baby's intestine friendly germs. Professor Tissier of the Pasteur Institute found that out a number of years ago and found a germ, known as bacillus bifidus. That is the name of this germ and this friendly germ takes possession. Now you know so long as that baby continues nursing its mother, it has these friendly germs and it is a wonderful thing that the bacillus bifidus is found in the baby's intestine and the mother's breast. That is the only place that germ is found, but Nature has provided, has made this provision for feeding the baby along with its first meals friendly germs to protect it against the ugly germs that are likely to assail it. The air is full of them. Just see how the baby got inoculated a little later. The father comes in from the street after he has been walking around, incoming home from work and horses, cat, dogs and a great number of beasts have been going along there dropping their horrible excreta all full of putrefactive germs, and he brings in the dust on his feet, rubs it into the carpet and gets full of these germs, and every breeze that comes in through the window bring in some of this street dust which is made almost wholly made up of germs, putrefactive damaging pernicious germs, and then perhaps the mother has got the baby in her arms and she is awfully busy so she drops it on the floor, and what is the first thing the baby does? It puts its thumb in its mouth and takes it out and mops it over the carpet, makes mud out of the dust and sticks the thumb in its mouth again and licks off the dust. And so the baby goes on inoculating itself with these germs. Thousands of babies have been killed by the germs that they got upon the house floor. No baby should ever be put upon the floor without a clean sheet underneath over the floor to protect it. By and by mothers began to feed babies on cow's milk and it bring along with the food some horrible germs from the barnyard, putrefactive germs which if left to themselves,

produce all the horrible fetted odors of the barnyard manure heap and these germs come in the milk. You run the milk through a cloth to get them out and you find them on the cloth. It was reported by the health officer some years ago, that more than ten tons of barnyard manure are actually eaten by the inhabitants of Berlin every year. These germs are taken in in this way and the baby begins to have trouble. When a baby begins life, its stools are not offensive. There is no reason why if ~~XXXXXX~~ clean food goes into the mouth, it should be so horribly loathesome and offensive when it is discharged from the body at the other end of the alimentary canal. When you take some food in one hand and pass it over to the other, and it does not become unclean and foul, what reason is there why remnants of food stuffs taken into the body in a clean wholesome food state why should it become so horribly loathesome and offensive, that you cannot endure the contact with it after it has passed through the thirty feet of intestine? The only reason is because there are germs being harbored down there and they attack the undigested residues of food and set up putrefaction and it is this putrefaction that produces these horrible ~~XXXXXXXX~~ germs and that is what made the baby sick. If you ~~XXXXXXXX~~ call on a doctor and have him come to see the baby, the first thing the doctor does, is to look at the baby's napkin and if it has a slightly sour odor, he knows there is nothing serious the matter with that baby. They cannot be with every~~thing~~ thing going along so well as that, but if the napkin has brown stains and bad smelling material, he knows the baby has got auto~~intoxication~~ intoxication right away, and something has got to be done to save its life. Thousands of babies are going along that way all the time and the mothers don't know the significance of those symptoms and the baby^{ies} gets rickets, are stunted and backward, pale, they do not grow and the mothers don't know the reason. It is because these horrible germs get in there. By and by the baby gets older and begins to eat beefsteak, mutton chops, fried oysters and things of that kind, horrible things, and these meats are always in a state of putrefaction when they are eaten. That is a thing I think you have not stopped to think about. When you go to the butcher and get the meat, you do not ask for meat from an animal, killed this morning, you don't ask for such meat. You want meat that is tender and sometimes you call for pine beef and pine beef is beef that has been kept anywhere from three to six months until it is covered all over with a thick layer of green mould, with hairs an inch long on it or more and has to be shaved, actually has

to be ~~skinned~~ mowed off before it can be sent to market. Now that is just the situation when meat is very tender. It is very advanced in decomposition. Plenty of people understand about that. I met an English lady sometime ago when I was in England and I was speaking to her about this, and she said, "I used to be cook for a large so and so, who was a great hunter and he used to go out and kill pheasants and bring them in and he would make me keep them in the kitchen for three weeks in warm weather and he would look at them every little while and they would get very high before he allowed me to cook them." She said, "I couldn't stand it. I had to keep them out doors." Now if you examine under the microscope the finest possible beef that you ever ~~maximize~~ ate in your life, the finest meat you can get in the market, any bit of codfish, herring, mackerel or any salt fish or preserved fish excepting canned fish, salmon, mutton chops or fresh fish or oysters, examine any of them, put them under the microscope and they are simply swarming with these putrefactive germs. Now you have got practical proof of it in this fact. If you simply take a pint of oysters and put it away in the pantry and leave it there for a couple of days, what would be the situation? Suppose you put beefsteak in the kitchen and let it lie there for a few days. What would be the situation? You know perfectly well. Suppose now you have here three glasses or cans and you put a bit of bread in one and an apple or potato in the other and beefsteak in the other and shut them all up tight and leave them there a week, then open them. When you open the bread can, there is nothing offensive about it or nothing ~~up~~ unpleasant. When you open the potato can, there is nothing there that is unpleasant, but when you open that beefsteak can, I dare say everybody would take to the open air because it would be filled brim full and running over with sulphurated hydrogen and all the products of putrefaction. You know what happens when you go away from home. You are gone two or three weeks and there is nobody to take care of the house. You come back, go about the house and once in a while you get a peculiar horrible odor and you nose about until by and by you trace it to a closet and you open the door and there is a dead rat that has died in there because he couldn't get out and it is rotting and decomposing. Now that is a dead rat smell. Now suppose that rat had been lying about for two or three days, a week or two or three weeks as sometimes happens in somebody's colon or stomach. ~~Something~~ The same thing would

have happened to it and suppose it was a piece of sheep or cow or horse or frog or an oyster or a lobster or some other beast that was lying in the colon, just the same they. The putrefaction products are all made out of the same sort of material. You know this is no laughing matter, my friends! There are some of you going around with a dead rat smell in your breath. It is a positive fact. Now probably you don't know it because your friends are polite enough not to mention it, but if you have got a bad taste in your mouth and you haven't any appetite for breakfast, for your meals and you have got a sallow skin and big brown spots coming on your hands, and if you have got inactive bowels and foul stools, bad smelling bowel passages, if you have got those things, you have certainly got a bad breath. You can't help it because those poisons that are lying there in the colon are all being ~~suck~~^{sucked} up by the bowel and the breath and eliminated through the lungs, so materials that ought to be passed off through the bowels are being passed off through the lungs and the skin and that is why you have got this dingy skin and bad complexion and that is why you are getting old so fast and getting hardening of the arteries and high blood pressure. These are fundamental facts and that is why we adhere so closely to this low-protein diet. That is why we say, "Don't eat meat." And in some cases when you have got auto-intoxication very bad or intestinal toxemia, we have to say, "No eggs and no milk" because they are animal proteins and they will keep up this putrefactive process, they will keep these germs alive. I am not saying this at random, I am not talking on pure hypothesis, but Dr. Tissier of the Pasteur Institute has worked this all out in the laboratory there and he has shown that these germs that make these deadly poisons which are like the venoms of snakes, these germs are fed upon animal protein and they cannot live on vegetable protein. They have to have animal protein and there is some animal protein in the intestine. We cannot get rid of it. There is the bile and the mucus and the intestinal secretions and they will furnish some animal protein and that part we cannot get rid of but the milk and the eggs and the meat, we can cut those out. Now I want you to see again how wonderfully these facts I am giving you now agree with that ~~xxxxxx~~ dictum away back in the ages, every tree bearing fruit and every herb bearing seed, to you they shall be for meat. This is the natural meat. There is no harm in those things. That is the reason why the complexion begins to clear up pretty soon when ~~xxxxxx~~ you have been here a little while. Some of you have gotten rid

10030

We will find out what is the cause and remove that cause and then the natural powers of the body will restore him so far as it is possible to restore him. Then by right living, by avoiding all those causes the rest of his life he may live a comfortable life and avoid the acute suffering and distress which he has had. You never can restore the useful ability to bear hard usage. You never can do that again. There is the capital that has been exhausted, has been used up and you never can get it back.

Q. What is the cause of paralysis?

A. There are many causes. Paralysis of the muscles is due to some disturbance of the nerves.

Q. Is fish harmful and why? I

A. I would just as soon eat a cat as to eat a fish.

Why, you say. Why, a fish is a fish eater. You wouldn't eat a dog because a dog eats rats and eats mice. He is a meat eater. Nobody eats carnivorous animals, don't you know. ~~but~~ Carnivorous animals do not appear on the bill of fare. It is always the herbivorous and fruit and grass and grain eating animals that furnish the food to animals but a fish is a meat eating animal. The little fish eat ^{the} vegetable material in the water. Then the larger fish eat the little fish and the still larger fish eat those fish and the big fish eat the small fish; then the starks eat any fish they can swallow. Now that is the way it is. That is why fish have such a fishy flavor, you know. It is doubled, distilled extract of fish. This decomposes more readily than any other kind of animal food. Dr. Dujardin-Deaumetz an eminent French physician more than 20 years ago called attention to the fact that fish and oysters were the least desirable of all meats of all kinds of animal food, that if you are to eat any meat at all, it should be beefsteak, mutton chops

or something of that sort. A man asked me the other day what I thought would do the least harm, what kind of meat, and he finally forced me to say something and I told him a piece of very fat bacon fried very hard because it would not digest and if it digest, some portion of it, it would be only fat. There would be nothing there to rot and that is a fact. It is the rotting of the undigested remnants of meat in the interior of the body that does the harm. It is not what ~~aman~~ eats at the time you may be eating it but what comes afterwards but remember every kind of meat contains fourteen grains of uric acid and every pound of sweet breads contain 70 grains of uric acid which is an enormous amount.

Q. Do you consider hygienical measures/^{alone}sufficient for prevention of disease or do you approve the inoculation for typhoid and- etc?

A. I think we have got to adapt ourselves to circumstances. If we can make hygienic conditions perfect and maintain them, then that is the desirable way. There is no doubt about that. There are some undesirable things about ~~that-and~~ these methods of inoculation. We do not know all about their ulterior effects as yet but certainly it is better to be inoculated with typhoid fever and have a modified ~~few~~ typhoid than to have typhoid fever itself because it makes a scar upon a person which they never can entirely recover from. Typhoid fever often leaves behind the seeds of Bright's disease. It often leaves behind damage to the liver or gall bladder or an injured nervous system. It really is a very dangerous thing to have a run of typhoid fever and the inoculation is far better.

Q. What are fibroid tumors?

A. They are morbid growths, new growths that are made up of fibrous tissue.

Q. Is the free use of buttermilk advisable?

A. It is better than ordinary milk. The ordinary sweet milk is not nearly as desirable as food as sour milk or buttermilk. It is not nearly so likely to do harm because the acid-forming germs that are growing there are carried into the intestine and so prevent the putrefaction which may take place when ordinary raw sweet milk is used.

Q. Are raw eggs beaten and seasoned with salt wholesome?

A. Certain persons, especially those who suffer from colitis must avoid eggs and milk as well as meat, must avoid all animal protein. Many people apparently are able to take eggs and a moderate amount of milk without harm but persons who suffer habitually from intestinal toxemia, who have tawny skin, a bad complexion, a bad taste in the mouth, very inactive bowels, it is better to discard those things entirely.

Q. Are meat soups and grape juice bad for rheumatism?

A. Meat soups are bad because they contain uric acid and they are waste substances but the acid of the grape juice is all right. It does not affect the body injuriously but is converted into alkali in the body. The acid of the grapes is in combination with soda and it is digested and utilized the same as other foodstuffs leaving the alkali behind which helps to antagonize the acid state which prevails in rheumatism.

Q. What causes dark circles under the eyes when there is no kidney trouble?

A. Well, chronic toxemia. It is a bad condition of the colon which is a very common cause of this trouble.

Q. What is the surest cure for colitis?

A. Change the intestinal flora. That is the thing.

If any of you want to know the particulars about that if you will call at the desk and ask for a little paper on incompetency of the ileo-

4

cecal valve, beginning on page 22 of this little paper you will find an explicit statement of our methods of changing the intestinal flora.

Q. Is it well to drink hot water before breakfast.

A. Yes, it is a good plan if you have got sour stomach.

Q. What is the remedy for roaring in the head?

A. Very likely you have catarrh of the middle ear. See Dr. Colver and he will make an examination and tell you what you need to do.

Q. Explain the preparation of Malt Honey.

A. It is simply honey made by digesting starch with the diastase of malt.

Q. Explain the benefits to be derived from eating popcorn.

A. There are no special benefits. It is wholesome food as all cereal. It requires thorough mastication and that is particularly good.

Q. What is the cause of one being so tender at the stomach?

A. It is hyperesthesia of the solar plexus. This is the great abdominal brain and when there is irritation of the stomach it is manifested throughout the region in the form of sensitiveness and irritation at the pit of the stomach. When you press higher up under the sternum you will find the soreness there and there is very often corresponding soreness between the shoulder blades. ~~It is~~ This can be overcome entirely by relieving the condition upon which it is dependent.

Q. Is the white of an egg injurious?

A. Well, in some cases. Persons who need to discard animal proteins should also discard the white of egg as well as others.

Q. What is the origin of kaffir tea?

A. It is obtained from a plant known as the red bush Ruibush which grows on the high land in South Africa. It is gathered by the natives there and through a friend we were able to secure it from CapeTown, S. Africa. So far as I know we are the only importers of kaffir tea. We had for a long time great difficulty in getting it into the country. The custom house officials thought we were going to use it for adulterating tea.

Q. Since germs cannot live in the normal stomach what is the value of the bacillus Bulgaricus?

A. We do not expect the bacillus Bulgaricus to do anything for us in the stomach. It has to go through the stomach and down into the colon. There is where the work is done so it is very important to take this at the beginning of the meal so it will pass out before the acids of the stomach become sufficient to destroy the germs.

Q. Why does a change of diet often disagree with people?

A. Because the stomach has to have a little time to adjust itself to a new condition of things. Prof. Pawlow found that when a dog eats meat the stomach makes a gastric juice adapted to the digestion of meat and when that dog is given bread it has an excess of acid, more acid than is necessary for the ~~gixk~~ digestion of the bread and it takes a few days or weeks sometimes for ~~this~~ the stomach to get accustomed to making just the right kind of ~~gixkix~~ gastric juice to digest bread. Breads require one kind of gastric juice and meat another kind and milk another kind.

Is it

Q. ~~It-is~~ possible that God would order his children to eat food that was disease-breeding? Leviticus 11 says these are the beasts ye shall eat, whatsoever parteth the hoof and his cloven footed and cheweth the cud, etc.

A--Well I have no quarrel with that. It is a great deal better to eat a few animals than to eat them all and it is better to eat animals that are not likely to be diseased than to eat those that ^{greatly} are diseased. Now will you remember this passage when you are sitting down at the table and eating a bit of ham or sausage the next time. There is this scripture that absolutely forbids you to eat the hog in any form and Adam Clarke said once when he was asked to ask the blessing at a table where there was a roast pig on the table, he looked at that roast pig for a moment and then turned his eyes toward heaven and said, "Oh Lord if Thou canst bless under the gospel what Thou didst curse under the law, bless this pig." But there is no evidence that that pig was ever blessed and he also said that if he was going to make an offering to the devil, it would consist of a pig stuffed with tobacco.

Q--Why is constipation such an unsolved problem?

A--It is not. We undertake to cure every single case of constipation, every single case. It was an unsolved problem a few years ago, but the discoveries that have been made within the last five years, and some of them within the last three years have made it possible to deal successfully with every single case of constipation. So if there is anybody here that is suffering in that way and is not getting relief, I beg you not to leave the place until you give me a chance to interview you and try to find out what is the cause because you can go away relieved. This is a graveyard for diseases of that sort and we do not like to have anybody carry off a corpse of that kind. We want them to be buried here. Now I want to say to you that constipation is the worst thing a human being can suffer from almost. I do not know of anything that does more harm to the human family than that one thing, intestinal inactivity. Almost everybody is constipated. Why, people think if their bowels move once a day, that is all that could ever be expected. Some people think if their bowels move once a week, that is enough. I asked a man sometime ago how his bowels were and he said they were perfectly, they moved regularly once a week. Now I sent out, a couple of years ago, a circular letter to a thousand ~~xxxxxxxxxxxx~~ missionary doctors. I wrote my circular to them because I wanted to get information about the bowel habits among primitive people and I got back the most interesting lot of letters possible to imagine and I hope ~~xxxxxxxxxxxx~~ to publish a compilation of these replies some-

time. Two replies I received which I am sure will interest you. Dr. Sheppard, the wonderful surgeon under the American Board, ^{who} has done such marvelous things ^{in Turkey} during almost forty years, wrote me that the habits for the Turks are, for the bowels to move three times a day. And he said, "I know this is the case because almost the first thing the average turk says when he comes to me is, 'Doctor, I am sure there is something wrong with me because my bowels only move once a day.'" Dr. Lane of England said to me and to others in the lobby of the Waldorf Astoria Hotel a year and a half ago when he was over here to attend a Conference there which I was also attending, he made this statement, "A turkish officer came to me ~~xxxxxxx~~ not so very long ago and said to me, 'Doctor, I must have ~~xxx~~ something for my bowels.'" This turk was connected with the embassy in London. "Why," I said to him, "What is the trouble with your bowels. Don't they move?" He said, "They move, but they don't move often enough." He said, "My bowels only move once a day. Now when they move only once a day, I am not half a man. I want my bowels to move three times a day, then I am at my best." I had a letter from a missionary in South Africa down among the hottentots and he said they give great attention to this matter. To illustrate it, I might tell you of a case of a hottentot who called on me the other day. Yesterday morning he came in and said, "Doctor, I am terribly constipated. I must have some medicine for my bowels." I said, "When did your bowels move last?" "This morning," he said. "Well," I said, "I thought you said you were constipated." "Well, I am, doctor, horribly constipated, my bowels only move once a day." That is the situation and the majority of people whose bowels move only once a day are a day in arrears or sometimes a whole week in arrears. That is ~~xxxxxxx~~ the cause of those horrible unwholesome odors which are being absorbed into the blood, and it is the great foundation problem my friends, in treating all chronic diseases, to get rid of this condition, to get ~~rid~~ the alimentary canal properly three times a day. If we don't there is an enormous extra burden being thrown upon the kidneys through carrying off material that ought to be carried off through the bowels and the blood is always freighted with these poisons from the colon on the way to the kidneys and lungs to be eliminated, so the lining membrane of the vessels is irritated, contracts and that is what makes high blood pressure and unquestionably this is the principal cause.

Q--Are Horace Fletcher's views about food residues in the intestine correct?

A--His present views are correct. Those published some years ago are wrong. I am glad to say he has reformed.^{In} The last letter I had from him he told me his bowels were moving regularly every day and I am sure he is very much improved in consequence. A great many people suffer dreadfully because of the supposition that it is the normal condition for the bowels to be inactive ~~xxxxxx~~ especially when they are taking pains to masticate the food. You know the bile is being continually poured out, a pint and a half every twenty-four hours, and that pint and a half of bile must be gotten rid of. It is the most poisonous fluid of the body, six times as poisonous as urine according to Bouchard's experiments and it must be gotten rid of and the bowels must move frequently in order to get rid of these horrible poisons.

A--Does swelling of the joints of the fingers mean rheumatism?

A--Yes it is rheumatism or osteoarthritis which is worse.

Q--Can I use the electric light bath in my home?

A--Certainly it is a good thing to have. I think it would be a good addition for every home. It is a Turkish bath, a vapor bath and everything else combined. In five minutes you can be warmed up and then have a short tonic bath afterwards. The effect of the light is tonic and the cold bath that follows ~~is~~ has an additional tonic effect.

Q--Can eating too much be a cause of intestinal autointoxication?

A--Yes especially if you eat too much protein.

Q--What is the cause of dark blotches on the side of the face and neck?

A--Autointoxication. It means the kidneys are wearing out. The suprarenal capsuls over the kidneys have for their business to restore poisonous coloring matters. ~~These horribly poisonous~~ ~~xxxxxxxxxxxx~~ coloring matters taken in when they are in excess, these organs cannot do ~~xxxxxx~~ their work. They are over worked and some of this brown stuff is deposited in the skin. The same thing that makes discoloration of the skin, hardens the arteries, wears out the kidneys and makes other mischief.

Q--Which is better exercise for colitis ~~than~~ ^{and} constipation, rowing in

rowboat or a canoe?

A--I think I should feel safer in a rowboat under ordinary circumstances, though there is no specific exercise. Walking or any kind of manual labor almost that ~~begin~~ brings the whole body into exercise is good and wholesome. Both the canoe and the ~~xxxxxxx~~ row boat are entirely wholesome forms of exercise and very good.

Q--Do the intestines ever adhere to the sidewalls of the abdomen?

A--Yes they do, especially after operations, sometimes too as the result of constipation and they are quite common. That is the way we get Lane's kink of which you have heard and obstructions of the bowels are often due to that cause, especially adhesions to the back wall of the abdominal cavity rather than the front walls. This can often be overcome. I think they can be overcome in some cases at least, if they are not too old and too dense by the persistent application of fomentations and massage to the abdomen, but that cannot always be accomplished. We have to ~~xxx~~ perform operations sometimes and we are operating every week on cases of that sort stubborn cases that resist all other measures and the results are very satisfactory. It is not a serious operation at all but can be done with safety under proper conditions.

Q--Is the use of a lavage tube once a week in order to avoid sour stomach a good thing?

A--It is better to use the lavage tube than to have the headache. The proper thing is to get rid of the sour stomach which is not due to fermentation but to the excessive formation of acid in the stomach. The probabilities are twenty to one that your case is not a case of fermentation but a case of the excessive formation of acid and this is almost invariably associated with an inactive state of the bowels and by correcting this condition of the bowels by proper regulation of the diet, especially by the free use of olive oil and a very laxative diet, it is possible to correct this difficulty entirely. If you will speak to your doctor about that you will get suggestions that will relieve you. If you do not, then come to see me down at one hundred. I am usually there every evening. I hope to get my hours established regularly and I am always glad to see anybody that is a hard case, because those are the cases I enjoy meeting. I thank you for your attention.

Question Box at the Sanitarium Parlor, Battle Creek, Michigan, Thursday,

April 16, 1914 at 8:00 P. M.

by

J. H. Kellogg, M. D.

For forty years I have been trying to get this Question Box emptied but whenever I appear it is as full as ever. It seems to be like the widow's cruse of oil. I can never reach the bottom of it. Most of the questions I get here are about diet and I suppose it is quite natural and proper too because the matter of eating is one of the most important things that concerns our every day life. We are made of what we eat. What we eat today is walking around and talking tomorrow so it is a matter of a good deal of consequence whether we eat right. If we expect to walk uprightly we must eat properly, don't you see. People that eat bloody beefsteaks, pepper, mustard, peppersauce, horse-radish and hot things of that sort, it isn't any wonder that they have a ferocious disposition. It isn't any wonder that they are irascible and irritable. Some of you seen the account of the experiments of Baron Leibig, the great German chemist many years ago. He tells a story how at a great bear pit at Berne that many of you have seen I am sure, some experiments were made upon bears. The keepers found on the days when they fed the bears meat they were savage and ferocious but when they were fed on a vegetable diet for a few days, the bears became very amiable and were gentle so the keepers used to amuse themselves and the people of the community by testing the disposition and the character of those bears by simply changing their diet. So I hope these

ladies will take the hint if you want your husband to behave like bears you know how to feed them. If you want them to be angels, you know that you will have to feed them upon the ambrosia of the God.

Q. What is the best way for a nervous patient to relax?

A. Now the best way for a nervous patient to relax is to forget all about it. So long as he has to relax he don't relax but gets worse all the time. The thing is simply to forget it. Get amused and diverted with something and just forget about it and it will relax itself.

Q. Should one eat butter on potatoes, rice, bread, cereals and other starchy foods?

A. Yes, ~~rice~~ butter belongs with those things. A great many people have the wrong idea of this thing. They have the idea that starch is very indigestible. Many people, especially people who have been accustomed to use a great deal of meat and discontinuing the use of meat find themselves suffering from sour stomach and they think starch does not agree with them. A great many doctors say to their patients I am very sorry to say, "Don't eat starch. Starch is very bad. Your starch digestion is not good." Now I have been watching for a great many years, studying the question for a great many years and I have yet to see a half dozen cases in which starch digestion was not good. Starch is the most easily digestible of all foodstuffs. It is so easily digestible that it is impossible to demonstrate that any energy whatever is expended in the digestion of starch. Here you have ~~we~~ have a tablespoonful of starch ~~or~~ and just a half tablespoonful of saliva will completely convert that starch in a wonderfully short space of time. The conversion of starch into sugar, the digestion of starch is the easiest thing that happens in the body.

Starch digestion begins in the mouth. It continues in the stomach. It is accelerated in the small intestine. It continues all the way through the small intestine so there is such facility for the digestion of starch in the body that every fluid of the body has the power to digest starch. Now, isn't that curious but it is a fact that every single fluid of the body, the blood itself and even the urinary secretions will digest starch. There is such a surplus of material in the body for digesting starch and of this starch ferment that it is eliminated in the urine in quantities sufficient so that a spoonful of urine will actually digest starch and convert it into sugar. If the proper laboratory conditions are supplied so you see that the digestion of starch is the very simplest and easiest problem with which the body has to deal and to say to a person that their starch digestion is bad, you must not eat so much starchy food because your starch digestion is weak is a ridiculous proposition. You cannot find such a person unless you find a person whose pancreas has degenerated and who has reached almost the very point of dissolution. The ability to digest starch remains after the ability to digest protein and starch and every other food element is lost. It is the very last of all the digestive powers of the body that is lost is the power to digest starch. I must say a word further in exclamation. A person who has been accustomed to eat a good deal of meat, when he stops eating meat and he takes bread, cereals and things of that sort, he begins to have sour stomach and he says, "my starch digestion is bad and the starch ferments and sours."

That is all a mistake. We used to think that and when we began to examine stomach fluids by the chemical method, I began expected to find, of course, a great deal of starch fermentation. I expected to find yeast, lactic acid, acetic acid and other products of fermentation in the stomach in these cases but I didn't find any at all so I sent down to Ann Arbor and got the best chemist in Ann Arbor, Prof.

Gongberg to come up here and spend several weeks to try to find products of fermentation and in these stomachs that ~~contained~~ complained of acidity and I worked in the laboratory along with Prof. Gongberg myself and we found after applying the most delicate tests known to chemistry, after working and toiling at that problem for weeks and weeks and weeks ~~we~~ finally discovered that there was no fermentation there, that it was not fermentation, that the acidity of the stomach which a patient suffers under these conditions, a person who has sour stomach, is not due to fermentation but to an excess of hydrochloric acid, ~~and~~ excess of acid. Now when a person eats meat the stomach makes very acid gastric juice. It is necessary to have a very acid gastric juice because the meat has in it elements which require disinfection. The hydrochloric acid is a disinfecting solution. If you want to disinfect your back yard there isn't anything better than hydrochloric acid and nature supplies us with a disinfecting fluid in the stomach. She knows our tendency to eat soiled things and in ~~fact~~ spite of our greatest care we are all the time taking ⁱⁿ the germs of putrefaction from the air and we do not always take pains to clean the teeth as thoroughly as we ought to and some products of putrefaction go down into the stomach with the food so it is necessary to have some disinfecting principle and the hydrochloric acid is the thing that disinfects. There is nothing that needs disinfecting/^{so bad} as meat with the possible exception of Limburger cheese and some outrageous things of that sort that people sometimes swallow, a scavenger diet. Meat contains enormous quantities of germs, putrefaction germs. Now that is not news to anybody. Everybody must know that because when you get your beefsteak you put it on ice right away and keep it on ice. You do not let it stay in a warm place because you know what will happen to it in a very short time. ~~In a few hours it~~
~~is~~

It is beginning that way before you get it. While it is hanging up there in the meat shop it has already started on that road and that is what makes it so tender. You know when an animal is first killed the flesh is so tender you can crush it between the fingers. When we are performing surgical operations in operating upon flesh, you know human flesh and animal flesh are just alike, the next time you are eating beefsteak think to yourself that meat looks just like my own flesh; these muscle fibres are just like my own muscle fibres. That is an interesting thing to think about, isn't it? Now when we perform surgical operations and get cut a muscle, we have to be very careful. If we pick it up with a pair of forceps we have to be very careful or we will ~~smash~~ crush it. If we tie it with a ligature and tie it too tight it will go right in and cut it. You can take a piece of living muscle right between your thumb and finger and crush it just like a mass of jelly almost it is so tender. That is the condition of the flesh of an animal when it is first killed but after a little while rigor mortis occurs, that is, the death stiffening occurs. That is the beginning of decomposition of the animal. That is the death of the muscle fiber is when it becomes coagulated and that is death stiffening. Then it becomes tough and when the fiber of the ox has once become tough in that way from this coagulation or death stiffening or rigor mortis, when that occurs, then it never gets tender again until it rots and when you find a nice, tender ^{en} piece of juicy beefsteak you may know it is rotting beefsteak. That is why it is tender. Now you know the butcher hangs up the meat and keeps it hanging. He hangs it up to ripen he says. Now dead things don't ripen. Dead things rot. Live things and fresh things

and the green things ripen but not dead things. Dead things decay. Mr. Armour's manager some years ago took me through his various departments. This was about thirty years ago when we used to use meat here. This institution used to use two oxen every week and our family was not nearly as large as it is now and we kept on using it till by unanimous vote, voted it off our tables because we found it did the patients harm and there wasn't any ordinary case in which we needed it. We found we could get along better without it than with it, so we dismissed it. After twenty-five years trying the meat diet by unanimous vote our entire faculty turned it out of our house. That was twelve years ago, just after our fire in 1902. We did it very promptly too. We didn't have any discussion about it, but just did it. Somebody said, "Well now, the patients will go away." I said, "I don't believe we will lose anybody." And I will just tell you how I did it. I didn't tell anybody we were going to do it at all, didn't say a word about it, only to the steward. I said to him, "Don't buy any more meat." And I didn't say another word to him about it. I said "Don't buy any more meat." He said, "Do you mean it." I said, "Yes I mean it. That is all there is about it. You simply stop buying meat." I told the cook, "If there isn't any meat for breakfast tomorrow morning, you go to the steward and call on him for some and if the steward says he hasn't got any, you tell him to hurry up and get some quick." And then I told the waiters when I went out to the kitchen and called for some meat, "If there wasn't any at all, to tell the cook to hurry up and get it as quick as she could and then I said nothing more about it. The next morning a lot of people called for beefsteak and the waiters went out to get the beefsteak and there wasn't any there. They came back and reported that the cook said they were out. And so things went on till dinner time came and the waiters came back and reported the same thing, that they went into the kitchen, did their best to get some beefsteak and the cook said the steward had neglected to bring it in and they didn't have it. And at supper it was the same thing and the next morning, well one gentleman said, "This thing is getting monotonous. If I don't have some beefsteak for dinner, I am going to leave the place." The dinner came and there ~~wasn't~~ wasn't any beefsteak and he thought the matter over and he reappeared at supper just the same, and, by the third day, the people woke up to the fact that they had had no beefsteak for two days and were all alive and getting on very comfortably so we never had any discussion about it, we just simply went on without it and we have not missed it.

We have been a great deal better off without it than we were before. All our doctors were convinced that we didn't need meat. I was just going to say that I was down to Chicago to see Armour's manager ~~whom~~ to arrange with him to give us ~~us~~ fresh meat, because I didn't like the idea of giving people, when we were trying to relieve their stomachs and get things into a clean wholesome condition, I didn't like the idea of feeding people rotten meat and I said to him, "How long do you keep your meat?" "Well," said Mr. Swallow who was Mr. Armour's manager at this establishment, Mr. Swallow said, "We keep our Christmas beef three months before we offer it for sale." I went down into the place where they kept it to see it, and there it was. Well it had started a new growth. Why, it had a beard an inch long, some of it. Some of it was covered over with green mould and actually had to be skinned the second time before it could be sent out and that meat was very very tender and very toothsome. That is what they call pine beef you know. Well now, my purpose was to get Mr. Armour to agree to supply us with meat the very day it was killed, to kill it and put it on ice and ship it to us right off in a special box and we had that arrangement and we got the reputation of having the toughest beefsteak in the whole country. Our cooks used to have to pound it and pound it and pound it and we got just the choicest cuts of the animal, yet it was so tough anybody could eat it and we had to get special machinery for hammering and pounding it in order to make it tender enough so that anybody could tolerate it and they all thought they were getting the poorest beefsteak possible because it was so tough when we were buying the very highest priced beefsteak that we could get and insisted on having it clean and fresh, and before it had undergone this process of decay, but we found people didn't like it, so we took to washing the beefsteak. We used to laundry our steaks, soak them in salt water, then put them through a wringer, then keep putting them through until they came out almost white as my coat and then ~~then~~ we got all the uric acid and the blood and the waste matters all washed out, but you know there wouldn't anybody eat it. "Why," they said, "there is'nt any taste to it" and, of course, there wasn't. These products of decay and putrefaction residuary urine, etc. in the tissues are what gives it its flavor. That is why people like it. A chemist a short time ago declared that the only way in which he could ~~a~~ distinguish beef tea from urine was by his nose. He couldn't tell by the analysis. The analyses showed just the same thing. Well that is the truth about it. Dr. Austin Flint

of New York City called attention to that thing more than forty years ago and published it in one of his books, that he sent some beef tea and some urine to a chemist to be examined and the analyses came back just the same, looked just alike. The chemist could not tell the difference. Well, fortunately there are some very good things beside meat. Now when a person gives up the use of meat and begins to eat starches things, then he has a sour stomach. Says, "Oh starch don't agree with me." You see the trouble is, his stomach has been accustomed to producing so great a quantity of this disinfecting gastric juice to disinfect that meat that when he stops eating the meat, he has a surplus. He has got more disinfecting fluid than he needs, don't you see. So it attacks his stomach and he has sour stomach. Now the thing that was necessary for that man is to add to his starchy foods some fat. He needs to add a quantity of fat, butter, if you please, and olive oil and other wholesome fats, a quantity of them, and the reason for that is, that this fat will cause the stomach to make less of this hydrochloric acid. So you see, fat is the proper, the natural complement for starchy food. The proper thing to add to the potato is butter or the proper thing to add to bread is butter because these foods contain starch but they do not contain fat and butter is necessary to regulate the digestive process. Meats contain a sufficient amount of fat. I hope I have made this point clear. Don't let anybody deceive you with the idea that starch is a dangerous thing. It is the greatest mistake in the world. Many people have the idea that eating starch is the cause of diabetes. That is another great mistake. It is not the use of starch that ~~causes~~ causes diabetes, it is the use of meat that causes diabetes; it is this putrefaction occurring in the intestine and infection of the pancreas through this infection traveling up through the intestine up into the gall bladder, then back into the pancreas. That is what makes diabetes. That is a matter of so much importance and it ~~is~~^{has} only comparatively recently been brought out. I am just going to make a little diagram on the black board here to make it plain to you so you can see just how it is. This, if you please, represents the colon and up here is the stomach. Here is the small intestine, here the ileocecal valve that makes so much trouble sometimes, and here is the appendix. Now here is the gall bladder right up here and here is the liver and here is the pancreas lying behind the stomach. Here is the little duct that goes from the pancreas down into the intestine right along beside the bile duct. Now when this chronic constipation and

stasis or stagnation occurs here, the bowel gets overstretched and after awhile, this little ileocecal valve gets pried open, stretched open so it does not close, then the fecal matters back up into the small intestine and they keep backing up and the infection travels up until it comes up here and into the gall bladder and that sets up inflammation of the gall bladder and gall stones are formed and this inflammation gradually travels up through here to the stomach, works up in this little duct and gets into the pancreas ~~and~~ and this inflammation of the pancreas which is set up in this way is the cause of diabetes probably in ninety-five cases out of one hundred. Recent investigations have proven this very conclusively so there is now little or perhaps no chance at all to doubt it. So the chief cause of putrefaction in the colon, is the putrefaction of undigested remnants of meat. When a person eats an apple and it is not all digested, there is no putrefaction. If a person eats a piece of bread and it isn't all digested, there is no putrefaction. The bread crumbs and apple sauce do not undergo putrefaction, but if a person eats a piece of sheep, or a piece of a pig or a piece of a cow and it lies about in the colon and is not digested, why that fragment of a cow lying there in the colon will undergo putrefaction just the same as if it was the whole cow lying in a fence corner, you see. The same thing happens to it and this putrefaction that takes place there ~~sows~~ sows the seeds of infection and travels along up the small intestine here and finally gets into the gall bladder, so that is the reason why the habit of meat eating, the large consumption of flesh is without doubt a cause of diabetes. Now you would expect if starch eating was the cause, you would expect in such a country as india, for example, to find an enormous amount of diabetes and in China and these other vegetarian countries where they eat so much rice, but it isn't true. Diabetes is a disease of meat-eating countries and not of the starch or rice-eating countries. But I must hurry on. So butter is the proper thing to take with starch with starchy food. Remember that and if you have sour stomach, eat more butter and more olive oil. Take a couple of tablespoonfuls at every meal or even more.

Q--What is the best diet when a person pain in the liver, extending round to the back?

A--Such a person ought, of course, avoid meats of all kinds because he probably has inflammation here in the gall bladder. Pain in the back is one of the most

characteristic signs of ^{trouble} ~~xxx~~ in the gall bladder. ~~Rxxx~~ Pain in the back just about this region and soreness, tenderness there, this tenderness far up under the ribs on the right side on pressure gives us pretty good reason to believe that there is inflammation of the gall bladder and possibly gall stones present. Of course, a person should cut out meat entirely, adopt what we ~~call~~ ^{call} an antitoxic diet. The most important of all is that ~~he~~ should take a laxative diet because ~~he~~ ^{he} probably have an incompetent ileocecal valve which causes a backing up and it is very important to take a laxative diet so as to keep the movement downward very active. The bowels should move three or four times a day and in that way the infection may be prevented from getting worse and in time may be overcome.

Q--Is there anything harmful in Cascara?

A--Yes, it is a harmful drug. It contains irritating poisons, a substance known as anthracin which is a very irritating and poisonous substance. When used for a long time, it produces colitis. Prof. Falta, one of the most eminent physicians of Vienna said to me a couple of years ago when I was spending a little time with him in investigating ~~the most recent~~ ^{the most recent} ~~methods~~ methods there, Prof. Falta said, the chronic use of drugs is the worst thing possible. He said, "There is nothing so bad as the chronic use of drugs," speaking about the use of laxative ~~xxxxx~~ drugs. I said to him, "Prof. Falta, what do you do for bad cases of constipation?" "Regulate their diet", he said. "Well, suppose it is a very bad case that has tried all kinds of diet regulation, what do you do then?" "Diet", he said. "But", I said, "Suppose it is a very obstinate case that has resisted every measure that can be brought to bear upon it, what do you do?" "Diet". "Why, do you never use drugs?" "Oh," he said, "The worst thing possible is the chronic use of drugs and that is the conclusion of the best men in the medical profession at the present time. It is the small men, the lazy men. It is the men who do not think and the men who do not take the trouble to investigate and to study into the case and find out the causes for things and remove them, they are the men that wrecklessly say, "Oh, take this pill or take that pill" and when this wears out take another and so recommend this thing or that thing or another thing until alimentary canals

are entirely worn out. Then they have not only got to change their medicine but they have got to change their doctors as well and it would have been fortunate ~~in many~~ many cases if they had made the change earlier. The fact is that the majority of people are suffering from very obstinate, chronic constipation indigestion and from colitis and from chronic constipation. These patients are suffering from the long continued use of drugs. I remember very well a man who came here many years ago and we found his case a very bad case. He came from Grand Rapids here, an old gentleman about 70 years of age and we found him to be one of the worst cases that we have ever encountered. I discovered on talking with him that he was accustomed to take, well he had gotten to the point where he said a half a pound of salts and it didn't do a bit of good. He had taken a half a pound of salts a day and it didn't do him a bit of good but he said, "I think I must have worn it out." I said, "How did you come to use salts?" "Well", he said, "You know when I was a boy at home my mother used to give us all a dose of salts regularly every Friday night so that we would have a good housecleaning and be ready for Sunday." "Well, now that was universal in that family and every member of the family from the oldest to the youngest had to take that dose of salts every Friday night and of course, the dose had to be increased as they got older and he had gotten where half a pound did not do him a bit of good and the poor man came here and his alimentary canal was entirely worn out, Colitis, irritation, and inflammation and a catarrhal condition from one end to the other.

Q. I have to use a lavage tube once a week in order to avoid sour stomach and headache. Is this a good plan?

A. Now, it is a great deal better to use the tube than to have the headache, a great deal better but the important thing is to find out just how to manage your stomach so that you won't get into that condition. This condition of stasis, the stomach does not empty itself properly. There may be spasm of the pylorus. There may be a partial closure of the pyloric opening. The lower opening of the stomach is ^{probably} partially closed and the important thing is to find out

just what your condition is so I recommend for this person to have an X-ray examination of the stomach and to have a bismuth meal and to know. There was a time when we had to guess in such cases. We simply looked the patient over and then formed as good a guess as we could of what the real conditions were but now we can know because by taking a bismuth meal it is possible to see the stomach and to see each morsal of food

13

By taking the bismuth meal it is possible to see the stomach and to see each morsal of food as enters the stomach, to see just where it goes and how it lands in the stomach and how long it stays there. See the waves pass along the stomach. See the entire behavior of the stomach, to watch it as the food passes out. I saw a case yesterday in which the stomach was in such a condition that the food remained there two or three days undergoing decomposition and fermentation. Now those are the cases in which sour stomach actually come, from fermentation occasionally but the ordinary sour stomach is due to too much acid in the stomach. These cases which I am now describing sometimes are the subject of fermentation but even in those cases starch, rice and other starchy foods are the only foods which can be safely given.

Q. Have prunes an acid reaction?

A. Yes, slightly. Some prunes are quite acid and others are very little acid. The so-called sweet prunes contain more or less acid. Even sweet oranges contain a little citric acid. The sweetest fruits with the exception of two or three, the sweet apple and the pear contain practically no acid at all. Figs and dates contain no acid but practically all other fruits with which I am acquainted do contain a little acid. Some contain a good deal but all contain a little.

Q. Can a person who has had several mild attacks of appendicitis within the last eight years be cured without an operation? Or is an operation the only sure way? What is the best diet?

A. Now when a person has had an attack of appendicitis and has gotten over it he is well, he is cured now. Nature can cure a sore or inflammation inside of the body as well as outside of the body. If you had an inflammed finger you would not cut it off the very first thing to cure it. You would give it a chance to get well and an inflammed appendix

probably 99 times out of one hundred the inflamed appendix gets well without the assistance of a doctor or surgeon. Unquestionably many people suffer from many attacks of appendicitis without being aware of it but when an attack of appendicitis occurs at such severity that you recognize it and the ^{re} pain, swelling, and tension, perhaps vomiting and sickness, fever and chill, that is a very severe attack of appendicitis; that probably is the perhaps the fiftieth time or one hundredth ~~time~~ attack you have had. The other attacks were so slight you did not know it but now you have an attack that is severe. The thing is getting into a dangerous situation then and the probability is that you are going to neglect yourself in such a way that you will have repeated attacks. Now, as I said, when a person has once had an attack of appendicitis and has gotten over it he doesn't need to have another if he will take the proper care of himself and the proper care means he must avoid all possible causes of appendicitis. He must eat no meat. If I were in that situation I would discard both meat and eggs. Why? Because they putrefy in the body if there is any part that is not digested and immediately absorbed and that putrefaction lights up the fire of appendicitis and it is very important that the bowels should be made to move three times a day. There should never be any stagnation because that will start up the appendicitis again. Stagnation is the beginning of it. Appendicitis does not begin in the appendix. Appendicitis begins up here in the colon and works down into the appendix so if we keep the colon perfectly right there will be no trouble with the appendix but if a person has had two or three attacks of appendicitis, severe attacks, my advice to the average person is to have the appendix removed. The operation is not serious and the probability is that you will sometime encounter ~~circum~~ stances that will lead to an attack under conditions where you cannot be properly taken care of and it might make a finish of you. It is an interesting fact, a sad fact too,

that deaths from appendicitis are increasing in proportion to the population. The death rate from appendicitis is growing every year notwithstanding all the improvements in surgery and all the improvements in diagnosis. At the present time there are more people dying every year from appendicitis than ever before since the disease has been recognized and each year there is a steady climbing up in the death rate.

Q- Why is this town, a famous health resort, allowed to use soft coal?

A. I am very glad to have this question. We will take it right up with the city authorities and ask them to have it stopped immediately. I certainly would like to see it done. We have complained about this thing a good many times.

Q. Is it just as effective to take Colax with the meal?

A. That is the time to take it. It should be mixed right with the meal.

Q. Does it ever ever-clog the intestines?

A. There is no danger if it is mingled with the food, if it is taken in a coarse state. If it is ground up and taken in a fine state it sometimes does clog and do harm.

Q. Will adhesions of the costo-phrenic pleural effusion lead to tuberculosis?

A. No. It will not lead to tuberculosis. It is sometimes a consequence of tuberculosis but is not a cause. What is referred to here is this. Where the diaphragm rises up into the chest here and there are adhesions formed between the diaphragm and the chest wall like that that is frequently a result of tuberculosis, but not always.

Q. Will bicarbonate of soda soften hard water?

A. Yes. Bicarbonate of soda or hydrates of soda will soften hard water.

Q. Please explain diathermy. Does it burn easily?

A. No. Diathermy is the wireless electricity. Thirty-eight years ago I spent an afternoon at Mr. Edison's laboratory in Newark, New Jersey and he had recently made a discovery of what he called the odillic force. This was a curious kind of electricity that nobody had known anything about before. It would not obey the ordinary laws of electricity but it would travel through the air and he showed me an experiment where he had two large pieces of tin foil set about ten feet apart and he showed me that this force he had discovered would jump from one of those plates to the other. It was a very curious thing. Nobody had ever noticed this before and nobody had ever understood it and he called it the odillic force. When I was in Fort Myers, Florida, a few weeks ago, Mr. Edison happened to be there. He has a winter home there and learning I was in town he kindly invited me to come over and make a little visit and as we were chatting I recalled the fact that I spend an afternoon in his laboratory some thirty-eight years ago when he was experimenting with the odillic force and I was very agreeably surprised to find that he remembered the afternoon and devoted a whole afternoon in demonstrating it to me and a friend of mine, Dr. Baird. We were there together. He said that he remembered it very well. He said this: "Hertz ^{the} a German physicist took up that idea and worked it out and found the wireless electricity. The beginning of it was in Edison's laboratory but he did not pursue it far enough to develop what was afterwards found out by Hertz. This wireless electricity which has some of the properties of light so that it travels through space with a speed equal to that of light this wonderful electrical current has been harnessed at last and has been tamed and taught how to help sick people get well and that is what we call diathermy. When this current is applied to the body in passing through the body it is converted into heat and it has very peculiar properties. By proper adjustment of the

electrodes the heat can be applied to any part of the body where it is desired. Suppose this is a little trough which contains a quantity of white of egg and solution and water and here is one ^{pole} ~~full~~ we will say the positive pole and here is another pole we will say, the negative pole, and this is applied to this trough and the current is passed through it. Now we would expect this white of egg would be coagulated right around the pole here, that there would be a mass of coagulation accumulating here as the result of the application of heat but this is not true. There is no coagulation here at all but instead right in here half way between the two there is a little coagulation begins and extends both ways until it reaches the poles. The coagulation occurs half way between the two so when the electrodes are applied to the surface of the body, one in front and the other behind, the point where the heat is concentrated is in the very center of the body so by this means it is possible to apply a fomentation if you please to the inside of the liver or to wrap a hot bag around the kidney. In other words, it is possible to apply heat and rather an intense degree of heat to any part of the interior of the body just as we can apply it ~~all-through~~ by other means to the outside of the body so it has proven to be of very great value in the treatment of various sorts of liver troubles, brain troubles and heart troubles and especially joint troubles. When applied to the sides of the joints it penetrates the very interior of the joint. When a joint is put into an oven and baked and the high temperature is applied perhaps the air about the leg will be 600 degrees. The leg will be wrapped up in woolen blankets, of course, so it is not exposed to any such temperature. The heat is applied to only the outside but when ^{is applied} diathermy the heat goes right down into the interior and the temperature of the interior can be raised three or four degrees which cannot be done in any other way. This we find an exceedingly valuable remedy.

Q. Why are exophthalmic goitres so much more prevalent than formerly?

A. Exophthalmic goitres are due to the excessive stimulation of the thyroid gland by poisons absorbed from the intestine. Chronic auto-intoxication which is getting to be universal almost everywhere from the increasing prevalence of constipation combined with the universal habit of flesh eating. Flesh eating and constipation put together make a the very worst constipation imaginable because the bowels are inactive and then the undigested fragments of meat are retained in the bowels for days undergoing putrefaction, the most virulent and poisons are formed. You know what happens when a dead rat lies around and decays. The poisons formed from it are something horrible. Now it is the same thing when a piece of a dead animal lies in the body undergoing putrefaction. These dead rat poisons are formed and are dead rat stenchs are produced and absorbed into the blood and pervade the entire body and the battle of the body against these poisons is what gives rise to exophthalmic goitre. The thyroid gland is the gland which destroys these poisons that results in putrefaction so when the poisons are present in the blood in excessive amount the thyroid gland is over-stimulated, grows too large, becomes too active so the amount of thyroïdin produced is so great that it disturbs the heart and the body engine and that is what is called exophthalmic goitre. An antitoxic diet, a non-flesh diet, will effect a cure in many cases without anything else. I am going to tell you a little story to illustrate the truth of this thing and you can verify the facts about it if you want to. I am sure I won't be violating any confidence in the matter. Some of you remember a couple of years ago reading an account in the papers of a very brilliant wedding that occurred in New-York-City Philadelphia, a-w-e in which a lady of New York married one of the wealthiest Philadelphia

gentleman. He went down there to marry a lady. She had a string of pearls about her neck so long that although she was quite a tall lady one end of the string rested upon the floor while the other end was around her neck and the jewels were piled up in such numbers that they had to have four policemen to watch the jewels to keep burglars from breaking in and carrying them off but this lady I happened to know while there was so much ostentation in this wedding she is one of the most brilliant and charming women I am sure that any of you ever met. This ^{very} lady was a patient here over thirty years ago, about thirty-three years ago and she was brought here and I can tell you the details of the case now that I did not know all about before for I met her father when I was in the south. He found I was in the city and he hunted me up. He was a well known Chicago judge but who now lives in Washington. He heard I was in the city and came down in the morning and hunted me up, a man about 85 years old. He is one of the most charming gentlemen I ever met. He came down to see me and to have a little visit and in the course of our visit he told me the circumstances under which his daughter he brought his daughter here as a patient thirty-three years ago. He said, "My daughter had been under the care of leading Chicago doctors for three years. They had continually given her up to die and Dr. M. F. Davis had said to me, 'Now, Mr. Roberts, I am sorry but we can do nothing more. I am sorry that I will have to say to you, you will have to prepare for the worst. Your daughter will have to die.'" Well he said. We talked it over frankly with her and she is reconciled to it and she said, "Father, now I want to die in a quiet place and I have heard about Battle Creek. I want you to take me up to Battle Creek for that will be a quiet place in which to die" and so he brought her over here and he said, "When you examined her you told me you didn't know what you could do but you believed you could help her so you marked out a course of treatment for her. You put her to bed, you said that she must not eat any meat and you didn't let her have any tea or

coffee and you just began giving her simple treatment and in ten days she was certainly better and in three weeks she was so much better that we began to have hopes that she was going to get well. She stayed three months and she got so well that Mr. Cromwell came on to New York and married her so she went to New York and was a leader in society there as Mrs. Cromwell for a good many years and got entirely well. Some five or six years later she came back here and brought two or three of her little ones. Every summer for several years she came back but she never had a relapse from that disease although it was so far advanced that the best doctors in the country had given her up to die. Now she didn't have any medicine of any kind or any operation of any sort. She simply had a removal of the causes of her trouble. They were feeding her on meat and eggs, the very worst things she could possibly eat because they were feeding the disease continually and when we put her on a non-flesh and antitoxic diet nature had a chance to effect a cure and being still young and vigorous the cure was accomplished. Now from our experience I think I can say if we could get the patient's confidence and the patient would be patient and let us do just what we wanted to do and do it long enough nine cases out of ten of all cases of exophthalmic goitre are curable without any operation, without medicine, simply by removing the cause. Why, nature is the great curing power. The doctor doesn't have any power to cure, medicine don't have power to cure. Healing is creation my friends. It takes the same power to cure a man that it did to make a man in the first place and there isn't any such thing as creative power in these drugs that we can put in a bottle. If there was curative power in the things that we put into bottles you could not keep the cork in. It would shoot out. There wouldn't be force enough to keep it there. The real healing power is in the body itself and all that any drug can do, all that any treatment can do is to help supply favorable conditions so exophthalmic goitre is an entirely curable disease. We have seen scores

and scores of these cases are cured by simply removal of the cause.

Q. Explain why meat eating nations have been and are the conquerers of the world in the arts, war and peace.

A. Well the vegetarian nations have been great sufferers. There is just one reason my friends, one reason, and that is hookworm. Hookworm is the reason. The reason why the poor people of India are in such miserable health is because every last one of them is a victim of hookworm disease. That is the reason. That is what is the matter with the people of India. The same thing is the matter of the poor people living down in the mountains of Tennessee and Kentucky. Those poor people are not naturally physically or mentally inferior to other people. They are brilliant people. Abraham Lincoln was from that stock. They are people who have brilliant minds and splendid bodies but they have been almost entirely destroyed by hookworm and it is this disease that is universal in India. It does not prevail in cold countries like England. I think that is really the best answer I know of, hookworm. Of course, some ^{other} ~~of-the~~ things might be considered as well but that is one thing.

Q. Is there any remedy or cure for swelling or soreness of a leg caused by phlebitis during an attack of typhoid fever?

A. Nature effects a cure in such cases in time but it takes some little time. The old blood vessels and the lymph channels are blocked up and sometimes required for opening new ones and stretching small channels into larger ones. This requires months and sometimes years. Hot and cold applications, massage, especially the wearing of a bandage are all important.

Q. What form of exercise do you consider most beneficial for a business man of sedentary habits?

A. One of the very best thing I know of is sawing wood or splitting wood. The next best thing I know of is scrubbing the kitchen floor,

helping his wife out. If he doesn't want to do things of that sort, he can hop up and down in a corner in a bedroom or rush up and down stairs one hundred times every night and morning. That is splendid exercise. There is no excuse for living a sedentary life because you have not got some set kind of exercise. If you want to do some regular exercise you better take your wife's ironing board, put one end upon a chair and the other end on the floor and then lie down with your head down and put yourself through a lot of exercises with your legs exercising and abdominal muscles. It is very good to do that with the head low because then the organs fall up into place. The prolapsed organs which are too low down when the head is low fall upward into position and exercise/^{taken} with the organs taken in ~~per~~ proper place is very much more effective than when taken with the organs taken down out of place.

Q. Can stasis in the cecum and ileum be eliminated by constant and persistent use of Colax and Para-Lax?

A. These are helpful. A very laxative diet is important. It is important to develop these abdominal muscles by vigorous daily exercise, a good deal of exercise on the feet is beneficial. Lawn tennis and golf are good exercises. There is nothing any better, however, than chopping wood, sawing wood, digging in the ground. These are all useful occupations and perhaps the best of all exercises.

Q. Here is a very subtle question. A lady says "kindly advise us how to regain our husbands who are drifting from us on account of our bringing into our homes the Battle Creek idea."

A. Now I am sure somebody has studied very long over this thing and I think the best thing is to tell you the story of actual happening. A lady came here about 35 years ago. Her husband brought her here because he, well, because I think he felt that he needed a vacation and after she

had been with us about two weeks she notified me that she was going home. "I can't stand it", she said. "This diet of yours is so insipid I can't taste a thing actually. I have got to go home and get something to eat. I feel as though I would like a square meal." I felt quite sure we would see her again and sure enough in a couple of weeks her husband brought her back again and he told me this time she was going to stay and she did stay for three months and then she went home. I happened to be in her town a couple of years later, had to wait over a train and I happened to think of this lady and her husband so I called on them. I called at the door and the maid came to the door and I asked if Mrs. so and so was at home. "Well, not exactly, she isn't in but she smiled and I said, "Well, she is close by; perhaps she will be in soon." "Well", she said, "You go around behind the house and you will find her up in the top of the cherry tree." I went around and there she was standing on top of a step ladder and her cheeks were as red as the cherries and she smilingly came down. I said, "I suppose you were glad to get home where you could get something good to eat, get a good square meal." "Oh, Doctor", she said, "Don't say anything about that". She said, "When I got home I couldn't imagine how I ever could have eaten such stuff as I found on the table and she said you know the first thing I did was to get the pepper box and the horseradish bottle and the peppersauce and the mustard pot and carried them out and buried them in the garden." I said, "What did your husband do?" "Oh", she said, "I brought him to it." That's the way to do it, just bring them to it. You know how to do it. You have a good deal to bear from that your husband of yours, smoking and things and it is now your turn. Just bring him to it. He will thank you for it by and by. Of course, I don't mean in any ~~rude~~ rude, rough way but do it gradually.

One lady had a whole family who were fond of salt and she reduced it to about one or two grains of salt at each meal until at the end of three months they were eating no salt at all and didn't know it. They had reformed completely and were not aware of it. You can make the reformation so gradually and slowly that it really won't be regarded as a reformation at all.

Q. Do butter and cream cause a coated tongue?

A. Yes, sometimes. Butter is much less objectionable than cream.

Q. Are potatoes wholesome in cases of hyperpepsia?

A. Yes if you eat plenty of butter with the potatoes or take some olive oil at the meal.

Q. Give the cause and treatment of hyperacidity.

A. The principal cause is chronic intestinal toxemia, the absorption of poisons from the colon. Chronic constipation is really the principal cause. Excessive meat eating is another cause. Stimulation of the stomach with mustard, pepper, peppersauce and things of that kind are also a cause and hasty eating must be reckoned as a cause, swallowing food without mastication.

Q. What kind of exercise should one take who has a weak heart?

A. Such a person should take a considerable amount of very gentle and moderate exercise, should never take any violent exercise. This person should take exercise largely with the legs rather than with the arms. When the arms are exercised that restrains the movements of the chest somewhat in breathing and so is less desirable than exercise with the legs so walking is one of the best of all forms of exercise for a person with a weak heart.

Q. What causes enlargement of the heart and dilatation of the aorta?

A. Degeneration of the blood vessels and overwork of the heart, high blood pressure resulting from excessive meat eating and uric and the use of tea, coffee, tobacco and other toxins of all sorts.

Q. Explain what is meant by a weak heart, and yet no organic heart trouble.

A. When a person does not work his muscles get flabby. When he doesn't use the muscles they get soft and flabby. When the muscles are used and well trained they are hard and firm. Now when a person has a hard arm muscle or a hard leg muscle he has also a good heart, a firm heart muscle. The heart is a muscle like the rest of the body and it is weak or strong with the rest of the body. It watches ^{and} wins with the rest of the body. When the muscular system in general is soft, relaxed, flabby, the heart is in the same condition and you will be short of breath and have very little endurance. The only way in which the heart can be made firm, strong and vigorous is by developing the body. The whole muscular system must be developed, the legs, arms and the entire body must be developed. That is why we have these gymnasium exercises. One of the best things you can possibly get here my friends, one of the most lasting things, is the exercise you get in the gymnasium. The palliative treatment you get from baths is good. It relieves you and gives you a tonic effect and is comfortable but it is comparatively transient. The benefit you get from a change of diet stands by you if you adhere to it after you go home. Otherwise you lose it but the benefit you get in the gymnasium in building up the muscular system and getting stronger breathing muscles, a stronger heart and stronger abdominal muscles, stronger muscles of the arms and limbs and a well balanced muscular system generally, that will stand by you for months and even for years with a little painstaking to

keep up some of the exercises after you go home so I hope you won't ignore the gymnasium. It is one of the best things we have got. We shall soon have the two outdoor gymnasiums open and I hope you will not fail to patronize them for they are two of the very ^{most} important advantages we have in this institution.

Q. How much olive oil would you advise a hyper to use?

A. Two or three tablespoonfuls at each meal to be taken at the beginning of the meal is the best time. It should be taken before eating food or early in the meal with the very first portion of the meal.

Q. How many calories of protein should be taken by an active man? 69 years of age?

A. The number of calories of protein one should eat should be one calorie of protein per pound of body weight per day. That is enough. That is a high protein diet. I believe in a high protein ration, as I told you some time ago, but a protein ration does not mean three or four hundred calories of protein a day; it does not mean two or three pounds of beefsteak or anything of that sort. A high-protein ration means as much as a baby gets. A baby is growing and the mother who nurses her baby supplies that baby with one calorie ^{of protein} per pound of body weight per day. Now a growing child needs more protein than it ever needs at any other time in its life because it is building up its body so if we take that baby's ration as our standard, we have certainly got a high protein standard. Here is a person who weighs 150 pounds. That means 150 calories of protein per day. Now if that person should take, say 2500 calories for his day's ration and 10% of that which is the Chittenden standard, would give him 250 calories, but the baby's ration is only 150 calories which is 100 calories less. That would be called a very low protein ration, but as a matter of fact, it is a high protein ration, for the baby is a high protein feeder. So you see it is one calories to the pound. That is more than we need. That gives you a surplus and furnishes all that the body needs and a little bit more.

Q. What foods are good when the stomach is weak and distress occurs after eating cereals?

A. It is not because the stomach is weak but the stomach is making too much acid and if you will take a little more fat, olive oil or something else and perhaps it is necessary for you to take a soft diet, food that does not require chewing because when you chew and masticate the food, that stimulates the stomach to make more acid, so persons who have too much acid in very bad cases must take soft food like mush, potato pulp and other ~~starchy~~ pulpy foods and swallow the food without chewing at all, then you won't stimulate your stomach to make more acid than you require. There is a way out for every single case. If you are suffering and are not getting relief from the things that brought you here, I don't want one of you to go away without getting relief. Don't give your doctor a bit of rest or peace. If you do not get relief by appealing to your doctor, I will be glad to have you appeal to me and we will all put our heads together. We will bring the case before the faculty, put our heads together and chug away at your case until we find that you are delivered. You can be cured. These troubles you are suffering from are curable. You don't have to go on suffering miseries with your stomach and bowel trouble. Every case of constipation is curable; every case of indigestion is curable; every case of pain after eating is curable and you don't have to go on as I said suffering. You are nervous and don't sleep.--That is all curable. You do not have to tolerate that sort of thing. You can get rid of it and leave all these troubles behind and I want you to believe what I am telling you. I am talking in very sober earnest because I know I am telling you the truth. If you are not getting relief, it is because there is something more that needs to be done for your particular case and it can be done, so just stir us up, stir your doctor up and if you do not get satisfaction as I said, stir me up and we will get the whole faculty at work. Now you say, "How in the world am I going to get at you?" I want to tell you that I am the most get-atable

person in the world. I wonder that more people do not get at me than do. Speak to your doctor about it or go to the men's medical office or the women's medical office and if you do not get satisfaction, then go to the telephone and say, "I want to speak to Dr. Kellogg". Call me up anytime, day or night. I have three telephones at my ear day and night and I never get away from them except for a short time. I am accessible. That is what I am for--to help people that need help and there is nothing that worries me so much as to think of a man coming a thousand miles, being at large expense and trouble to come here to get relief, then carrying that same old pain and misery home with him. It seems to me, my friends, an awful thing to have a man going home and thinking on the way home that he miserable, unhappy, wretched, disappointed because he did not get the relief he came for. I cannot bear that thought. It worries me terribly when I have of such a case as anybody going home disappointed. I can't stand it and I want you to understand that we are in earnest here in our efforts to help you and if you are not getting relief promptly as you feel you ought to, do not hesitate to make your wants known and we will get right after the case, but I see it is bed time and I must let you go. I thank you for your attention.

End.

v-p-m

The Great White Plague,----A Stereopticon Lecture and

Question-Box Lecture

At the Sanitarium Parlor, Battle Creek, Michigan Monday, April 20, 1914

at 8 p. m.

by

J. H. Kellogg, M. D.

I am going to talk to you a little while tonight about the Great White Plague. If we heard that the cholera had broken out in Philadelphia, in New Orleans, in St. Louis, New York City and Baltimore, we would be pretty badly scared. We would expect pretty soon that the cholera would be breaking loose in our town, then we would not know how to calculate a day ahead. Cholera seizes people sometimes in the morning and the undertaker gets them the next day, sometimes before that. Cholera is a frightful plague. Black death is something worse. Suppose a bubonic plague should break out in Denver or some other of our great centers. How scared we would be if the thing was really started as it was over there in Manchuria a few years ago, an absolutely fatal disease, nobody ever known to recover from it. Every person that ever had that disease, died of it and we would be terribly scared and yet cholera and black death are of no account at all compared with the plague that is with us all the time, the great white plague. In every single community, in every town and every city, in every audience, it has gotten so widely dispersed that you cannot find a whole community in the whole United States of one hundred people that there is not somebody who has tuberculosis. 200,000 people died of tuberculosis in the United States last year. Just think of that, 200,000! There is a whole great city, a great city full of people died and besides that, 200,000 people that died, there are a million people that are sick all the time with tuberculosis and getting ready to die and of that many people, forty or fifty per cent. are going to die, a good many more than that, 75% of them are going to die. If they had a chance, at least fifty per cent. of them would live. If they all had an opportunity to have treatment that is now known to be effective in a cure of this disease, 60% of that million people, 600,000 of them would live and 400,000 would die, but they are not going to have those advantages.

consciences are not so very keen of meat inspectors. When they find a cow that has tubercular lungs, they simply cut out the tubercular lungs and send the rest of the carcass right along. It is just the finest kind of roast, dont you know, livers, kidneys and all the rest go right along to be eaten up of these tuberculous cattle. The United States Government Inspection says that the animals are all right. It is only the lungs that are diseased. Suppose they find great masses of tubercular abscesses in the liver. They simply throw it out, feed it to hogs and the hogs get tuberculosis, then you eat the hog or it may be on the sly, the butcher slits off ~~xxxxxxx~~^{that} liver and runs it through the sausage machine. Then you ~~xxxx~~ never know anything about its having an abscess ~~xx~~ in it or any other disease when it is ground up and seasoned even though it was tuberculosis and such cattle are used as food and this has been going on for years and years and years. Sometime ago, there was a tremendous **furore** in Boston because the Boston papers found out for the first time ~~that~~ or some correspondents did that the state board of health of Massachusetts permitted all the cattle condemned for tuberculosis to be killed and the parts that were ^{visibly} diseased cut out and the rest of the animal sent right along to the general market and there were people who had been paying very high prices for cuts of beefsteak from tuberculous cattle, don't you know and tenderloin from tuberculous cattle. Supposing that they were getting the very finest kind of beef. This tuberculous beef is always very tender and very toothsome. It is highly flavored. That is one place where tuberculosis comes from. It is right at our door and comes right in upon our tables. At least every fifth time the milk man comes he brings us tuberculous milk so that we are certain that we are being exposed all the while and that is why all the babies get tuberculosis.

these

That is why ~~one~~-fourths of all the children in public schools have tuberculous glands in their necks. They get it from the milk. We are infecting ourselves continually by these neglectful ways. Now just see what we are losing from a financial standpoint, a billion dollars a year from deaths from tuberculosis. We spend about fifteen million dollars to prevent this loss yet every year we lose a billion dollars. Think of it. A billion dollars, a thousand million dollars. Just think of it and we are throwing that away in human lives every year. Isn't it about time we stopped this waste but we are doing practically nothing but we can cure it. Sunlight will cure tuberculosis. Fresh air will cure tuberculosis. Seventy-five per cent. of all the children in the public schools that have got tuberculosis, possibly of these 75 per cent. of children ~~of~~ ^{all would} ~~always~~ recover if they were simply put out doors but we shut our children up in public schools, hide them there and cultivate tuberculosis and the wonder is there don't more of them die than do die. They are wonderfully tough to live there. If we turned them outdoors and let them go to school outdoors ~~instead~~ of being shut up indoors almost every one of them would get well and they would not only get well of tuberculosis but they would get to be brighter boys and girls and get ahead of the rest of the boys and girls in their studies. It is found that these boys and girls that have tuberculosis and go outdoors get away ahead of the other students that stay indoors with the bad air and the dust and the germs. They get away ahead of them in their studies so why shouldn't we turn the whole public school system out of doors? Nothing could be better. If we could turn all the children of the public schools and let them study under the open sky, under the shadow of the trees, on grassy banks and amid the flowers and grow up in a natural way. That is the old way of learning. That is the way Pythagoras went to school when he went over to Egypt and studied under the great philosophers there. Every day they walked about and studied in the groves, studied nature and that is why they were called the philosophers because they wandered about ~~the~~ and studied as they went. Now boys and girls would be wonderfully brighter and become splendidly well developed from

living under natural conditions. Now we don't take any trouble to get fresh air. We go home and when we go to bed we shut ourselves up and are awfully afraid a little draft will get in some where and strike us when we are asleep and we wake up with sore throats. Many of us do not know that if we open up the doors and windows wide and let the wind sweep right through we would not have any harmful draft at all and would not run the least bit of risk. Nobody takes cold from going outdoors and taking a little walk on a windy day but if someone sits down and lets a little breath of air blow on the back of his neck he will take cold get sore throat but if he sat on a platform and ^{had} let the wind blowing all around him he would not catch cold at all. It is exactly so at night if you let the windows open and let the air sweep right straight through you would not get a bit of harm though it is a good thing to have a little hood over your head. If you are a little sensitive about your throat put a little extra covering over it and it won't do any harm. Now cold, fresh air and sunlight cures tuberculosis of children and tuberculosis in older people too. It not only ~~cures~~ cures but will prevent and what we need is a great campaign of education. Let me just show you a few things that are done by the treatment of tuberculosis, of these tubercular children with sunlight. These little girls have all got Pott's disease. They have got tuberculosis in their spinal column. These germs get into the body and they go every where. Every bone, every joint and every structure of the body is infected by these tubercular germs and they set up processes of destruction and decay so we find here a person who is alive but whose body is going into decay, how he is still alive and his brain active and every nerve and every scent active as ever and all the body falling into decay. This little girl is suffering from this kind of decay of the spinal column and the prospect is she is going to be hump backed but by lying on her face with the clothing removed the body is straightened up and the sun can strike the whole surface of the body. These girls are tanned until they get dark brown, some of them so they hardly would be recognized and here are a lot of little boys that have got all kinds of disease of the hands, arms and legs

and other parts but they are sitting up here in the sunshine under the care of nurses and they are getting well. This is a hospital on the shore of the Mediterranean Sea. Here is another one up in the Alps and this boy has such bad tuberculosis of the spine that he had to have this plaster paris cast made to hold him straight so he would not double all over. Here are other boys that have the trouble in various forms. Did you notice the snow on the mountain tops there? I want you to see the snow on the mountains. Here is snow all around here yet here are these boys right down there in the sunshine, right outdoors and they look happy too. Look at this boy. See how emaciated he is. Notice the terrible appearance of this elbow and see what an awful condition it is in. Now here is the same boy. You would not recognize him at all, would you? He has gotten well, completely cured after six months out in the ^{sun} shine. You see he is white up here and here he is a different color. He is brown because he has been tanned. Here is a child who has an awful elbow and here he is again where the elbow has gotten well. This little girl has changed her color too. Here is another case. Look at that poor little thing. Just look at that elbow or arm. You would say it was entirely gone but here is that same child who has got some scars left but the disease is entirely gone and now she has a useful arm. This elbow looks as though it ought to be cut right off affected with such a terrible disease but here is this child entirely recovered. There had to be a big cut in there to let the disease out but the child is well, has a useful arm and can swing the arm all about and make use of it and has a chance for its life and this was done by simply living out in the sunshine all the year round. See this awful appearance of these fingers. It doesn't look as though there was a ghost of a show for that child yet here he is again and a sturdy looking fellow, looks as though he had an appetite like a polar bear. He is able to run all about. His wounds are healed. He is healthy and vigorous and the germs are gone. In this country there is this very minute one hundred thousand boys and girls that are just rotting with this awful disease, this terrible leprosy, this horrible plague, are rotting to death with it and they

might be cured every one of them. Look at some of those boys and girls out here in the sunshine. They are having a fine time skiing and in the snow. They have shoes on their feet and hats on their heads and some very small clothes but they are right out there in the sunshine having a good time in the snow. They don't look as if they were shivering. They are having a really good time out there skiing. You see the snow there. That is out in the Alps and in the Alps the sunshine is so strong that although there is snow on the ground the temperature of the air sometimes gets to 100 even in the ~~sun~~^{sun}shine so they are not suffering a bit from the cold and see their bodies how brown they are. It is this stimulating influence of the sun and the vitalizing power of the actinic rays of the sun. That is what has cured them. The same thing is being done in this country to some degree. Here is a tuberculosis institution and the patients are sitting out in the fresh air but they don't get much benefit of the sun. In this country we have not come to appreciate the valuable sunlight so we the patients all wearing dark clothes in the allies and tenement houses of the city. They people are simply dying in swarms from tuberculosis. Here is a visiting nurse you see coming along and knocking on the door and she is going to try to do what she can for this poor woman who is expectorating tuberculosis germs and the whole house and the children are getting infected and everybody who lives in the house is getting infected. Here is the poor old father already dead and gone away, you see, and much emaciated you see by the looks of him. Here is the wife ^{who is} already going to follow along and all the babies getting infected. The nurse comes in and instructs the mother how she can have a chance for her life, tells her where she can go to a state institution and have an equal chance for recovery. Here are some crippled children at sea breeze in New York who are getting the benefit of the sunlight. They are just getting started with this thing in this country, making just a very little beginning and these children have a fair chance for their lives if they only have an opportunity to get out here to this institution or some other institution where they can have the benefit of the sunshine and proper feeding. Here is a little cottage

has built out in the Adirondack Mountains where people go and get well. Here is an out-door sleeping room.

This lady had got ready to go to bed you see. She had good thick warm robes on and is going pretty soon to be tucked away underneath there and be just as warm and comfortable as though she was in a furnace heated bedroom and a great deal better off because she is breathing the pure life-giving oxygen which has curative power in it. Here is an institution of people out on the porch. There are some things that are not right. They don't have the right shape chairs and they do not have the breathing exercises they ought to have and they don't have just the right sort of diet either. They are stuffed with beef-steak, pork, turkey, fish and things ~~at~~ that are not doing them any good and there is an outdoor school. Happy is the boy who has a chance to be educated in an outdoor school. It is a ridiculous thing that we should be so far behind. The outdoor school has been in vogue in Germany for forty years and here in this country we are just beginning to hear about it and I don't suppose there are fifty towns in the whole United States where children have the benefit of ^{the} outdoor school. If the outdoor school is good for a tubercular child it is good for the boy that has not tuberculosis. It is a great deal better for him because it prevents his getting it.

Here is a state institution. Several of the most progressive states of this country have state institutions but they are doing nothing at all to cope with this great evil. For instance, here in Michigan we have a state institution that accommodates fifty patients and we have ~~2~~ 12,000 people suffering from tuberculosis and a state institution that will accommodate fifty. Just think of it! Every county ought to have its institution; every town of any considerable size should have its tuberculosis institution and what we want in this institution is not to take in simply the curable cases. They should be cured at home, but what we had ought to do by aid of visiting nurses and town assistants if necessary, but what we want to do is to get into the state or municipal institutions, the incurables because they are the ones that are scattering the disease far and wide. If we could get them in there and take care of them, some of them could be cured. Here is another outdoor school in the summertime and see how gay and happy these boys look. Every one of those boys were going to die of tuberculosis and now he has a good chance for his life. Those little fellows don't look as though they were very unhappy, do they. They are

entering into the exercise here with a great deal of vim and enthusiasm and they are going to get well. They have a fair chance. One death in every ten in this country is caused by tuberculosis. There is a disease that carries off 10% of all the people that die, 10% of them all die from tuberculosis. Now of course prevention is better than cure and it costs a great deal less. Pasteur, the man who built up this modern efficient bacteriology laid the foundation and made it possible for Koch to discover the tubercular germ. Pasteur said, that it is a wise saying "Prevention is better than cure and far cheaper." That is a very old proverb, "Prevention is better than cure." "An ounce of prevention is worth a pound of cure" is an old saying and it is not only better but it is cheaper. If we prevented tuberculosis, we would save that billion dollars a year; we would save those 200,000 people that are sacrificed, needlessly sacrificed to this disease. This is not a mysterious disease. We used to think tuberculosis was a mysterious ~~thing~~ providence, but we know better now. We know what causes it, we know where the germs come from. We know that they come in the milk pail and from dusty carpets. We know that they come from close unventilated homes, concert rooms, school houses and all those can be prevented. They come from our indoor living and we ought to spend our lives out doors, we ought to sleep in the fresh outdoor air every night in our lives and it is the cheapest thing to do it. It don't cost half so much to sleep in cold air as in hot air because you don't have to keep the furnace going you see, and we save the fuel, so it is a great ~~deal~~ ^{deal} cheaper ~~to~~ to live the normal simple, healthful life than it is to live the unhealthful life, to say nothing about its inconvenience. Now we have a National Association. I am telling you these things partially as an introduction to this. I have the honor to be a charter member of this organization. This association is doing all it possibly can to fight tuberculosis but it is only getting started and has not made very much headway. In ten years, this national association has spend two hundred thousand dollars and I think has stimulated others to spend one hundred million dollars in effort to fight this disease. Yet we have not accomplished very much. At the present time, 160 people in every hundred thousand die of tuberculosis every year in New York, and in Michigan 90 people in every hundred thousand, about half as many, because Michigan is one of the healthiest states in the United States and one of the healthiest communities in the world. We haven't many very large cities. That is one reason, and we have the benefit to some degree of the

splendid forests that used to grow in the upper part of the state. We have that great extent of ~~grass~~ ^{clean} country, then we have the lakes on each side of us that wash the air and still a great deal of forest land in Michigan so that it is a remarkably healthy state. Yet 90 people in every hundred thousand in the state of Michigan die of tuberculosis every year and we find we have not lessened the death rate very much. It falls off just a little but the National Association is fighting this thing, endeavoring to get other associations organized and has helped to found ~~over~~ 1200 anti-tuberculosis associations, 500 hospitals and sanitariums, 400 dispensaries, 200 open air schools and 3000 visiting nurses. That is what this national association has done in the last ~~few~~ ^{few} years since it was organized. This national association ought to be at work in your community and if you are connected with this organization, you can get something started in your community and the association would show you how to do it and help you back it up and create an organization there and perhaps send you material for a sub-association and so get the people waked up against this terrible evil. The National Association ~~is~~ ^{is} supported entirely by voluntary contributions. A person can become a member by paying \$5.00 and I have brought in some little cards here that I want to call your attention to and ask you if you won't join this fight for freedom from this awful plague. These little cards I have here are applications for membership and I hope that some of you will be interested in coming up here and getting these cards and here is a little leaflet that tells all about the anti-tuberculosis association and what is done and suggests what you can do at home.

Question Box Lecture.

Q----Would a five grain tablet of veronal be injurious?

A---Yes indeed. Every grain of veronal that was ever administered did harm. Of course, sometimes it may do enough good to counterbalance the harm, but there are simply those simple thousands, scores of thousands of people in the United States who are suffering from ~~an~~ neurasthenia, the result of the use of hypnotics or sleep-producing drugs. The idea that a person can take a drug of any sort and get to sleep as a result of that drug without being harmed is the greatest possible mistake. There is no harmless sleep-producing drug. Putting a man to sleep with a drug whether bromid of potash, opium, veronal, no matter what it is, putting a man to sleep with a drug is like putting him to sleep by

knocking him in the head with a club. It is a padded club we might say, perhaps. It is more agreeable to put him to sleep in that way but you can make a man quiet by hitting him in the head with a quiet and you can make him quiet by striking him in the head with a club or with a drug, it is the same thing only a different kind of injury. Veronel is a poison and the sleep that a person gets from veronel or any other poison is not normal sleep. We call sleep Nature's sweet restorer, but the sleep produced by drugs of any sort is an unnatural stupid sleep, a state of unconsciousnessⁱⁿ which the person is relieved of the pain of thinking perhaps under the distress of worrying, but he does not have that recuperative work going on that restoration of energy, that storing up of energy granules in the nerve cells, he does not have that process going on as it would be if he were sleeping in a natural way. Of course, there are some circumstances as I said before in which it is better to take the drug than not to take the drug, but those circumstances must be very very rare. I am certain I have not prescribed a sleep-producing drug for anybody more than half a dozen times in the last twenty years. Now that is something of a statement isn't it. I have encountered a great number of people suffering from insomnia and why? Because every person who can be made to sleep with a drug, can be made to sleep without a drug, that is the reason. Every person who needs sleep can be made to sleep without a drug. Now I will just tell you a story. I was down at the ~~Kankakee~~ Kankakee insane asylum a few years ago and the superintendent of the insane asylum said to me as soon as he saw ~~me~~ my card, "How are you Dr. Kellogg? I am so glad to see you. I want to tell you about a wonderful case we had here. You know that young man you sent down here a few months ago to teach our nurses massage. Well now we didn't know what a jewel he was until he was just about ready to go away. We didn't get half as much benefit as we should have gotten from his visit here, but you know that young man showed us how to put a patient to sleep when nothing else would do it and it was worth a good deal to us." He said, "Why we had a woman here who had not ~~sleep~~ slept for six weeks. She was brought here with acute mania, the worse case of acute mania we ever had and it took six nurses to hold her and we gave her all kinds of drugs and could not find a thing that would put her to sleep except chloroform and we gave her so much chloroform that we didn't dare give her any more and we were at our wits ends and didn't know what to do and the young man heard about it and said, 'Let me see what I can do!' So he said to our doctor here,

-12-

"Put her into a tub of water at 92 to 96 degrees'and he insisted that the temperature should be just right and you know in fifteen minutes after that woman was put into that tub she was quiet and in two hours she went to sleep and slept a few minutes and that night we put her in the bath again and she slept and kept her there four or five hours and she slept and after that she never took a drug of any kind but went right on and got well and in a few months, we sent her home perfectly well and it was the most wonderful cure we ever saw." I passed out and pretty soon met the assistant superintendent and he saw my card and said, "How are you, Dr. Kellogg? I am awfully glad to see you. I want to tell you about a remarkable case." So he went on and told me about that same cure. "Now," he said, "we have got tubs in here and all our patients who don't sleep we put into a tub and they go to sleep." We have a large insane asylum in this state at Kalamazoo and I think they have about 2000 lunatics and that is not all the lunatics there are in Michigan We have a number of other institutions with about the same number and the Lord only knows how many there are outside that we haven't caught yet. Probably as many outside as there are inside. At a medical meeting at Kalamazoo, I had been asked to read a paper about water and I told among other things about ~~the~~ ^{what} wonderful effects water would produce in putting people to sleep, what marvelous effects it had in insomnia and there was a doctor who got up who never heard anything about that before and he ridiculed me good and hard. He made all sorts of fun. The idea that water was a narcotic or hypnotic. ~~xxxxx~~ Anybody would know better than that. A bath was good to make the skin clean but who ever heard of water putting a man to sleep. That was too ridiculous for anything. When he got through another docto got up, the superintendent of the insane asylum at Kalamazoo, the hospital there. He said, "I have got something to say upon this subject!" He said, "Dr. Kellogg has been sending down some of his nurses to instruct our nurses about the use of water.the last few years and we have had considerable experience and the other day ~~xxxxx~~ we were making some statistics. We have about the institution, little ~~xxxxx~~ ^{barrels} that we used to call chloral ~~xxxxx~~ ^{barrels} and we used to buy this chlorol in barrels, now flour bells but chlorol barrels, barrels that would hold 50 or 100 pounds and he said, "We were going over our statistics the other day and we found that at the present time, we are giving our patients, we now have three times as many comparing our present number with

twenty years ago and we found there were three times as many patients who were getting less drugs to produce sleep in a whole year than we used to give twenty years ago every week. Now what do you think of that? In that institution they were using less and less drugs for putting people to sleep and now using less drugs in a whole year with two thousand patients than twenty years ago with 600 patients. every single week. "Why," he said, "if a patient doesn't sleep, we simply put a wet rag on somewhere and they go right off to sleep." That is perhaps a slight exaggeration, but every person who needs to sleep can be made to sleep if he has not got an awful pain of some kind to keep him awake or a terribly guilty conscience, goading him keeping him awake. I wouldn't say that water will cure that kind of a case altogether, but if a person has any chance at all for sleep, he can be made to sleep with a neutral bath and if the neutral isn't always handy, he can be made to sleep with a neutral pack. Wring a sheet out of cold water, as cold as you can get it and wring it as dry as you can make it, then wrap that all about the body perfectly tight so it fits the body like a stocking in every way, then a flannel wound around that and wound just as tight as it can be drawn, that will warm up very quickly when it is covered up well and as soon as it gets warm we want to take off some of the covering, and open it up a little bit so it won't get over heated and the patient get to sweating. Now patients will go right off to sleep and sleep for hours in that neutral pack. It is like a poultice you see over these sensitive nerves. The reason why people do not sleep very often is, because there are ten million nerves on the skin that are irritated. There are ten million impulses running in upon the brain all the while through these nerve endings and waking a person up. This wet sheet pack is a poultice that ~~saks~~ puts all these nerves to sleep so this fusillade of disturbing impulses coming into the brain are all cut off, shut away and the patient has a chance to go to sleep so veronal and other hypnotic drugs can be dispensed with. We don't need them. If a raving lunatic can be put to sleep in a neutral bath, certainly any ordinary case of insomnia can be relieved in that way. But now you have got to be careful not to make the bath too hot. If you make it 100 degrees it will wake you up; if you make it 90 degrees it will be too cool and then it will wake you up. It has got to be just 92 to 96 degrees.

It must feel perfectly comfortable so that you won't feel the temperature of the water and when you get out of that bath, you must not take a cold bath for that will wake you up. You must not allow yourself to get chilled by contact of air for that will wake you up, but wrap a turkish sheet around you and get right off to bed and the first thing you know, you will be sound to sleep and smiling and then you will wake up with the most beautiful feeling of rest and refreshment. Sometimes I have to work very hard and have a very short time to sleep. I have worked until three or four o'clock in the morning and had to get to work again at seven or eight o'clock the next day, and when I have known I had but three or four hours to sleep, I always do it in a tub. I have a tub short enough so I won't drown you know, and that means a pretty short tub for me. I have a five foot tub so I am in no danger of drowning. So I get into that tub and get the temperature of the water just right, then leave the hot water running just a little stream, enough to keep it warm and I wake up in three or four hours and feel as though I had had a whole night's sleep. You can sleep twice as fast in a bath tub as in bed and get twice as much good out of it.

Q--Is there any more oxygen in the air in cold weather than in warm weather?

A--Yes there is. I will make a picture here so you can see about that. Air diminished one-four hundred and ninetieth of its volume with every degree of temperature. Suppose here is air, we will say, at one hundred degrees. Then we cool that air off to thirty, we will say. That makes seventy degrees. Now air diminishes one- four hundred and ninetieth of its volume, so we divide by seventy and we have seven. The air has diminished in volume one-seventh you see. In cooling the air down from one hundred degrees to thirty degrees, it has diminished in volume one-seventh, so six quarts of air contains as much oxygen as seven quarts of air did before, you see. You get in six breaths of air as much oxygen as you did in seven breaths at one hundred degrees. Now suppose you get it down to zero. Then you see in taking four or five breaths, you would get as much air as you did in seven breaths when it was at the higher temperature. That is the reason why one gets out of breath so easily in very hot air. When you are in a very hot atmosphere you get short of breath quickly. The breath does not seem to

do you so much good. That is the reason why one can exercise so vigorously and have so much endurance in a cold atmosphere. That is why one likes to walk fast on a cool, frosty, sparkling morning.

Q--What disease of the stomach would cause a small spot to show in an X-ray examination?

A--Now there are various things, but ulcer of the stomach is one of the things that shows. If there is an ulcer in the stomach, sometimes bismuth will accumulate in that ulcer. If it is an ulcer it has a sort of crater, especially the bismuth will accumulate and will show.

Q--Do adhesions of the intestines always begin to form after operation

A--I think they do in most cases, but we treat our patients after operation for adhesions at once. The minute we do an operation upon a patient, when we open the abdomen, the minute we get that patient out of the operating room, we begin to treat him for adhesions. That is where the preventive treatment comes in. We have patients come here ~~who~~ sometimes who have old adhesions and by fomentations and applications of heat and so forth, these adhesions disappear so the patient does not have any trouble from them. So we have concluded that if we make these hot applications immediately after operation, we can prevent the formation of adhesions or at any rate, the formation of permanent adhesions and our results I think verify our belief ^{that} that is an effective means.

Q--Could a suitable breakfast food be made by taking wheat and other grains either with or without the outer starchy covering, dampening them and keeping them in a place so that they sweat?

A--Yes, that would be developed in a process of sprouting before cooking. That is malting the grain. Yes, that could be done with the whole grain but not with the covering removed. Malted grain is perfectly wholesome. The sprouts can be allowed to be a quarter of an inch long or so and it is entirely wholesome.

Q--During an operation, in what form is the fat about the wound?

A--It is in semi-liquid form. In very fat people, we see little drops of oil sometimes that can be dipped up on a sponge. It depends upon what their diet has been. Now a person may have the fat in his body. It will differ according to what his

diet has been. If he lives on a pig, he will have pig fat; if he eats a great deal of mutton, he will have mutton fat; if he eats a great deal of beef, he will have beef fat; if he cereals only, he will have human fat. Now that is a beautiful thing. If a person eats starchy foods, he will have fat of his own making. That is a very interesting thing. Sometimes physiologists make experiments on dogs and various other animals and they have found that when an animal fat is eaten, this animal fat is not changed in the process of digestion. It is taken right into the body just as it is as you eat it and it goes into the body and is deposited in the tissues just as you eat it. Any fat is made out of vegetable foods, out of starch, then this ~~xxxxxxx~~ fat is created new and the fat is made such as belongs to your body. In other words, we have natural human fat. Now the physiologists sometimes makes an experiment, feeding a dog on mutton fat, don't you know, and that is the very hardest kind of fat so a dog fed on mutton fat gets to be a great big round fellow and his flesh is hard like a sheep, and they call such a dog as that a mutton dog. This experiment has been made by taking this fat and coloring it different colors and the fat will carry the color right along with it and it will be deposited in the tissues in just the color it was made before it was eaten. So the kind of fat a person has depends upon the kind of fats he eats. If he eats hog fat, he will have hog fat in him, and if he eats sheep fat, he will ~~like~~^{be} more or less sheepish himself, but if he eats natural, vegetable foods, then he has his own natural fat. Of course, it is true to vegetable fats. If one eats olive oil, this olive oil is transported into his body and the fat will be of a more liquid nature than it would if he ate the fats made up of what are known as the higher fatty acids, containing stearin, etc.

Q--How do you explain the passage in 1 Tim. 4:3. "In the latter days, some shall depart from the faith, forbidding to marry and commending to abstain from meats which God hath created to be received with thanksgiving of them which believe and know the truth."

A--I think somebody has been pushing their brain to work up some theological puzzle for me. Well there is a kind of intimation here that I am one of those fellows and I don't like that. I have never forbidden anybody to marry and to abstain from meats which God created to be received with thanksgiving. I never did such a thing in the world. The Lord never created dogs or pigs to be received with

thanksgiving; the Lord never created any beast to be received with thanksgiving. The text said, "Abstain from meats which God created to be received with thanksgiving." What were the meats that God created to be received? Did you ever read the first chapter of Genesis and the 29th verse? If you do you will find that out. You will read that every herb bearing seed and every fruit tree bearing fruit, to you they shall be for meat. That is the meat God created for us to eat. (Applause) I am surprised they don't give me another text here. Every little while somebody comes along with something they are very sure is an endorsement of the meat diet. Peter had a vision one day upon the housetop when he was very hungry, I suppose and he dreamed about something to eat, and there was let down out of heaven a great sheet held up by ~~the~~ ^{the} four corners and it was filled with all kinds of ~~meats~~ ^{beasts} and four footed creatures and all manner of creeping things and the Lord said to Peter, "Arise Peter, slay and eat." Now that shows that we ought to eat all kinds of four-footed beasts don't it and creeping things too don't you see but we seem to forget about those creeping things. Now the answer to that thing is this. Did Peter do it? The Lord said, "Arise Peter, slay and eat." What did Peter do? Peter said, "Not so Lord" and the Lord lifted the sheet back into heaven, so Peter didn't have to eat those creeping things and we are all excused. We cannot prove flesh-eating as an obligatory thing by Bible, that is sure. Flesh eating is tolerated just as polygamy is tolerated because of the hardness of their hearts.

Q--How long after fever is a typhoid patient likely to give one typhoid fever germs by kissing?

A--Well I think you better look out for such a patient. Keep shy for a good long time. You don't know what a typhoid fever patient is free from disease. We don't know for sure. About ten per cent. of people who have had typhoid fever carry the germs with them for a long time. Sometime ago I operated upon a lady's gall bladder that contained a great amount of thick bile. She had so much fever and inflammation and chills that I had to operate upon the gall bladder and I found it filled with a great mass of thick tarry like bile and when this bile was examined, it was found swarming with typhoid fever germs, and this woman had had typhoid fever fifteen years before, so you see how long she had had the germs. There was an old lady known as typhoid Mary found in New

York City sometime ago. She had had typhoid fever fifty years before and she had worked as a servant in different places, sometimes in the bakery, sometimes in the restaurants, sometimes as cook in a private family and in every single family where she worked, some people there had typhoid fever and on examination, her stools were found to be swarming with typhoid fever germs and they had taken a foothold in her gall bladder and were growing there and there was a regular nursery of typhoid fever germs and there were swarms of them being thrown out every day. She was a typhoid carrier. Now a certain proportion of people who have typhoid fever, become typhoid carriers and people who ~~have diphtheria~~ ^{have diphtheria} become diphtheria carriers and people who have pneumonia become pneumonia carriers. So everybody who has this kind of infectious diseases, pneumonia, typhoid fever, and diseases of that sort, they may become carriers and I am going to tell you something more now that will be a surprise to you. People that have colitis are colitis carriers. Colitis is unquestionably an infectious disease. You find families in which the whole family is infected, father, mother, babies, children and all. They get it because the germs ~~are~~ ^{which produce} colitis while not specific germs ~~are~~ there are half a dozen different kinds of germs that will produce colitis. Any one of those will do it, so instead of there being one germ like typhoid fever that produces this disease, there are half a dozen germs that produce it. If a person has any one of those germs active and in a ~~virulent~~ virulent state, they may communicate this disease to someone else, so if you have colitis, you want to get rid of it or somebody else will be getting it from you. Colitis is a disease of cities or towns and is communicated from one person to another and from one member of a family to another.

Q--Can any disease except malignant disease be seen in examination by the X-ray?

A--Yes. Hourglass stomach, also ulcers of the stomach that are not malignant and different states of the stomach are discoverable by the X-ray.

Q--Do you think it right for a cat to be kept around the house?

A--Well now, I think cats may sometime serve the useful purpose in the house if the house is not constructed so as to be rat proof and mouse proof. It is a good thing to have a cat around to scare the rats and mice away, but such a cat should

be well trained, should not live in the house, but should be allowed to come in and inspect the house at certain hours of the day, then should be disposed to retire at a respectful distance and let the house alone the rest of the time. Cats are more or less an element of danger, especially when there are children in the house for these cats go on a visit to the neighbor's cat, you see. Suppose here is a child that has diphtheria and has a cat to play with to keep it quiet, so the cat gets diphtheria, takes it over to a neighbor's cat, gives it to this cat when it is out getting an airing and the neighbor's cat gets the disease too and carries the germs home and the neighbor's baby fondles that cat and gets some of the germs that came from the other house. Scarlet fever and other diseases are perhaps carried in that way. The cat is a means of communicating disease.

Q--After an abdominal operation, can there be any danger of rupture or other trouble.

A--Certainly there is. Operations should be performed with great care and accuracy. I once watched an English surgeon about twenty-six years ago doing an operation upon the abdomen and I said to the doctor, "Do you ever have hernias?" "Oh no," he said, "I have done ~~ix~~ a thousand operations of this kind and never had hernia." It happened that that very woman happened to be an American lady and she came under my care three years later with an enormous hernia. However, this doesn't happen with surgeons now a days so often as it did twenty or thirty years ago. I have happened to have under my care here ^{three} cases of each of the most distinguished abdominal surgeons. I have had a patient from each one of them suffering from a tremendous hernia and had the problem of repairing the hernia, because in those days twenty-five or thirty years ago, they didn't know how to bring the edges of the ^{wound} ~~wound~~ together so as to make a secure union, but at the present time the closing of the wound is reduced to such a science that we can actually make the abdominal wall stronger than it was before. If the thing is properly done, it will not be weakening to the abdominal wall but actually will strengthen it. I did an operation today and I am very certain that lady will have a stronger abdominal wall than she had before the operation because the muscles were separated somewhat and in the operation we took care to bring them together and made a good thick ~~txoras~~ ^{txoras} in the medium line at the point of

incision so there is not likely to be any injury. It is wholly a matter of technique and of painstaking care in doing the operation. Good capable abdominal surgeons now a days do not have hernias after their operations. This was one of the consequences of ignorance and lack of technical knowledge.

Q--How can I feed a nine-months old bottle baby that is not gaining weight?

A--You will find at the book stand a little book on the care of infants and you will find particular instructions in that about how to feed that baby. It is impossible to tell just what to feed a nine-months old baby, because in the first place we must know how much the baby weighs. The baby's needs depend upon the size of its body, so what is good for a baby today is not good for it next month. There must be a little change made from week to week. This little book will tell you just how to feed the baby to give it the best chance for its life that the bottle-fed baby can have. ~~has~~ The cow is no substitute for a mother. Everybody ought to know that. The child gets something with the mother's milk more than simply protein, fat and carbohydrate. It gets some delicate food elements that cannot be furnished by the cow and so^a bottle fed baby is an unfortunate baby. It may grow up to be pretty well but it has missed something. Even if the mother could not supply the baby with more than a tablespoonful of food, that is of the most precious value to the child. Mothers ought to know that. Every mother ought to know it, that she should have, if it cannot have more than a teaspoonful of mother food, it will do something for that baby that cannot be secured for it in any other way. If a baby cannot have its own mother, then it should have a wet nurse. The cow has become to be the wet nurse of the whole family, Father, mother, babies, children and all patronize the community wet nurse and it is a great mistake. Food from the cow is exactly adapted for a calf. It makes splendid calves but it does not make splendid men and women. There is something lacking.

Q--Does Para-lax produce a tendency to cancer?

A--No, not by any means. It has the opposite effect.

Q--I have been told that wheat cut green and dried at about the same stage that corn is dried is sometimes served at the Sanitarium.

A--Yes we have such wheat. It is sweeter than the ordinary wheat, because

some of the fat that contains the sugar is not yet converted into starch.

Q--Is it possible to buy ~~gs~~ agar-agar and make it into mush or jelly?

A--Yes, they have it at the food stand put up in little packages under the name of vegetable gelatine, and it is far better than the animal gelatine. Vegetable gelatine to begin with, is clean. It does not have any coloring or taste and besides it is four times as strong. One ounce of vegetable gelatine will make a gallon of delicious jelly. It has another advantage that it only needs to be melted up, then set away in any convenient place. It doesn't have to be put on ice. It will harden on the hottest summer day in the hottest kitchen you ever saw; it will jelly as hard as you want to have it, because it melts at a temperature of 212 instead of melting at a temperature a little above 100 degrees which is the case with animal ~~gahak~~ gelatine.

Q--Is protose good for soldiers?

A--I don't believe much in feeding up soldiers. Protose is good for anybody so far as protein needs are concerned, but I do not recommend protose very highly to anybody, because really it is superfluous food. I do not eat protose myself. We don't use it at our house. It is surplus food. It is only for people that feel that they have got to have something to take the place of beefsteak. There is protein enough in bread, in potatoes and all ordinary foods. There is enough protein. If you want a little additional protein, protose or nuttolene or a handful of pine nuts will answer the purpose very well. For myself, I eat a tablespoonful of pine nuts twice a day and that is all the protein I require beyond what I find in foods such as lettuce, cabbage, fruits and various other things which constitute a great part of my diet.

Q--I have read your note in relation to the relation between paraffin and cancer. I bought a large quantity of Para-lax to take home and would like to know whether there is any other brand of Para-lax on the market which is perfectly safe to take?

A--I don't know of any, but I will tell you how to prepare it yourself. Get ordinary paraffin oil and mix it with two or three parts of water and ~~shakes~~ shake it for a couple of hours very thoroughly. Put a ~~ms~~ pint of paraffin oil ~~ink~~ in a two-quart fruit jar with two pints of water and shake it for two hours or get a laboring man to do it and make him shake it good and hard for two hours, then change the water and shake

it for ten or fifteen minutes, then set it away and let the oil rise. Then take the oil off the top. By this means, the obnoxious elements found in paraffin oil which produce paraffin cancer in people who work in connection with ~~xxxx~~ these paraffin works where cancer of the skin is a very common thing and these elements which are shown to be present in ordinary paraffin oil, are completely removed by this process of washing. We have to use so much paraffin here that we have machinery for washing it and we wash it for hours and hours and Dr. Ross of London has shown that this process will thoroughly remove these poisonous substances.

Q--What are the early symptoms of cancer?

A--The symptom of cancer is cancer. It is a little sore, generally a little wart or mould or a little old sore that has been there for a long time, generally a little crust comes off and it don't heal and it gets bigger and bigger. Sometimes it comes on the inside of the cheek instead of outside from a rough tooth or plate that does not exactly fit. This morning I had to take a V shaped piece out of the upper lip of a gentleman which is the result of a badly fitting plate. The plate irritated his gum and started a cancer that got to be as big as the end of my thumb. We are giving it treatment and expect to effect a cure by combining the X-ray treatment in these cases of cancer of the mouth and it is necessary to remove all that we can remove. I think in this case, we get it all away and now we will apply the X-ray. We apply it both before and after so as to destroy any remnants of the disease that remain. The cancer is not anything like as hopeless a disease as it used to be. If we fight it good and hard with all the means we are now acquainted with, it is astonishing what results can be obtained. We had a very interesting case a while ago. A judge from Washington, D. C. who has cancer of the face and it had been operated on twice and come back and finally it had become an enormous mass. Judge Hines^(?) of Washington who was the patient had his head all covered up with a hood because this cancer was such an awful sight. An enormous mass had grown out here. Now by the application of the X-ray by a new method~~x~~ which has been perfected in Germany within the last three years, we sent our Roentgenologist, Dr. Case, over there on purpose to study this method over there, the method of Dr. Kroenig, who adopts the intensive method by which a dose three thousand times as strong as was possible three years ago may be applied.

By means of these great doses which can now be applied safely as we have found how to protect the skin by means of certain kinds of filters, this man was so improved that in ten days he threw away his hood and you could hardly see any difference between the two sides of his face. It was not an open sore but the cancer seemed to melt away like a block of ice in the sunshine and in five weeks more we could not find a trace of the disease at all except a little lump under the jaw, and this lump was removed and we found there was not a particle of cancer in it. It was simply a mass of hard fibrous tissue and the cancer had absolutely entirely disappeared. That shows what can be done in cases that are absolutely hopeless. The man had the operation twice. He was an old man over eighty years of age so we should not despair. If you find somebody who has got cancer ~~They~~ they often say, "Oh I won't let anybody touch it. I might as well give up and die." But that is a great mistake. Cases that have been abandoned by surgeons operated on repeatedly, internal cancers as well as external ~~xxx~~ cancers have been cured by the application of the X-ray and the application in some cases combined with the application of radium. We had a very interesting case here a few weeks ago from Chicago. A Chicago surgeon performed the operation upon an internal cancer which had involved the bladder, and the cancer had returned and there was a great hole in the bladder so that the poor woman was in a most awful condition. She was sent out here to Battle Creek and in a few weeks went home and that cancer had entirely disappeared and the opening to the bladder had closed up. The bladder had healed and the woman was perfectly well. The lady is in Chicago now. Another case that had been operated on by an eminent surgeon and was left in a similar condition is apparently almost entirely well. The opening to the bladder has closed and remains closed for a week or two at a time. It has not broken once yet, but we believe she will make a good recovery. These cases are cases that three years ago or even two years ago, you would have said there was nothing at all that could be done, but at the present time we see the results that can be obtained by the application of the newer methods which were ~~in~~ entirely beyond our most sanguine expectations a short time ago, so that we are fortunate in having with us here to use, a new X-ray tube known as the Coolidge tube(?) The General Electric Company have had experts in different parts of the world in Germany and the best experts in this country, the most eminent known. The

General Electric Company have had these men at work regardless of expense to try to make a better X-ray tube, an X-ray tube that would make rays like radium. Now radium makes rays that are more penetrating, that have greater healing power than the X-ray tube has been making and the X-ray tube has this advantage over radium that one little X-ray tube that costs, perhaps, one hundred or two hundred dollars will make as large a quantity of radio-activity, it will produce as much as one-hundred thousand dollars worth of radium, but the difficulty has been that the rays were not so penetrating. Now as the result of experiments, Dr. Coolidge(?) had the good fortune to discover a method by which an X-ray tube could be made which had enormously greater power than any other tube ever made and which makes rays like the radium rays that had its powerful penetrating capacity and are able to destroy the germs of disease deep down in the body and we thought that our laboratory was very highly honored when we found Dr. Coolidge(?) himself coming from New York and bring with him a supply of these tubes, several of them and left them in our laboratory here without charge and without any expense and asked us to take those ~~thaxax~~ tubes and use them. This is the only hospital in the world that has these tubes. The Rockefeller Institute have one of them for experimental purposes and a Dr. Gaylord of Buffalo, the cancer investigator has one tube and there is one specialist in New York City who has been assisting their company and developing the tube that has one tube and we have three ~~thaxax~~ of them here. The results that are being obtained by this wonderfully powerful tube are simply marvelous and we hope that in a few months more it will be possible to give some reports of the work done which will really prove to be very surprising. It will probably be a couple of years yet before these tubes can be made and got into general use because they are extremely difficult to make. They have to make a large number of tubes to get one perfect one. The process is very ~~impkixxix~~ intricate and very difficult. I am telling you these important things because I think you have a right to know. Cancer is a disease that attacks us like a foe that invades our homes and we have a right to know all that science has attained of progress in the battle against this terrible enemy to the human race. Cancer is increasing at a terrible rate. It has increased 750% in fifty years. At the present time 75000 people are dying with cancer every year in this country. One out of ten of all people who die, die of tuberculosis

and one in every twenty dies of cancer. Half as many people die of cancer as die of tuberculosis, so it is getting to be a terrible plague, a plague that is not going to be very easily controlled.

Q--What would your prognosis be in the case of a broken neck of nearly a Year's standing that has shown no improvement thus far? The patient is completely paralyzed from the arms down.

A--Well now, it is not impossible that that person might be helped. That person should have an X-ray examination to see just exactly what has happened to his spine. Of course, you know a portion of a bone must be pressing down on the cord. It is possible that even after a year, some benefit may be derived from lifting up the depressed portion of the bone, thus freeing the cord from pressure. If this operation is done properly ~~and~~ after such an accident, in many instances recovery has been quite complete.

Q--Is there any cure for curvature of the spine after maturity?

A--No. That is, after the spine has become rigid, there is no cure. However, I ought to say a slight curvature of the spine is not ~~as~~ anything like as much consequence as many people suppose. A little curvature of the spine doesn't do any particular harm. Many people are scared to death by some orthopedic specialist who make people think that a little deviation of the spine one way or the other is a serious thing, or by osteopaths who make people believe that such a little deviation of the spine is going to make them chronic invalids and cause paralysis and all sorts of horrible things. This is all nonsense. There is nothing in it at all. The spine is made to occupy different positions and different shapes and no great harm comes from a slight deviation.

Q--What can a person take to make the bowels move after every meal regularly.

A--There is no panacea. Every case must be studied. We must find out what is the cause of the constipation in each particular case. Every case of constipation is a special case. There is no universal cause of this disease, but there are a great variety of conditions. There may be kinks in the colon. There may be a

super-abundance of colon so that it is folded over or may be the pelvic colon is dropped over to one side and is adherent. It may be there is a spasm of the colon due to colitis, so there is a great number of causes. It may be incompetency of the ileocecal valve so that the matter backs up into the small intestine so that when the bowels move, they move both ways, so they are never thoroughly emptied. Each case must be carefully investigated and the causes determined in each particular case so they may be removed.

Q--Do floating specks before the eyes indicate an excessively high protein diet?

A--No, not necessarily. It indicates a necessity for an examination by an oculist.

Q--If fruit cake is made from fruit finely chopped and sour milk without sugar and eggs, is it good food?

A--I should say that kind of food would be under suspicion.

Q--Are ~~hunks~~ beets rich in protein?

A--They contain protein enough. They are rather poor in protein, I should say.

Q--Please tell us how the bile gets into the stomach?

A--It backs up. In people who haven't enough HCl, the pylorus does not close but remains open and in such cases, the bile is likely to run back into the stomach. The stomach is prolapsed so far down sometimes that the bile runs down hill into the stomach instead of going down hill the other way. Persons who have the pylorus remaining open, ~~by~~ by lying on the left side, the bile is likely to run down. The bile enters the intestine just a few inches below the lower opening of the stomach.

Q--If a person has skin disease called "locus" should he have any particular diet?

A--Yes, locus is tuberculosis of the skin and the person should take an anti-toxic fattening diet and ^{should} live out of doors in the sunshine. If the general health is built up in connection with this treatment, recovery will take place. I have seen people whose skins were covered almost all over with locus (?) who have gotten well by the action of sunlight upon the skin.

Q--What is the best exercise for a person to take who has a weak heart and also suffers from inactive bowels?

A--Such a person should have an inclined table. The household ironing board is a very good exercise apparatus for such a person. Put one end of the ironing board on the windowsill and the other end on the floor. Lie down with the head to the floor and the body up on the ironing board, then lift the bowels and stomach up into proper position by manipulating with the hands, then by regular movements of various sorts the abdominal muscles may be strengthened and the bowel conditions improved. These exercises are of very great advantage and are used very largely in our gymnasium here.

Q--What is the best remedy for a nervous heart?

A--It is to get of indigestion and constipation which are without doubt the cause of irritation of the heart. The heart is not naturally depraved; it is not naturally nervous. It is only nervous because some other organ is irritating it. That is the source of nervousness.

Q--After leaving this institution, would you recommend the use of Dr. Toole's (?) cascade?

A--I do not recommend this patent arrangement because it is quite unnecessary. The ordinary common douche is as good as anything.

Q--Is there any cure for pernicious anemia?

A--Pernicious anemia gets well generally if you don't wait too long until after degeneration of the spinal cord and other parts has taken place and the liver, etc. If you do not wait ~~xxx~~ so long that the recuperative powers of the body are completely exhausted, there is a chance for recovery. Pernicious anemia is due to the absorption of poisons from the intestine which destroy the blood. We have had patients come here suffering from pernicious anemia ~~xxxx~~ ^{when} the blood ~~is~~ was reduced to a small fraction of what it ought to be. I remember one case of a patient whose hemoglobin was down to 16 and thought certainly he would not live a week, but he is alive today, a traveling salesman, enjoying most excellent health with as rosy cheeks as anybody you ever saw in your life. He lives down in Arkansas and comes back here every summer to show how well he is. The last time he was here, his hemoglobin was 93. Every year it is a little higher. We are

hoping to keep him alive for a good many years.

Q--Is it safe for a patient to have the cerebral spinal fluid tested for blood trouble?

A--That operation can be done safely by an expert but it could not be safely done by a person who is not an expert.

Q--When a sciatic nerve becomes chronically ~~inflamed~~ ^{inflamed}, what treatment if any will take ~~it~~ away the trouble?

A--Now the best thing for immediate relief from a sciatic pain is a hot sitz bath taken in the full bath tub. Put four or five inches of water in the tub, get into the tub and let in the hot water, and let it come more and more and more until it is so hot ~~as~~ that you can hardly endure it, then wait a little while and let in some more hot water, all you can tolerate until you are fairly parboiled from the umbilicus down, ~~say~~ just the legs and the lower half of the trunk. Do not let it come up higher because it would be ~~too~~ exciting for the heart. This bath continued about ten or fifteen minutes will generally remove the worst kind of sciatic pain. Persons suffering from acute sciatica generally get relief by this hot leg bath. Then the patient should be put to bed, wrapped up in blankets and three or four baths of that sort in connection with rest in bed will generally afford relief. In case of chronic sciatica, hot and cold applications are better.

Q--What would you substitute for raw meat in case of animals ~~that~~ at the zoo?

A--Some years ago I made some experiments on that thing. I gathered together all the meat-eating animals native to Michigan, and ~~many~~ ^{among} others. I got a wolf from the northwest. He had never had a thing in his life but raw meat and raw meat was fed to it by a child. If an adult had touched the meat, it would not take it, so the meat would be given to it by a child. If the child handled it, it was all right. I took this wolf at six months old. I had taken in various kinds of animals, badgers, coons and various other animals to see if I could reform them and I reformed every one but an old bald headed eagle which was such an old sinner, I could not do anything with it, but this wolf came along and I thought it was a fine chance to see what could be done for the animal, for an animal that had never tasted anything but raw flesh. We didn't offer him anything the first day but thought we would let him have a little time to get accustomed to his surroundings.

The next morning I had my man open up a can of protose and empty it down before him and he laid hold of it as if it was a spring chicken and he enjoyed it immensely and we never had a bit of trouble with that wolf. Now I must tell you the whole story. That wolf after several months seemed to be enjoying life and getting along very well. His chain wore off and he took an excursion around the neighborhood in the afternoon. We missed him and along in the evening when I was working at home, a very loud knock came upon my door and I said "come in!" I thought it was a call boy coming with a message, but in stalked a man looking rather fierce at me. "\$3.50 if you please sir," he said. I said, "Do I owe you three dollars and a half?" "Yes," he said, "your wolf has eaten up seven of my chickens." "All right, here is your money," I said. Some boys hunted around and picked up the wolf and brought him home. A couple of hours afterwards, the wolf was dead, so you see what happened to a backslider. I thank you for your attention.

End.

v-p-m

Question-Box-Lecture

At the Sanitarium Parlor, Battle Creek, Michigan, Thursday, April 23, 1914

at 8:00 P.M.

by

J. H. Kellogg, M.D.

I talked to you a little while the other night about tuberculosis. You know we are one hundred years behind the times in our dealing with this disease. One hundred years ago, the city of Naples, Italy had a hospital especially for the isolation of tuberculosis and quarrantined against tuberculosis just as they did against the black death and against cholera and other plagues. One hundred years ago, Italy was farther ahead in the battle against this disease than America is today and it is high time for us to wake up. We cannot consider ourselves really a civilized people when we are allowing a disease of this sort which is really a disease due to filth, to neglect, to untidy habits, we cannot call ourselves thoroughly civilized when we are allowing such a disease as this to carry off one in every ten of all the people who die needlessly, uselessly. Suppose we had out in the woods adjacent to our town, a den of wolves and that every day or every night some of these ferocious animals came creeping into the city and carried off a baby, a boy, a girl, a man, or a woman, the mayor of the city, perhaps, or the pastor or some leading church member. Suppose these wolves came in and carried them off and devoured them and we found their bones bleaching in the woods. What would we do about it? Why, you say, the whole populace would arouse and would not rest day or night until the last wolf was killed. Now we sit down supinely and allow this horrible plague to insiduously grow and develop among us and we pay almost no attention to it. Why the carelessness with reference to milk is something criminal. I am proud to be able to say to you that until we had a dairy which was able to furnish us with certified milk, in the last twenty-five years, not one drop of milk had ever ~~appeared~~ appeared upon the Sanitarium tables without being sterilized. As soon as the fact become known in reference to tuberculosis and the danger from milk, as soon as those facts became known, I said at

at once to our Board, "It would be a criminal thing for us to put such milk before our patients, so we established a creamery of our own and arrangements for sterilizing and sterilized every drop of milk that has ever been on our tables for the last twenty-five years until within the last two years we have had a certified milk dairy that supplies our milk. The cows are all tested and examined and the milk is examined two or three times a week in our bacteriological laboratory and the bacteria count is lower than had ever been attained before in any dairy. It is kept down to 150 or 200 instead of being 200,000, and even last summer the care taken in the production of this milk was so great that in the very hottest weather when germs grow very rapidly under the conditions that prevail in hot weather we found the ~~max~~ count for weeks at a time did not reach a thousand and at the same time, milk is being sold everywhere throughout the country in which there are millions of bacteria in every quarter teaspoonful. Now, I want you to become interested, -my friends, in this thing. It is a thing that everybody who has any spirit or patriotism or an intelligent comprehension of his duty as a citizen ought to be interested to become a member of the National Association for the Study and Prevention of Tuberculosis. Then write to the headquarters of the Association and say, "What can I do to promote this prevention of tuberculosis in my town, in my city" and the Secretary will write you and give you information, send you suggestions and will help you get your community stirred up. If you will get your leading citizens together and talk to them about it, get them interested and organize a little club in your own town, you will be able to save scores of lives. The efforts that have been made in Rochester alone, for instance, have saved the lives of hundreds of babies every single year.

10003

Manyscores of babies lives are saved asthey can prove by their statistics there and we can save every year in this country alone by a nation wide campaign for the suppression of this awful disease, we can save without any doubt within three years, the statistics would show a saving from anywhere from twenty-five to fifty thousand and in ten years we would be saving one hundred thousand people a year that now are ruthlessly sacrificed so I hope a number of you will become members of this association and do what you can to spread the knowledge of its work in suppressing this disease. I have here a little application card. You can get one of these cards and sign your name to it and pass in your five dollars and we will see that they are forwarded to the Secretary. Here is a little slip which gives a full statement of all the names of the officers. Dr. Rothenberg has recently made a very interesting discogery. He has found that cows may be made immune by innoculating them with tubercle germs that have been killed and that is a very important discovery. If when tubercle germs are grown in a test tube and then killed by boiling then these dead germs are injected into the body of the cow, the cow becomes immune so that she cannot have tuberculosis and if this immunity is developed to a very high state by repeated innoculations of this sort so that a very high degree of immunity is produced then the cow becomes capable of transmitting this immunity through the milk and the calf that is fed upon the milk of this cow also becomes immune so it cannot have tuberculosis and a baby fed upon the milk of such a cow becomes immune against tuberculosis so Dr. Rothenberg suggests as one means of combating this disease that all the cows of the country should be made immune so that all the milk that is produced in the country shall be capable of transmitting immunity to the children and the people that make use of it. It certainly seems a very reasonable suggestion. It seems a good way to combat this disease. Everybody is not subject to disease. All cows are not subject to it and all people are not subject to it. Some people are naturally immune a As a matter of fact it seems that we are naturally immune ~~again~~ against all of these diseases. For instances there are some people that cannot get diptheria.

2

Why? Because when diphtheria germs get into the bodies of these people the body is capable of at once manufacturing antidotes for the bacteria poison so that the disease ~~is~~ ^{does} not any harm but the majority of people do not have this peculiar protective power. I suppose because they have degenerated. I suppose if we go back far enough in our history we would probably find we were all immune or it may be on the other hand that it is a developing trait that we have not yet attained to the fullest degree and that some generation to come will have immunity and every member will have immunity. It is a very curious fact that babies are born immune against diphtheria. Babies six days old or a week old will not get diphtheria. 95 per cent. of all babies are born immune against diphtheria but as they get older they become less and less immune until when they are a year old not more than 25 to fifty per cent. are immune and when they get still older they become less and less immune until when they get to be twenty-five years old not more than five or ten per cent. are immune. Now we will answer a few questions and then perhaps we will have some slides and I am going to tell you some things about the stomach and operations upon the stomach that I think will interest you.

Q. What can I do for a lump in my throat?

A. I would have given a good deal to know what to do for a lump in my throat when I was a small boy in school and had to speak a piece. I remember I had a lump in my throat so big I couldn't get my piece out. Is this due to nerves? Yes, it is due to nerves. A lump in the throat is due to a contraction of the esophagus. It is a contraction that takes place at the ^{commonly} upper part of the esophagus. The esophagus you know ~~formerly~~ called the meat _____ is the passage through from the throat to the stomach and it is a circular tube and has longitudinal muscles and circular muscles and when the circular muscles contract it gives the impression that there is something in the throat. When one swallows a large lump it swells the tube and when the tube contracts upon itself it produced exactly the same sensation of stretching

3

that there is when it is distended so the lump in the throat is due to contraction of the esophagus. This can generally be made to disappear by a ~~certa~~ slight application to the throat or by taking some very hot water in the throat to gargle. This will generally relieve it.

Q. Is there any means of preventing grippe aside from keeping the system in good condition?

A. Now there are some people who are very susceptible to this influenza germ commonly called lagrippe. Others are not so susceptible at all. People who are very susceptible must take care to keep away from it. When a person has an attack of grippe he becomes immune for a few days or a few weeks. Then the immunity is lost. There are some diseases in relation to which this immunity is permanent. For instance, when a person has smallpox he doesn't have smallpox again because the immunity which is established when a person has smallpox is so complete that it lasts throughout the whole lifetime and the same thing is true in general of measles, scarlet fever, whooping cough and all the ordinary diseases of childhood yet I have known people who have had smallpox twice and known people who have had scarlet fever two or three times and with diptheria the immunity lasts only a few weeks or a few months or a year or two at the most so diptheria is a disease which may be had a number of times and the same thing is true of lagrippe only in case of lagrippe as in case like- of a common cold, the immunity lasts but a very short time. Now when a person has a cold he has immunity for a while, gets over the cold and perhaps for a few weeks has immunity against these germs that produce that cold but in a very short time he may have another attack because the immunity lasts a very little while but there must be immunity established or else one would never get over the cold. I remember when I was a small boy I had the measles and my mother said I caught it from ~~myself~~ Tommy Jones. I said, "Then how will I ever get over it because if I caught it from Tommy Jones I will keep ~~it~~ catching it from myself." I couldn't see that there was any chance for me to recover as long as I could not get away from myself. The only reason why we do is because temporary immunity is

4

established. The body develops antibodies against the poisons known as antibodies which enable us to overcome the disease for the time being and so with grippe it is one of those diseases unfortunately which is not accompanied by the development of a permanent immunity. The most important thing of all is to live in the fresh air, sleep with the windows open and keep away from people who have grippe, build up your general vital resistance in every way possible.

Q. If meat is not a proper food for a man, why did the Creator after the flood designate it as a part of man's nourishment and why through Moses did he give such a specific direction as to the kinds of meat to be eaten and the methods of cooking it.

A. Now I am going to ask the person who asked this question do you strictly adhere to those directions which the Creator gave Moses with reference to the selection of meats and the cooking of meats? If you do not, then you haven't any right to ask me this question because you haven't any faith in that yourself. The Creator said to Moses and the children of Israel that they must not eat the hogs, must not eat swine, that swine was an abomination and if an Israelite was found eating a hog he was considered as defiled, polluted and was put outside the camp. Now do you ever eat pork? Do you ever eat ham? Or sausage or any of those things? If you do, you haven't any right to ask me this question at all because you do not recognize this authority which you demand I should recognize you see. If you do not recognize it yourself you have no right to ask me to recognize it. Now on the other hand, about the preparation of the meat. When God gave Noah permission to eat meat as recorded in Genesis 9-3 he said, "Every living thing that moveth shall be meat for thee and for them," so every grasshopper and every toad and every snail and snake and every crawling, creeping thing, ^{the} centipedes, the insects and the bugs of every description Noah had permission to eat them. Now do you eat them? Do you want to take advantage of this license to eat every living thing and every creeping thing? Now, if you are not going to take the whole thing why do you demand I should take a part of it and you should take your choice and so if you are going to accept

5

that license given in the ninth chapter of Genesis you should take the whole of it or else take none at all, that is, if that same permission gives to Noah to eat meat, if that makes meat good to eat, then don't you see it makes grasshoppers, bugs, centipedes, snakes and toads and every creeping thing good to eat. What is true with reference to a part is true with reference to the whole, don't you see, so if this proves anything at all it proves too much. If the fact that Noah was given permission to eat those things makes them good to eat, then it makes all creeping things good to eat as well as the beefsteaks, mutton chops and the other things that you like so well. You are going to take ~~the~~ your choice, don't you see, going to pick out a few things and leave the rest. All there is about that in my estimation is this. Noah was informed that it was possible to sustain life by eating these animate forms. Up to that time he had no knowledge so far as the Bible goes that it was possible ~~he could~~ to sustain sustain life by the eating of an animal of any sort because in the first chapter of Genesis we read the 29th verse, "Every fruit tree bearing fruit and every herb bearing seed to you they shall be for meat." That is the original meat you see were fruits, seeds, nuts, etc. Then in the third chapter of Genesis Noah was given permission case of famine and of failure of crops to eat green things. Curseth ye thee ground for thy sake, the text says. Curseth ye thee ground for thy sake. Thorns and thistles shall the earth bring forth so when he sowed his seed and didn't get any crops, nothing but thorns and thistles, thou shall eat the herb of the ~~file~~ field so Noah was given permission there. He was informed that it was possible for him to live on grass, lettuce, asparagus, and cabbage and other things of that sort which ordinarily were left for the beasts of the field to eat. The beasts of the field must eat the herb~~x~~ of the field. Now in the ninth chapter after the flood when even all the vegetables of every sort were and all the green things had disappeared and there wasn't a thing left there on the face of the earth, everything was barren, Noah was doubtless wondering what he would do~~x~~ Sometime when he hadn't laid in a stock of good things in the Ark if he hadn't laid ~~up~~ them up, what he should

do and he was informed that living things and all animals in case of emergency might become food. Now I think there is ground in the text for the inference that this ~~was~~ suggestion given to Noah was only to be applied in emergency because we find that the next verse says, "And the fear of you and the dread of you shall be upon every beast of the field and every fowl of the air, etc. Now we may judge from that that before that time there had not been this state of fear and apprehension, that these lower animals were not afraid of man but they had good reasons when man was given permission to eat them. They had good reason to be afraid of him, don't you see. They were afraid he might devour them and so the "fear of you and the dread of you shall be upon every beast of the field." Now the next verse is the most remarkable and singular thing "And your blood will I require at the hand of every beast." I looked up the original or that. I do not profess to be a profound Hebrew scholar but I looked it up by the aid of a lexicon and I found the word ~~was~~ which was translated "require" here in this text that one of its meanings is

Now I couldn't see any sense in the idea that God is going to hold every lion responsible for every hunter that he kills. "Your life will I require" as though God was going to bring all these animals up before the judgement seat and pronounce sentence upon them for killing men. We cannot believe that animals ~~are~~ have a responsibility because they haven't any moral sense so it must mean something different from the meaning we read. We ordinary attach to the word "require" and I found that one of the renderings of the original word is "seek" so it seems legitimate to read this text "and your blood will I seek at the hand of every beast will I seek it." So when a man is going out to slaughter animals, don't you see, he must recognize the fact that they are going to be afraid of him and the fear of him will be upon every beast of the field and every fowl of the air and these very animals are in turn going to seek him. That is, when a man goes out to hunt a deer, he must expect that there will be a lion following right along after to hunt him, don't you see, and the lion has the same permission to hunt him that he has to hunt the deer, don't you see. Your lives will I seek at the hand of every beast will I seek them, so you see man has permission to eat the animals and they have permission to eat him. Now there it is, a lion has just as good a right to eat a man as a man has to eat a deer, just exactly. Now we object very decidedly when a lion wants to eat a man or if

the lion comes along and wants to take a man's ox and eat it, the man objects very decidedly. He wants to eat that ox himself and, of course, he don't want the lion to eat him, but the lion has just as good a right to his carnivorous meal as the man has. Who can say he hasn't. When it comes to a consideration of this matter, a fair broad consideration of it considering that every animal has its life given to it by the ~~xx~~ creator and has a right to live that life, what right have we to take it away? The old heathen poet tells us about the old Greek philosopher Pythagoras. Ovid in one of his poems tells us about Pythagoras and maintains ~~xxx~~ as Pythagoras did, the doctrine that we have no right to take the lives of these animals. "Take not away the life you cannot give; For all things have an equal right to life." Now if we are going to take the bible as evidence of the wholesomeness of meat eating, then we must eat meat according to the bible way, no pork to start with. Then we must prepare it in a special way. In the last chapter of Genesis, there is a little more to that text that I have not mentioned to you yet. "But the blood thereof" God said to Noah, "But the blood thereof which is the life thereof, thou shalt not eat of it" and the orthodox Hebrew today ~~xxxx~~ ^{takes} the flesh of an animal that he buys from the ~~xxx~~ kosher meat shop and he puts it into salt, covers it all over with salt and allows the salt to extract the blood. Then in the morning washes it ~~x~~ in several waters to get all the blood out of it and then when it has become almost tasteless by having all this blood washed out of it and all the soluble material, then it is cooked and prepared for the table. Now the ancient Hebrew when he slayed an animal, did not do it in a coarse brutal way in such as the matter in which it is done now a days, but he cut its throat and then with a spirit of solemnity and recognition that a life was being shed, that he life might be perpetuated, he carefully saved every drop of this blood and poured it back into the earth, into the dust and made an oblation in connection with it, performed a solemn ceremony of worship in connection with the slaughter of every animal. It was not done in a care~~less~~ ruthless way as we do it in these days. So if we are going to eat meat according to the scripture, we must do it in the scripture fashion. We must exclude the blood, wash all the blood out of it. We must not eat anything that is defiled; we must not eat any pork, and I think very much as Adam Clark, the great commen-tator, did about that. He was once asked to ask a blessing at a table where there was a roast pig in the center of the table and he looked at that roast pig, then turned his eyes

toward heaven and said, "Oh Lord, if Thou canst bless under the gospel what Thou didst't curse under the law, bless this pig". And there is no evidence that that pig was ever blessed. Think of the blood puddings that people are eating! "Oh" you say, "but that was only part of the old Jewish law." Now that was a great mistake, my friends. Noah was not a Jew; Noah was the father of the whole human race. He and his family according to the scripture record were the only members alive on the globe at a certain time, so we are all descended from Noah and Noah was not a Hebrew, he was simply a man, and God said to Noah when he gave him permission to eat flesh, "But the blood thereof which is the life thereof, thou shalt not eat of it." Then this same interdiction was repeated by Moses to the children of Israel and the eating of blood was made a most heinous crime and man was punished most severely if he ate of blood because blood was a sacred thing. The blood is the life the old Hebrew said. The life is in the blood and at the present time, we know that that is absolutely true. The physiologist knows that the life of the body is in the blood. It is the blood that heals; it is the blood that creates; it is the blood that performs the wonderful functions that are carried on throughout our bodies; it is the blood that stimulates all the various organs to the performance of their functions and so there was a reason for this interdiction of the use of blood. Then when we come down to the Christian dispensation, we find that was one thing that was considered of sufficient importance to reiterate it for the ~~guidance~~ guidance of Christian people in this particular dispensation. It is interesting to see how this injunction was given to Noah. "The blood, thou shalt not eat of it." The children of Israel when they came out of Egypt and were going up to the promised land were told, "the blood is the life, thou shalt not eat of it." It is reiterated to them, and then twenty-five or thirty years, the beginning of the Christian dispensation, there was a controversy arose between Paul and Peter. The question was, "How far is this ceremonial law binding upon Christian people? How far are these rules of life laid down for ~~the~~ the old Hebrews? How far are these rules binding upon Christian people?" And there was a controversy between Paul and Peter. Peter believed the ^{entire} law was binding ~~but~~ ^{but} Paul did not and they were teaching differently and had such a controversy that finally they went up to Jerusalem to get it settled and it was laid before the elders over there, and they went up there and had eleven of the apostles together and James, the brother of Jesus Christ, was president

of this council and they gave careful consideration for several weeks and after three weeks of deliberation, this was the virdict finally announced by James. It seemeth good to the holy Ghost and to us so you see this was not simply a human virdict, but these men believed they were instructed by the holy Ghost that had divine authority for saying "it seemeth good to the Holy Ghost and to us to lay upon you only these four necessary things, to abstain from meats, offered to idols, from things strangled from fornication and from blood." So there you see is a reiteration of this original command that God gave to Noah. "The blood thereof which is the life thereof, thou shalt not eat of it." And that is just as binding upon the Christian Dispensation today and upon every Christian that lives, just as exactly as binding as it was upon any of the old Jews. Now I am not alone in presenting this opinion. If you will read Adam Clark, one of the most noted commentators that every lived, if you will read Adam Clark on the 9th chapter of Genesis and the 5th chapter of Acts, you will see that he makes an unanswerable argument that this interdiction of blood is as binding upon Christian people as it ever was upon any people who ever lived. So if we are going to eat meat as I said, according to the bible we must live up to the bible injunction and if you are not going to do that, then don't ask me this question at all. As a matter of fact, all I can say about it is, that the bible is not a text book of hygiene. We know a lot of things in these days that were not known away back there. They bible is the winnowed truth of all the ages, but we have learned quite a number of things in recent times that were not known in those times. The bible permitted polygamy. What about that now? The bible regulated polygamy just as much as it regulated the eating of meat and the morman brings up the bible, that polygamy is justifiable and he makes a pretty strong argument too. Good father Abraham, the father of the faithful had two wives, so did his son Isaac, so did Jacob and David who was a man after God's own heart had four wives to start with and I don't know how many he had before he got through. Then Solomon, the wisest man of all, had a thousand wives and concubines. Now I am not a morman, I am just presenting the facts about this thing. You cannot find any command^{ments} or in the entire bible, you cannot find there a command against polygamy, you cannot find it, and even in the new testament, the only thing you can possibly find is this, that the elder of the church must be the husband of one wife. Now that does not say ^{that} he could not have but one, but he must have one anyhow. He must be a married man.

I am perfectly willing to take that in the most liberal sense, that he must have but one wife, but he was only elder of the church you see and the rest of the brethren, well they might have several wives so far as the bible itself tell it and the church history tells us that polygamy was tolerated in the Christian church during the first three ~~centuries~~ centuries of the Christian era. For three hundred years, polygamy was practiced in the Christian church and was not regarded as an unchristian thing. That is the truth; that is the exact truth about it. The present standard of morality of sex morality at any rate, I won't say the standard of systems in the world, but the standard that is recognized among christian people. This standard is the result of the advancement of christian civilization and cannot be said to be based upon exact and direct bible precepts, but here is a fact that must not be overlooked, that if we go away back to the beginning ~~and~~ we find that ~~xxx~~ when man was made, God gave him one woman for a wife and one man and one woman were presented as the head of a family, so there is the bible standard, don't you see. There is God's ideal. Now in the same way in that ~~xxx~~ first book of the bible, in the first chapter of Genesis before there was anything said about matrimony, the very first instruction given to man with reference to diet was that his diet should consist of fruits and grains, the products of the earth. "Every tree bearing fruit and every herb bearing seed, to you it shall be ~~a~~ for meat." So there is the ideal diet, don't you see; there is the ideal family plan and there is the ideal diet plan and they are presented in the very first book in the very first chapter of Genesis and I think there is the real foundation for the argument for purity and for ~~is to be there~~ ^{found} there in the plan which God installed when he first made man and there is the foundation for the simple life plan in diet, if you please. There is the ideal plan God presented to man when he gave him his very first instruction and we must believe these other things that came in, polygamy, meat-eating and these other things that they came in as the result of the hardening of their hearts. Here is a very interesting thing to know about it. That is, before the flood according to the bible record, men lived to a much greater age than they have since the flood.

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A thousand years was the measure of life before the flood. Methuselah lived to be almost a thousand years, Adam nearly a thousand years. Almost everyone of those antediluvians lived to be 900 and something, almost a thousand years. Noah who was born before the flood lived to be almost a thousand years old, over nine hundred years. His sons lived to be six or seven hundred years old and his grandson four or five hundred years and his great grandson two or three hundred years and by the time we get down to David the length of life is only three score years and ten, only seventy years, so this great shortening of life came in by the eating of flesh, don't you see and that agrees entirely with the discoveries of Metchnikoff and that is that putrefaction in the colon is the real cause of the prevention of prolonging life and the eating of flesh is the thing that above all others promotes this putrefaction in the colon because mans colon is long and is not adapted to the diet that is capable of undergoing putrefaction. Man has a long colon, consequently the foodstuff must remain in the alimentary canal a long time. Now here is a baldheaded eagle that darts down upon a sheep or a baby and devours the tissue and within three hours the undigested fragments have passed through its body and been discharged ~~and~~ and so there is no time for putrefaction. Studies made upon the barnyard fowl by the United States Government has shown that the foodstuffs eaten by a hen remain in the alimentary canal only three hours and a half so there is no time for putrefaction you see but this is not true of the human alimentary canal. The human alimentary canal is ten times as long as the body. The alimentary canal of an eagle is only about twice as long as its body. The alimentary canal of man is five times as long in proportion as is that of the eagle or the barnyard fowl. / which is very short. In the case of the goose it is a very different thing. The goose has a long alimentary canal because it lives on grass and herbs, you see. Now Metchnikoff has shown that these animals that have long colons have short lives and the animals that have short colons have long lives and the reason

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is that the animals with long colons have opportunity for putrefaction of foods and the absorption of these poisons is the thing that produces old age. Now, if an animal with a long colon eats the food that naturally belongs to the animal with a short colon, in other words, flesh foods which readily undergo putrefaction, don't you see, he is exposed to unusual danger. I made an experiment some years ago with a dog and a goat. We had in the laboratory here a dog and a goat and the dog was fed on a meat diet. Examination of the urine showed no indican, no putrefaction poisons were found in the urine. Day after day this examination was made and no poisons, no indican, were found. The goat was also under careful observation and there was no indican in the urine of the goat. Then we swapped diets. We have the dog the goat's diet and the goat the dog's diet, instantly, right off within twenty-four hours an enormous quantity of indican appeared in the urine of the goat. Of course, the dog wasn't any worse off than he was before. He thrived first rate on a diet of oatmeal mush but the goat didn't like beefsteak and we had to grind it up into powder and mix it with his food in order to get it in but a very small amount of meat was sufficient to cause the appearance of indican in large quantities in the urine of the goat. Now a man, you see, is not a meat eating animal. He belongs to the great family of primates, the gorilla, the chimpanzee and the orangoutang and the other large apes all so-called, "anthropoid apes". They belong to this great class of primates. Man is a primate. Prof. Cattell was here last winter, the editor of The Popular Science Monthly and he said the first thing when he arrived here, he said, "Doctor, what is your foundation?" I said, "Our foundation is biology and physiology." "Oh", he said, "What do you mean by that?" I said, "I mean we try to find out what is biologic for a man, we try to see what is physiologic for a man and then we endeavor to do that thing and persuade other people to do that thing just as we do with the horse, the cow, the canary birds or the deer, to find out what is the physiologic law in relation to that animal and then follow that law."

As regards diet we find man is a primate. He belongs to the great family of primates, the monkey tribe if you please so we watch the monkeys to see what they eat instead of hunting up a college professor or a chemist to ask him what a man ought to eat we sit down at the feet of a wise old baboon and watch him and see what he eats and what the baboon eats is probably all right because he still follows an instinct which is a of instruction given to man by the Almighty to inform him what his good for him and he follows that instinct. He A horse eats what pertains to the horse. A horse doesn't eat what a dog eats. A horse has better sense. A horse won't eat what a pig eats. A pig is a scavenger and will eat anything that comes along because that is its function in the world. A dog won't eat what a horse eats but a man eats everything that a horse eats and everything the dog eats and everything the pig eats and everything the turkeybuzzard eats. He eats everything, every creature on the face of the earth is found eating. Well, I think there is a worm discovered in Germany a while ago that is eating iron rails. Man has not got to that yet. We take our iron in some other form. You see we are unbiologic as I said to Prof. Cattell. We are primates so we eat what primates eat or ought to eat what primates eat. "Well he said, "I haven't thought of that." "I said, Prof. Cattell, "Do you know of any primate on the face of the earth or any primate that ever lived on the face of the earth, any fossil primate that ever ate meat except man?" "No" he said, he didn't. Now why does man eat meat. Why? Simply because he saw a dog gnawing a bone and licking his chops and he said, "Now that man seems to like that. There must be something good about it. So He tries the experiment by himself and after while he got used to it so he began to like bones. Now a baby don't like bones the first time it ever tried. I dare say there are mothers here who will testify to this fact that the first time a baby tastes meat it doesn't like it, that a baby has to be taught to eat meat. Now isn't that true? Are there any ladies here who know that to be true? I see a lady over here nodding assent. Here

4

are two or three people that are ready to testify that they know that to be a fact. I have been told that by a great many mothers. They have to be taught to eat meat. It is not natural. Why, a lady told me a day or two ago a little incident that I think I ought to tell you about. She said, "I went to the butcher to get a calves liver and as I passed into the shop there was the calf tied to the door and that calf you know looked at me with its great beautiful eyes and I patted it on its head and passed on it. I said to the butcher, 'I would like a calves liver.' He said, "I haven't any but I will have one in about an hour." She said, "It occurred to me right away what was going to happen. I said, Do you mean you are going to kill that calf and sell me its liver? He said, "Yes". She said, "I don't want it. I couldn't eat that calves liver. It looked at me." Now don't you see there was an instinct in that woman that told her that it was an inhuman thing and a repulsive thing to do to eat the calves liver, to eat a thing that could look at you with its eyes and to get an impression of you and could express a fondness for you, a thing that had character, that had human like instincts. It is akin to cannibalism, don't you see? It never impressed me that way before but she could not eat that calves liver because he looked at her. Now you just see what that signifies. That shows that right down deep in the human constitution there is an instinct against meat eating. If a lion looked at a calf and a calf looked in his eyes do you think that lion would like its liver any less? Well, the longer it looked at that calf the more it would hanker for its liver. You may just be sure of that or a wolf. These animals have no such impression as that. We are not carnivorous in our instincts. Lord Byron was wrong when he said, "Man is a carnivorous product; he must have prey" but that is not true. A man said to me, "It is just as natural for a man to hunt as it is to eat or breathe." I said, "That is the greatest mistake in the world." I said, "You can't hunt." "Well", he said, "I should think I can. You ought to see me hunting some time. Why, he said, 'I bring in a big bag full of game" but I said, "You can't hunt.

5

I will guarantee it". "Oh", he said, "I don't see why you say that." "Well, tell me how you go out hunting. He said, "I use a rifle of course." "Well, you take some dogs along, don't you?" "Why, of course," "Well, the dogs do the hunting then and when the dogs have found the deer, before you can kill the deer you have got to have a machine in order to help you kill it." Man is not a hunter. In the first place he hasn't got a keen enough scent to find the prey. He hasn't got feet enough to catch it or any power in his hands to kill as big an animal as himself, only some little animal like a dog or a toad or an oyster or some other pusillanimous thing. These are the only creatures that he can kill. He cannot kill an animal with the grip of his fist or the grip of his jaw. He has got to have a machine to kill the animal after he has got another animal to find it for him so you see man is not a hunter and we are not omnivorous. They tell us that man is naturally omnivorous. He is not omnivorous. A pig is an omnivorous animal. A pig can root down into the ground and get potatoes and eat the potatoes and thrive and live on them. Turn him into a green field and he will eat the leaves of corn and the ears of corn and thrive of them. If he doesn't get anything else he can eat other pigs, rats, dead horses.

If he doesn't get anything else, he can eat other pigs, rats, dead forms of meat or cooked food. He will eat raw food of any kind and he will eat grass, nice sweet clover if he gets a chance, but he will eat anything that is eatable, you see. A man isn't in any such place at all. A man would starve to death on raw potatoes or raw corn; a man could not thrive on raw meat very well. It would be a very difficult thing for him to live on a diet of raw meat as a hog can. A man would have great difficulty in eating raw meat, very great difficulty in tearing it off the bones and eating it. He depends upon cookery to be able to eat meat or corn or potatoes. Man depends upon cookery so you see it is only by cookery that it is possible for a man to be a so-called omnivorous creature and cookery is entirely an artificial thing, so if a man is omnivorous, he is artificially so, but he is not naturally or biologically so. I hope I have made this point clear enough so you can see the reason why we object to flesh eating, is because it is unphysiologic, it is unbiologic and if it is unbiologic, it is against us, for when we do a thing that is unbiologic in relation to our species or that is unphysiologic in relation to our bodies, to the structures of our bodies or its functions, we are just as certainly condemning ourselves to deathth as though we were sentenced to be electrocuted or destroyed in ~~any~~ some other way, because we cannot ignore these great cosmic laws. They are absolutely inexorable. We cannot possibly dodge them. One cannot dodge gravitation. If one is going to undertake to go against gravitation, he has got to bring another law into operation that will overcome the force of gravitation. When a man undertakes to ignore the laws in relation to diet, he does not bring in any counter force, but he simply puts himself in opposition to that law and takes the consequences and the consequences are, his life is shortened, but I have been dwelling too long on this subject, so I will hurry on.

Q--Is there any special virtue or warmth in ~~the~~ white outer garments?

A--Well I suppose somebody is aiming that question to me. Somebody said to me, "I think you are forcing the season a little." That was along in January. Yes, we ought to wear white the whole year round. Why should we dress in white? Why, in the summer time because it is cooler. White clothing is cooler. Go into any tropical country and you will find the people all dressed in white. Why, because white reflects

all the rays of the sun. The rays of the sun are a source of danger to us in very hot weather and an inconvenience because the external heat we get from the rays of the sun overheat us. In the winter time, it is the opposite you see. We want to conserve our heat to keep the heat generated in our bodies. In the summer time we get too much so we want to shield ourselves from it and white is the best because it reflects all the rays of the heat and light. On the other hand, dark has the opposite effect. Suppose I have here a block of ice and I put down here a piece of black cloth over the block of ice and here a piece of white cloth over a block of ice and watch them a little while in the sun. The black cloth will settle down into the ice and very soon it will be in a deep hole. The red cloth won't go down quite so fast and the white cloth won't go down at all. because the white cloth reflects all the heat while the black cloth absorbs all the heat and transmits it to the ice and so melts ~~it~~ a hole in the block. That is the reason why we wear white clothing in the summer to ward off the heat. In the winter time, the very opposite situation prevails. We haven't too much external heat, but what we want to do is to conserve internal heat. These substances which are good absorbers are also good radiators and the substances which are good reflectors are very poor radiators so while white reflects the rays of heat, it is a very poor radiator of heat and while black absorbs the heat, it at the same time a good radiator of heat. Then so dark clothing in the wintertime radiates the heat away from our bodies and carries it off most rapidly while white clothing retains the heat and on the other hand in the summer time, the white clothing reflects the heat, so it has the advantage both summer and winter. There is another thing about it. We need to have our bodies continually bathed in light and for that reason we ought to wear as thin garments as we can and porous garments that will allow the light to circulate through, ~~under~~ and get in contact with our skin. I make my clothing as simple as I possibly can ~~am~~, wear a simple thin under garment underneath a thin shirt and that is all the clothing that I wear at any time of the year. The clothes I wear today are just ~~it~~ exactly the same as I wear all winter, exactly the same. As the weather gets a little warmer, I make my underclothing thinner and thinner until it is a mere gauze in the very warmest weather, and when I go out in the cold, I put on an overcoat. I wear cloth shoes the whole year around. Why these cloth shoes carry off the

moisture from my feet and keep the feet perfectly dry and so long as they are dry, they are kept perfectly warm, but the leather soon gets saturated with moisture and becomes a good conductor and so carries heat away rapidly and makes the feet cold. Last winter I was running back and forth from my house through the snow and didn't put on rubbers but twice in the whole winter, often running home through snow a foot deep and never of thought of getting my feet cold. I seldom wear gloves. I like to get my hands in contact with the cold in winter. It has the same tonic effect that it does to get your face cold and that it does to breathe cold air into your lungs. When we get these cold impressions upon the skin, it stimulates the body to develop resistance, so it is an excellent tonic influence. I hope the time will come when everybody will dress in white, summer, winter and all the season. It is really the proper color. Note the difference for instance. Suppose you are in a room on a bright sunny day and you had all black curtains hung up to the windows. The room would be dark as night. Suppose instead of dark curtains, the curtains are white. Why then your room would be full of diffused light, don't you see. That is just the difference. When you wear black clothing and white clothing. When you wear white clothing, the light reaches the inner surface of the body when the sun is shining. When I put on dark clothes, I feel depressed and feel a difference right away. I sometimes go away from home and I am always glad to get home and to get into some white clothes and then I feel as though I was living again.

Q--How do you account for it that all tuberculosis sanitariums use an exceedingly high-protein or meat diet and apparently cure many?

A--Personally, I should think either a balanced ration or a ration high in carbohydrates would be better. Certainly a carbohydrate and fat diet is in every way preferable to a high protein diet. There is a very great ~~advantage~~ change coming over all our institutions that are giving special attention to tuberculosis. Twenty years ago the meat diet was supposed to be absolutely essential and a very high-protein diet and the enthusiasm for a meat diet got so high that over in Germany they actually started a raw-meat sanitorium for consumptives and it was run for six months and then ran into the ground and disappeared. In all institutions, this use of meat is getting to be less and less and far less emphasis is laid upon the high-protein diet, and it is generally admitted that a very high-protein diet is not advantageous. If you will call at the bookstand you can ob-

tain a little paper on this very question, on diet in tuberculosis. Anybody who is interested can get a copy of my paper there and I present facts which I have not seen answered. I send a copy of this paper around to all the different institutions where they are treating tuberculous patients and I got letters from a number of eminent physicians, among others one of the late surgeon-generals of the United States Army who said he was certain ~~it~~^I was right in the idea that a high-protein diet was damaging for he was thoroughly convinced of it in his own personal experience.

Q--What is the cause of the arm aching from the elbow down and tingling in the elbow?

A--It is probably neuritis. I see it is bedtime and we will have our pictures next time. I thank you for your attention.

End.

v-p-m

Question Box Lecture at the Sanitarium Parlor, Battle Creek, Michigan,

Monday, April 27, 1914.

at

8:00 P. M.

By

J. H. Kellogg, M. D.

Q. What is neuritis?

A. Neuritis is supposed to be an inflammation of the nerves. Now I am perfectly willing to confess that we do not know very much about neuritis. We know a nerve is a seat of chronic pain and we do not know what to call it, so we call it neuritis. That is just about the truth of it. As a matter of fact neuritis is a sort of limbo into which the doctors dump painful troubles with nerves that they do not know what else to do with. When I was a medical student under old Dr. Palmer, who was our professor of medicine, when he lectured about neuralgia he said, "When you have a case of a patient suffering from pain and you do not know what else to call it, call it neuralgia". Well we have differentiated a little bit now, and we do not call them all neuralgia but some of them neuritis if you please. Now as a matter of fact my opinion of the majority of cases of neuritis and some persons aside from myself think this way, that the majority of cases of neuritis are due to irritations of poisons in the blood. These poisons in circulating through the small blood vessels which supply the nerve trunk, very minute blood vessels, indeed irritate the nerves and set up this irritation which gives rise to the pain of neuritis. Probably there are many cases akin to rheumatism and it certainly is associated with colitis and with other conditions of ~~toxemia~~ intestinal toxemia. This we know that heat will relieve neuritis. It is a practically sovereign remedy for neuritis no matter how severe the pain. Heat will relieve the neuritis. Heat will relieve the pain. Heat kills the pain. How? Nobody knows. All we know is that heat somehow lessens nerve irritability while cold increases nerve irritability. Cold applications, if a person is

a person is subject to neuritis in the face, for example, exposure to a cold draft on the face will cause severe pain whereas a hot application gives relief. Even a baby knows that. If a baby has an earache up goes its hand and the mother knows it has earache because its hand goes up to its ear and if a dog has earache then the dog puts its paw over its ear. It knows the value of heat you see. I was at Coronado Beach in California one cold February morning a dozen years ago and passed by a monkey cage. I was going down to the beach to take a morning plunge in the surf and I found a little manager there and there was a big mother monkey and three little baby monkeys and the baby monkeys were running about the cage and somebody had thrown in some green guavas and evidently one of the monkeys had gotten hold of these green guavas and was evidently suffering from peristaltic woes in consequence and the mother was sitting guard over the rest of them, had gathered them all up into a little heap and was keeping the other monkeys from getting them. One would come near, reach out a paw to swipe one and she would ~~ska~~ catch it and box its ears and send it off. Then another one would steal one and she would go after it and make it drop it but one poor little monkey was suffering evidently from the colic and had climbed up the side of the cage and was hanging over a hot water pipe taking a hot fomentation to its stomach so you see the monkeys have gotten hold of the Battle Creek idea and endorse it most heartily. I am not sure but what we learned it from the monkeys to confess the absolute truth about it. The fact is these natural remedies are not original with anybody so far as we know. They have come down to us from the most ancient times. Probably the primeval man that lived in a cave used hot water for stomach pains, for the earache and for the toothache and all sorts of aches, used heat for this purpose. Why, a dog that is suffering pain goes out into the sun and lies down in the sun. A sick dog will nearly always seek the sun. He knows the value of the sun's rays and the most primitive people who live at the present time know the value of heat as a means of relieving pain. Down among the Sandwich Islanders they will, for instance, dig a hole in the ground, put some

stones in the hole, build a fire on the stones and by and by when the fire is all burned out and the stones are hot they will cover the stones all over with green leaves then put the sick man down on the green leaves and cover him over with a mat and the heat of the stones vaporizes the moisture in the leaves which rises up around the man and gives him a vapor bath just exactly as good a vapor bath as it would be possible to take with the most scientific apparatus, just as efficient and after the vapor bath some cold water is poured over him and the North American Indians when they were first discovered here were found to make use of the vapor bath. They built a little hut of skins, put the sick man in there if he had a fever, heat some stones and pour some water on the hot stones and fill the little hut with vapor. Then when he was perspiring freely, almost parboiled, they would take him out and dip him in the cold water of the river and in that way get a reaction and they would often succeed in breaking up a fever so you see these simple measures of treatment have come down from the most ancient times and that is why they are so valuable because they are natural forces just as much as gravitation or electricity and magnetism and the other of the great forces of nature so these healing powers that reside in water and in heat and in sunlight and in electricity, all of these wonderful healing powers they are natural forces and when a man is sick and he can bring these great natural forces to bear influencing the metabolism in changing the character of his cell action, in rebuilding his body, in rejuvenating all his forces, when a man can bring these natural powers to operate, don't you see he is bringing the forces of nature to bear the great cosmic forces that move the earth and control the universe and it is not simply from simple theory that a man is bringing to bear upon himself but it is a power, it is a force, a natural power and these natural powers co-operate with the forces that are within the body so when we apply heat to relieve pain it is not the same thing as giving ^{an} anodyne, a dose of opium or morphia or a hypodermic injection. It is not the same thing at all. If we relieve pain by the application of heat we are getting rid of that pain by killing the pain.

We are not simply hiding the pain. We are killing it. We are removing the cause of the pain for the time being so that a patient no longer has the pain. When we give a man a dose of morphia he has pain just the same as before but he rendered unconscious of it just exactly as though we were cutting off a man's leg with the man under the influence of chloroform. We are hurting his nerves just the same but he doesn't know it because we have paralyzed ^{his} sensorium so when a man is put to sleep with aspirin, chloral or any other hypnotics, he is not relieved. We may say the sleeplessness is cured but the man is not cured. He is not relieved of his disease. He is simply put to sleep by the influence of the drug and when he wakes in the morning he is not refreshed ~~at~~ but feels as though he had had no sleep. Maybe he feels a little better than as though he hadn't slept at all but he has been narcotized by a poison so he is not really better but he maybe made worse instead.

Q. What is preferable, hot or cold water before breakfast?

A. That depends upon whether you have hyper or hypo. If you have hypopepsia, that is, if you do not make hydrochloric acid enough, you better drink a little cold water because cold is stimulating while heat is the reverse. If you have hyperpepsia, if the stomach makes too much acid, then half an hour before the meal take half a glass of hot water. If hyper, drink ~~and~~ hot water, if hypo drink cold water. Half of you have hypo and the other half have hyper but you will have to sort it out yourself for I cannot tell you where it applies. Our observations show that just about half the patients we examine have hypopepsia and the other half have hyperpepsia. Very few have just the right amount of acid.

Where one has both autointoxication and acid stomach -- these are two things that commonly go together -- when a person has hyperacidity he always has autointoxication for it is the autointoxication that makes the hyperacidity in my opinion. That is the real cause. The poison is absorbed from the colon and excreted into the stomach and the irritating effect of the poison is what makes the gastric glands make too much hydrochloric acid so

those two things go together.

Q. What diet should be used to oppose it?

A. The diet should be a laxative diet. It should contain a considerable amount of fat. Those are the two things necessary to say about it. A considerable amount of fat, a low protein diet, an antitoxic diet, a laxative diet and an extra proportion of fat, especially in the form of vegetable fat. Olive oil is one of the very best things; a couple of tablespoonfuls of olive oil at the beginning of a meal, then a laxative diet. Colax and Para-Lax are of very great value in these cases, that is, agar-agar and paraffin oil. Sterilized Bran is another very excellent remedy in these cases. Two tablespoonfuls of Sterilized Bran mixed in with broth or soup and eaten at every meal, two heaping tablespoonfuls is a very good prescription in some cases. It is very effective indeed.

Q. What is the best and least harmless medicine for a tonic for the liver of one who does not eat meat?

A. Now my friends that is a good deal like asking "What is the best kind of a rawhide with which to thrash my good boy." That Just think what a senseless question that is. The good boy don't need to be thrashed at all and your good old liver that has stood by you all these years in which you have been abusing it shamefully, insulting it and maltreating it, your good old liver don't need to be whipped up with a tonic. What your liver wants is an easier time. It wants less hard work to do. The only thing in the world that any liver ever needs is simply that thing, to have an easier time, to be turned out to pasture for a while if you please, and relieved of ^{some of the} unnecessary burdens that have been heaped upon it. Just think what the liver has to do some times. Here is a man who eats a great big dinner, twice as big a dinner as he needs. That is an enormous load upon the liver. If we measure a person's liver before dinner ^{and} after dinner it is half an inch thicker after dinner than it was before dinner. Why? Why? ~~Because~~ You see because it is filled up with the dinner.

The liver absorbs part of the dinner and holds it for it is a sort of automatic stoking arrangement. The food we eat is fuel and the liver stores up that fuel in itself and doles it out moment by moment as we need it. If all the fuel we taken in at a meal were all poured at once into the blood, we would have a flaming up with heat and we would be so hot and excited that within a short time we would exhaust ourselves and we would use up our food in a very short time. It would be just exactly like feeding the furnace with kerosene oil dumping it all in at once or breaking the coal all up into fine powder and dumping it all into the furnace at one time. There would be a tremendous explosion. That is what would happen to us if there were not provided an automatic regulating apparatus. The liver absorbs the starch and fat and holds it in itself and then doles it out little by little, a most marvelous arrangement. The food is mostly taken in the form of starch which by the action of the saliva and the pancreatic juice and intestinal juices is converted into sugar which is absorbed. This sugar is carried to the liver in the form of sugar. Sugar is soluble carbohydrate but ~~and-starch~~ starch is insoluble carbohydrate. In the liver the sugar is converted into sugar again and deposited in the liver so it is held there in the liver until it is needed. Then as fast as it is needed it is reconverted into sugar and passed back into the blood, circulated in the blood and carried to the muscles and the brain and other parts of the body where it is needed for use and that is the marvelous arrangement by which the heat of the body is regulated. Now the liver has this work to do. Suppose then you eat twice as much as you ought to eat. You see the liver is just stuffed full of material, stretched out twice as much expanded as it ought to be. Experiments have been made with cats, dogs and other animals which were fed a considerable amount of fat, for example, and it was found the liver cells after such a meal were all filled up with fat so the liver is clogged, actually mechanically clogged and its work seriously interfered with. Now then I say if a man eats too much dinner, if eats an over rich dinner, if he eats a whole lot of rich pie, rich sausage, fried pork, chicken and all sorts of rich gravies and things the result will be his poor liver will be stuffed full of this starch, clogged and crowded so that it cannot do its proper work. The

liver has a wonderful variety of work to do. There is no organ that has so many things to do as the liver, it is a Jack-of-all trades almost. It has all kinds of odds and ends to do, it is the general temper of the body. Let me tell you a few of the things it does, every seconds of our lives, eight million blood cells die. Just think of it what a grave-yard we are. Eight million blood cells dieing every second of our lives. Just think of those eight million coppes of blood cells scattered throughout our blood. Why it need a scavenger around there to pick them up and dispose of them, this is what the liver does. As the blood goes around by the liver, the liver picks up those dead cells and catches them, catches them all and then comes up and brings them up and renders them, makes use of every particle. I was reading some time ago how in London, they have a great rendering establishment and they have the same thing in many other large cities where they gather up all the dead dogs, cats, dead horses, cows and things of that sort and carry them over to these rendering establishments and it was discovered in London, not so very long ago that this great rendering establishment, the animals that were carried to it were utilized, every particle of them, the skins were used for leather, the heads made calve's head jelly, the bones were made into fertilizer and the other things were used for saugage and fertilizer. The fat was made into oleomargarine butter and the livers were dried and ground up and made into coffee. So the liver does just that kind of work. It takes these blood cells and converts them all into something useful. The alkali is sent out in the bile and is used to help digest the fat. It is a sort of lye that takes up the filthy grease that comes along with the sausage and other things, Don't you know, and converts it into soap, actually makes soap found in the small intestines from alkali formed in these red blood cells, and the coloring matter found in these red blood cells, we the matter of brown color is used to color the dark chamber of the eye and hence this photographic process that goes on in the eye. If it were not for that our hair would bleach out and it would become white. This coloring matter is used to tint the hair and the eyelidsiris of the eye, the colored part of the eye and the back chamber in the eye. These are all tinted from the matter that coloring matter that is supplied from the red blood cells

you see. There are other things the liver does, one very important job the liver has to do is to destroy the poisons taken in by accident or on purpose. It is the liver that saves the life if you smoke cigars, it is the liver that destroys the nicotine in cigars. If you take coffee it is the liver that keeps you alive by destroying the caffeine. If you drink liquor, it is the liver that comes to the rescue and destroys the alcohol which otherwise would kill you. If one eats pepper, pepper sauce, ginger, horse radish and all those things that burn and blister and sting as they go down our throats, it is the liver that gathers up those offensive oils, poisons and destroys them. The colon poisons which are in the colon, formed there by putrefaction of undigested remnants of dead beasts of various sorts that some people ~~elwa~~ swallow, oysters in the half shell, live scabbling lobsters and things of that kind or shrimps, frogs etc. the liver has to deal with the poisons that are formed by the putrefaction of the undigested remnants of all these corpses that are ~~fermed~~ ^{found} down there of the colon. So you see that is a big job. Now then if a man eats too much and overwhelms his liver, If the bowels are constipated and the liver is overwhelmed with these poisons so when the liver gets what we call torpid, it is simply a liver that is overworked, has two or three times the amount of work thrown upon it that it should have in the work of destroying the poisons so they ~~live~~ are passed on into the blood, get up into the brain and make you feel as though you had committed the unpardonable sin and maybe you have and made you feel as though you were going to be hung tomorrow morning fortunately you are not, though Dr. Vincent said some people thought they had experienced religion when they had only had a bilious attack, anyhow they feel mean and contemptible and they go to a doctor, and say, "Doctor, Oh, my liver, Will you give me something to fix up my liver?" You are the one who needs to be fixed, not your liver, your liver has been doing it's duty all the time, doing double duty until it has got tired and it is like a poor old horse that has been overworked and over-loaded and has been abused until finally he has gotten where he can just go no longer and he has fallen down on his knees and

now you want a whip that has got a sharper sting in it with which to whip that horse so as to compell him to start along with that load but the thing to do is to get after that horse and get behind and push and that is what you want to do for your liver. Just give your liver a chance. How are you going to do it? Take a proper diet, cut out the fat, cut out all the meat. This man I referred to said he ^{was} ~~would~~ not eating meat. Very well, maybe he is eating too much ~~of~~ beans, maybe he is eating too much of everything, cut out all the ~~eggs~~ excess of food, put yourself on a meager diet, eat nothing but fruit for a day or two and bran or Colax or something else to get back to the food and take plenty of fresh things, let your diet consist of lettuce, celery, and fruit for a day or two, very bulky foods a large amount of it and a large amount of these fresh sweet fruit juices, particularly fresh and sweet because they have ~~wonder-~~ wonderful power to disinfect the alimentary canal. Now do this thing and your liver will pick up wonderfully and wonderfully fast and won't need any so-called tonic. These so-called liver tonics are foolish, they make you think your ~~lif-ve~~ liver is improving when it is not improved, they make you think your liver is doing more work when it is not doing more work, probably there isn't anything better along that line than old fashioned calomel but I don't use it, I never prescribe it because I do not find ^{any} a case in which it is necessary but it doubtless does many people temporary good because calomel is a powerful poison, it is a disinfectant, it destroys the germs, it is laxative and clears out the alimentary canal and at the same time temporarily disinfects the alimentary canal and so stops the inflow of poisons but it does not encourage ~~the~~ excessively the action of the liver. Dr. Bennett, of Edinburgh, more than one hundred years ago made ~~experiment~~ an experiments with dogs. He took the bile duct, got them down so that the bile ducts would discharge out of doors instead of inside, then he gave these dogs calomel and found it actually diminished the activity of the liver instead of increasing it. Ruthurford said, of England, some years ago, he repeated the experiment and found the same results, that has been known now for a hundred years, yet doctors continue to give calomel. As one old doctor in New

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York used to say, he was going to continue to give calomel in spite of Bennett and all the dogs in England. Now some of that calomel is stirred up in the liver which recognizes the calomel as a poison and seizes upon it and holds it back out of the blood to prevent this circulating through the rest of the body and in that way the liver, itself becomes becomes damaged by the calomel, so ~~one~~ ^{while} or two doses any particular harm when one is in the habit of getting relief in that way, eating his big dinners then taking a dose of calomel so to work it off his poor liver will certainly be completely exhausted and will get into a bad condition because it will be degenerated and worn out and there is no hope for it but your liver has not got so bad as that. Give it a chance and it will soon be capering about as lively as ever doing its work peacefully and well.

Q. Is it good to drink cold water at meal time?

A. Yes there's is no harm in drinking cold water, ice water, if you like, in fact I recommend it. I prefer ice water to any other kind of beverage at meal time, ice water, or ice lemonade or ice fruit juice, but let me tell you something about it, you must fletcherize it you must not swallow it whole. If you are going to drink ice water you must fletcherize it. I like ice water because it is cool and refreshing to our mouth and it doesn't take but a little sip about half a teaspoonful is enough to cool the mouth and freshen it and when it gets down it will be warmed don't you see? If one takes a tumbler full of ice water and swallows it whole down it goes and it takes that ice burg along with it and the poor stomach and is made to shiver and the glands of the stomach are paralyzed, they cannot secrete hydrochloric acid for two or three hours in some cases and the whole process of digestion stops right there, paralyzed and nothing more is done, now it is alright to drink cold water but you must take it in very small sips and give each sip a chance to get warm before it gets down. It is your mouth you want cool and not your stomach so you see it is the silliest thing in the world to gulp down a great big glass full of ice water, so you can

get all the satisfaction you like out of it but take a little sip at a time and keep it in your mouth until it is warmed before you swallow it and it is more refreshing than the warm water and it does no harm at all. A tumbler full of water at a meal is enough. A ~~person~~ doesn't do the average person any harm to take that amount of water at a meal but it should not be taken to rinse the food down. Eat a mouth full of food, chew it thoroughly, masticate/ it thoroughly, swallow it then take a little sip of water but never take water when there is food in the mouth because if you do you will take it for the purpose of rinsing that food down, and when you get water in the mouth the salivary glands want to put any/ saliva in the mouth if you keep the water out of the mouth the salivary glands will pour out the saliva. Fish do not have any salivary glands because there is so much water to run through the mouth they would not be of any use you see. It would be silly for nature to be wasting her fragrance on the desert air of the ocean, you see, so to speak by pouring saliva out into the mouth of the fish to be washed out by the water, so it would be just as silly to pour out saliva to moistened food which is washed down by gulps of water. If you take food into the mouth with water there is no need for saliva and no saliva will be produced. About 8 years ago I made a long series of experiments on mastication of food. I ~~heard~~ ^{had} a man ~~say~~ ^{chew} various things in the first place chew an ounce of water for two minutes and at the end of that time there was no more water than there was at the start. He chewed it up in his mouth digested it and at the end of five minutes there was just a little more saliva than there was at the beginning, then I had him chew dry bread, granose biscuit and at the end of five minutes when he had finished chewing it there was three ounces of granose biscuit and saliva. It added two ounces of saliva for each ounce of granose biscuit then I had him chew some oatmeal mush and at the end of five minutes there was an ounce and a half instead of one ounce. So you see about the proportion in which nature produces saliva. When there is water in the mouth there is no production of saliva so it is best to drink very little at meals.

Q. Is it wise to serve canned fruits at meals and upon our tab-

les with vegetables and cereals?

A. Certainly. They are all a healthy family and you may add nuts too. The only thing necessary is that these foods should all be thoroughly chewed. All foods agree in a liquid state, they are all harmonious in a liquid state, It when the foods are solid, half masticated that mischief comes. If you swallow a lot of vegetables and fruit, half mastidated, you will have trouble as sure as the world, because vegetables require a long time to digest in the stomach while fruits require very little time. The fruits aught to pass out of the stomach in the course of an hour or two while vegetables are very likely to remian two or three hours. If fruits are there and vegetables are there at the same time they get mixed together and both stay there you see. If the fruits have been taken along, they would pass out in an hour but the vegetables will remain there three or four hours. If you eat fruit and vegetables together the fruit will remain with the vegetables until they are ready to pass out to a considerable degree and during that time the fruits will undergo fermentation, for fruits ferment quickly while vegetables do not ferment quickly. If the fruits and vegetables are chewed up ^{so --} ~~very~~ thoroughly that they do not ~~either~~ one of them remain a stay in the stomach a great length of time but both pass on together and there is no inconvenience at all.

Q. Is it a good plan to eat fruits regularly at meals with cereals and vegetables?

A. Yes, it is a splendid thing to take something raw at every meal ^{raw} ~~dry~~ fruits and ^{raw} ~~dry~~ vegetables. Lettuce is one of the very finest of all the raw vegetables, the cucumber is another, there is nothing healthier than raw cucumbers. I see some ~~you~~ you take in a long breath at that but the cucumber is a perfectly healthy food perfectly wholesome. You need not be scared to eat a raw cucumber, you can take at all meals raw cucumbers if you like. The less you mix with it the better, chew it well and do not take any vinegar on it but use a little lemon juice if you want to and a trifle of salt for a dressing and you won't have the least bit of trouble with the cucumbers. I used to tell people to beware of cucumbers but

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thirteen years ago I was in Egypt and I was walking along a Nile one day watching the natives, Egyptians, and I saw a native Egyptian mother going along with a cute baby on her shoulders, astride her neck with its arms around her ~~neck~~ head and she was gnawing away at a long cucumber and every little while the baby would take a bite off the end of it and I said to myself why, she will kill that baby sure and I looked at the b by three or four times and it seemed to be perfectly happy and contented and didn't show any signs of colic or anything else, it was a perfectly healthy baby, it was a very different thing when a lady was feeding a baby a cucumber pickle, another lady saw her doing it and said, "Why for pity sakes, you will kill the baby". She said "Oh, he hasn't choked on it yet". She supposed the ^{anything the} young baby could swallow was alright. Now that little baby was eating the raw cucumber, the raw cucumber is harmless but the pickled cucumber is as indigestible as pebbles or wood but the raw cucumber is very easily digested and entirely wholesome. Celery is another good thing and cabbage is another. There are four raw foods which can be eaten with intimacy if you simply take them and chew them thoroughly. Chewing celery for example if it has got very long strings in it, reject those strings. Only swallow that part which can be chewed up to a reasonably fine pulp. Some of these vegetables ought to be taken at every meal, make it a point to eat something of this sort at every meal, I think the raw vegetables supply something that is not quite so well supplied by raw fruit.

Q. What causes enlarged glands in the neck?

A. Tubercular germs. Generally bovine tubercular germs. Various germs derive from the flesh ^{of} ~~from~~ the ox or the pig ^{from} ~~some~~ beef or pork or from the cow. That is the principle reason for these enlarged glands or one of the principle causes.

Q. If one is nervous is it wise to try to control the nervousness or is it best to give vent to ~~it~~ it? and if so, to what extent should one give vent to it?

should think

A. That is a pretty hard question to answer. I ~~suppose~~ it would depend upon what you are disposed to do. If one is nervous the proper thing, certainly is for him to control his feelings. If one feel nervous and cannot sit still certainly it would not do any harm to get up and ~~wla~~ walk but if one feels as though he would like to give some one a piece of his mind it would be better to restrain that because the more of that thing you do the more you will have to do probably and you might get something back, but if one is nervous and feels like walking, the thing for him to do is to take a walk of course, if one feels disposed to try, sometimes it does one good to try. As I told a lady the other day, she said she had been crying, she was so nervous she could not keep still, she had to cry and I said, "Just let it go". She said, "When I let it go I cry two days steady, and get so exhausted it takes a week to get over it". That is going to an extreme, of course. We cannot recommenc going quite so far as that, You know it is astonishing how much this nervousness can be controlled. One simply diverts his mind from it. I have often seen people so nervous they were simply going all to pieces and just by telling a little story to divert their mind, some little thing happening perhaps

Perhaps the cat jumped upon the table and tipped over a vase or a pitcher of water or some other thing or the wind blew in and tipped over a flower pot over onto the floor, something that attracted attention and the nervousness all stopped. It is amazing how quickly these unnatural manifestations of nervous energy, how quickly they may be controlled by something that will change the current of thought.

Q. What treatment do you advise in case of goitre?

A. It depends upon what kind of goitre it is and how far advanced it is. The first thing I ought to say about goitres is that they are not so dangerous as most people think. Old Dr. Musser of Philadelphia used to say there is too much goitre surgery and I am sure he ~~is~~ was entirely right. Everbody that has goitre does not have to have an operation. There are several kinds of goitres among others what we call the simple goitre and the exophthalmic goitre. In simple goitre there is simply enlargement of the gland and no other symptoms and in exophthalmic goitre there are a lot of other symptoms. Exophthalmic goitre is sometimes very slow in developing and the first symptom will be nervous excitability, symptoms very much like those of a person who just taken a first glass of wine. He will seem to be a little under the influence of the wine all the time. Next comes the rapid pulse, then trembling of the hands and a variety of symptoms. By and by the patient becomes so weak and nervous with high temperature and is so much disturbed that he is incapacitated for business. Now even those cases will get well if they are little long generally. Take such a patient and put them to bed for a time on a proper diet and keep the bowels active, shut away meats of all kinds and tea and coffee and all sorts of stimulants and intoxicants and these cases will get well if they do not do anything at all. Nine out of ten of them will get well if they are simply put to bed, kept quiet with good care but sometimes these patients get so far advanced that the process of cure seems to fail. The efforts of nature seem to fail and the process is

not perfected as it ought to be. Occasionally a case of that sort, perhaps one in ten or fifteen in those cases require a simple operation and this is very effective, Ligating one or two of the arteries which supply the gland ordinarily will cut off the supply of blood so that the gland will diminish in size and the symptoms will all disappear. Sometimes it is necessary to remove a part of the gland. We have found great success in treating these cases here. I have in mind at this very moment persons who were patients here, one a very prominent New York lady was a patient here and she came here when she was a girl about 19 years of age, more than thirty-five years ago, a lady very prominent in New York City. She was here for treatment. I think it was Mrs. Stokesbury now of Philadelphia, head of a big wholesale firm of Philadelphia She had exophthalmic goitre very, very bad. I met her father, Judge Roberts, down at Miami, Fla. the other day and he told me about her, how perfectly well she is and had remained after she was here having been given up to die by some of the best physicians in the country. She came here to die. She was brought here by her parents at her own request so that she might have a quiet place in which to die but instead of that she got well again and was married to a Mr. Cromwell of New York and afterwards outlived her husband and was married again to Mr. Stotesbury a couple of years ago and they had a very notable New York wedding. Some of you read about it in the newspapers so I remember very well a girl who came into the city something over thirty years ago with exophthalmic goitre and was treated a few weeks and got entirely well. Ten years later she was forelady in a factory in Milwaukee and came down here with a relapse of the disease. She had a few weeks' treatment which again restored her to perfect health so that she was entirely well. I remember another case the niece of a very prominent physician of Cincinnati, Ohio. She was brought here by her aunt, the physician. This lady had been in an Eastern Hospital under treatment some time but was getting worse every day. She was fed upon a meat diet ~~xxx~~ which was the worst thing possible. They did not recognize the nature of the disease at first. The lady was a medical student so the lady was

having the very best of care but she was having a meat diet and was getting worse every moment but we put her on a Sanitarium diet and the next day I saw her and I said, "I would recommend an operation and I think that will expedite the cure." She said, "I am not going to have any operation." She said, "I have seen operations enough and I don't propose to have an operation." She would not submit to an operation. She was with us for six months and at the end of that time was a great deal better. The next year she came back, was not quite well but was a great deal better and was with us another two or three months. She kept a nurse with her and continued treatment at home for another year and then she came back and this time she was well and she got well without any operation. It is a slow process sometimes and sometimes the patient can make a choice whether they will have an operation for ligating a couple of arteries, perhaps removal of a part of a gland and get well quick or take a longer time and follow a careful regimen and get well without an operation. At any rate, you do not need to be scared.

Q. What are the medical properties of pieplant?

A. It has no medical properties. It has poisonous properties.

Pieplant contains oxalic acid, the very sort of oxalic acid that you use for taking fruit stains off your hands or out of the carpet and out of clothing. Oxalic acid is the acid of pieplant. The acid of the sour grape is tartaric acid. That is wholesome. That is food acid and the acid of the apple is malic acid. That is wholesome food acid and the acid of the lemon and the orange is citric acid and that is another wholesome food acid but the acid of pieplant is oxalic acid and that is a poison. just as the acid of vinegar is acetic acid and that is a poison. These acids are not utilized in the body. They are poisons in the body. They do harm, hence ought to be avoided. That is why we recommend lemon juice instead of vinegar. We never use vinegar and I should advise you to put it all off your tables as soon as you get home. It is a great source of indigestion. Sir Wm. Roberts of London more than 20 years ago showed that as much as one teaspoonful of vinegar will suspend entirely the process of starch digestion in the stomach.

April 27, 1914.
10,140

Sir Wm. Roberts of London showed more than twenty years ago that as much as one teaspoonful of vinegar will suspend entirely the process of starch digestion in the stomach. One teasponful of vinegar will entirely suspend starch digestion in the stomach for a whole meal so you see what a good many people are doing to themselves and how much indigestion may be traced to the use of vinegar.

Q. What is the cause of catarrh?

A. I think the principal cause is the absorption of toxins from the intestine.

Q. Are dreams the result of impression made upon the mind during the day or is their origin in the physical condition such for instance, as a state of indigestion?

A. I called on a patient this morning, a very charming gentleman and I said, "How did you sleep last night?" "Fine, doctor" he said. "I slept nine hours and I was sleeping just as fine as ever in my life and a ruffian came into this room and seized me by the shoulders and gave me an awful shaking and said, "I have got you now and you are Ty Cobb. You ran away ~~it~~ with my wife and I have caught you now and I will fix you." I said, "What in the world were you dreaming about that sort of a thing for? You didn't run away with Ty Cobb's wife." He said, "No, I never thought about it. I believe it was the hypodermic injection the doctor gave me last night." Now we cannot account for dreams. While the will is in abeyance the subconsciousness seems to run away like a span of horses that haven't any driver, just running away wherever they like and they form all sorts of combinations and some of these activities of the basal faculties of the brain, the subconsciousness, some of them are so intense that they obtrude into the consciousness to some degree and we catch a glimpse of what is going on. You know there is a whole lot of business going on in the subconsciousness all the time that we do not realize anything about, a whole lot going on there. For instance, we have some

2
19

problem we cannot solve and we lay it aside. By and by all of the sudden that thing comes right up into the mind all solved. We see the solution perfectly worked out. It has already been worked out but by a long ~~practice~~ process of reasoning that we were not conscious of at all. Maybe you are trying to think of some name and cannot think of it. We dismiss the whole thing and by and by it suddenly comes up into the consciousness. The whole memory comes back ^{as} clear and distinct as it is possible to be without any conscious effort at all. Dreams are simply the play of the subconsciousness when the consciousness is not completely suspended, when there is still enough consciousness left to recognize a little something is going on. There is no doubt but what the experiences of our working hours have something to do with dreams and it is possible by the study of dreams to know something of character. Freud of Germany has recently been making a great study of dreams and he has developed a theory by which he thinks it is possible to learn more about a person's character by the study of dreams than in any other way and he will ask you to tell him what you dreamed. I am sure if he should ask me to tell him about my dreams he would get very meagre reports for I do not dream. If I ever do dream the dream is so evanescent I cannot possibly recall it. Dreams, however, with some people are very intense experiences. Neurasthenics particularly suffer often from dreams, so intense they seem almost to have the effect of real transaction. For instance, a person will dream of fighting with burglars at night, or robbers coming into the house and they ~~wake~~ wake up with a terrible sense of exhaustion as though they had just been through such a terrible experience. Such dreams are almost as exhausting as the real experience. When a business man finds he is dreaming about his business that means that that part of his brain which is used in his business is being overworked and is so filled with blood that it does not stop at night. The blood vessels have become so distended that the machinery does not stop at night but goes right on so there is perpetual work wear and tear and no opportunity for complete repair and when a man gets to the point where he dreams about his

business it is time for him to take a little vacation and a little rest.

If he doesn't he will have by and by a complete breakdown. The probability is that man is worrying about his business because normal work does not have that effect. It is worry that wears these deep into the brain so that you cannot make the brain stop at night when you ought to suspend activity entirely.

Q. Can a heart that has valvular lesions and is enlarged ever compensate enough to do ~~its~~ its work?

A. Certainly. Most of hearts of that sort do. The majority of people who have rheumatism of the heart get the valve thickened or inflamed or otherwise damaged. The majority of such people live on through many years of life without any serious discomfort, perhaps ~~are~~ are a little short of breath and perhaps have to avoid violent activities of all sorts, cannot play baseball or run a sprinting race or anything of that sort. They have got to be a little careful as if they had lost a leg or a toe or something.

Q. Do you object to rice waffles and maple syrup?

A. The rice waffles are not very digestible of course. The greece on the outside renders the starch saturated with the greece, absolutely indigestible and so for that reason they are bad. Then maple sugar is just the same as any other sugar only it has a little maple flavor and some dirt mixed with it. Cane sugar is the same thing.

Q. Why one should sleep on one's back?

A. Now he should and he should not. If he feels more at ease ~~and~~ and rests better he may sleep on his back or he may sleep on his side. One should sleep in that position which is most comfortable. We cannot lay down any law for people to sleep in a certain position. I did sometime ago but I found it was all I could possibly do to make my patients follow prescriptions when they were awake. I had a letter from a man sometime ago who had been making experiments with sleeping, had been practicing himself sleeping with the head in all

different directions and he had become thoroughly convinced that it made a great difference about the direction in which one will lay in the sleep. For instance, if one lay with his head to the north he dreamed of storms, and tornadoes and when he slept with his head to the east he dreamed of war and if he slept with his head to the west he dreamed of discovery. If he slept with his head to the south he dreamed of gentle summer breezes, etc. Now if he slept with his head to the ^{north} east he had a different sensation or to the north northwest or south south west it was something entirely different. He had it all worked out for the principal points and some of the intermediate points of the compass and he was sure there was a great deal in it and wanted me to publish his books. I have not been able to varify some of these wonderful discoveries.

Q. Will the custom and the habit of the bowels be disturbed by changing from three to two meals a day?

A. Yes because food is the natural laxative and if one's bowels have been in the habit of moving three times aday, if he eats but two meals it may act a little differently. Such persons may overcome the difficulty by taking an extra lunch of fruit. Fruit requires no digestion. It does no harm to take an apple or an orange at bed time if you like and it is indeed a very good means of stimulating peristaltic activity. When food is taken into the stomach it gives a little nudge to the intestine, so to speak, and causes a little movement all along the line and advances the material of the intestine a little and it may be that little movements forward is what is all that is necessary to bring the contents of the intestine to the point necessary to secure a complete evacuation in the morning so an orange at night and a glass of cold water at night has the same affect on many people or an apple at night is really a very wholesome thing for many persons especially who eat but two meals a day.

Q. After one is cured of intestinal autointoxication of long standing how can he prevent a return of these conditions?

A. By keeping right on with the cure. That is an important thing. I wish I had an hour to talk about it, the importance of continuing the things that have helped you get well. When a man has found himself in a desert where he is starving to death and ~~he~~ he finally finds a way out of that desert, if the desert is off here to the west and he has discovered it and travelled east, if he keeps on travelling east he will keep away from that desert. Now if you have found yourself in the slough of constipation, dyspepsia or some other ill it is because there has been something wrong with your habits of life. You must correct that thing. When you find here at the Sanitarium a regimen that will lift you out of that condition and relieve you of the miseries you have been suffering, if you find a dietary or any daily habit that is a help to you, why, my friends, you can never dispense with that thing. That is a crutch you have learned to use and you must keep on using it the rest of your life. A man came here some years ago and said, "Doctor, I am prepared to do anything you say. I am prepared to eat sawdust if you say so. I will do anything you want me to do for three weeks but when I get through here I want you to understand I am going back to Chicago and going to eat three square meals a day and I want you to get me fixed up so I can. I had to explain to him right at the start that his case was a hopeless case. There was no hope of ever restoring him to a condition in which he could abuse his stomach in the way he had been in the habit of doing. Sometime ago a good friend of mine had another friend downtown who kept a restaurant, a Mrs. Webb. He came to me and said, "Mrs. Webb--a lady whom I never saw, I never had seen her restaurant even, but had heard that she had a restaurant downtown and I had the pleasure of prescribing for a number of people who had met disaster in that restaurant. My friend said, "Mrs. Webb told me to tell you the next time I saw you that you and she are partners in business." I said, "How in the world can she make that out." "Why", he said, "Mrs. Webb said, "You know Dr. Kellogg takes people who have worn their stomachs out with high living and he fixes them up so they can begin to eat something again, then they come down to see me and I give them

6
23

a square meal and that upsets the stomach and then they go back to them him and he fixes them up again and they come back to me and I give them another square meal and upset the stomach again so we play back and forth right into one another's hands, don't you see?" Now that is what the restaurant/^{people}all over the country are doing. They are playing into our hands. Now think of that when you go home and attempt to eat a square meal.

Q. Does a person who habitually dreams get the full amount of rest out of sleep?

A. No indeed. Dreamless sleep is the most refreshing. The less you dream the better.

Q. Is there any cure for locomotor ataxia?

A. Yes if it is not too far advanced. Ataxia is simply unsteadiness of gait. Even very bad cases of locomotor ataxia, cases so bad that persons cannot balance on their feet ~~walk~~ at all, cannot walk at all, can be cured so that such a person may be able to walk even without a cane and walk steadily. It is a process of re-education of special gymnastics. Professor Frenkel of Berlin originated a method of treatment for these cases, a method of training by which the power to walk can be reacquired. Certain muscles which are ordinarily used for balancing have lost their power but other muscles can be educated to take their places so that by a process of education and re-education of these old muscles that have become ineffective in their work can be made to do their work very well. It is possible to get people on their feet so that they can walk steadily and nobody be aware that they have any diseased condition. The reflex does not come back again and some other symptoms remain but the walking power may be brought back almost to the normal state.

Q. Please outline a diet for a case of gastric ulcer.

A. If you have got a bad gastric ulcer the diet must be what the French call absolute. That means nothing at all but the French absolute diet is nothing but water. Go to bed and take no food at all for one day. The next day take a tablespoonful of gluten gruel or barley gruel. Well boiled barley gruel

v-12

a tablespoonful in a tumbler set down in a bowl of broken ice so it will be cold, not absolutely frozen but cold. One tablespoonful should be taken every two hours. The next day take two tablespoonfuls every two hours and the next day three and the next day four, once in three hours and so go on increasing and at the end of ten days the ulcer will be cured. Now that is true in almost every single case. Frozen malted nuts is a very good remedy. Frozen cream works very well in some cases. The fat of the cream has the effect to restrain the secretion of the hydrochloric acid. If it is a bleeding ulcer it may require something more than rest. If it is a very old callous ulcer it may require an operation to give the stomach an outlet at a new point. Here is the stomach. I suppose this is an ugly ulcer and the food comes down here and it has to pass up over this ulcer to get out of the pylorus. An operation is performed which is wonderfully successful in these cases and consists in bringing the small intestine up ^{to} through the lower part of the stomach here and joining the two together so as to make a little outlet of that sort. This is an operation we frequently have to do here at the Sanitarium and it is wonderfully successful. Then the food comes along down here and passes out here you see instead of passing over the ulcer. It is the hydrochloric acid acting upon the raw surface of this ulcer that keeps it alive. By this means the food is made to pass out of the stomach quickly and very little hydrochloric acid indeed is produced and the foodstuffs go out of the stomach so quickly that the stomach has a chance to rest and the ulcer soon recovers.

Q. Is there any danger of your system leading to delusions

Q. Is there any danger of your system leading to delusion? That is if a man lives in a flat where the sofa turn into a bed and the washstand into a desk where nut mixtures are obtained, cutlets and kaffir tea and substitutes most things are substitutes, Isn't there a danger of giving people a substitute habit through giving the delusion that a man is not quite himself?

A. Well I suspect the writer of this note may be suffering from a delusion. That may be. I do not know how else to account for it. Certainly I do not see any particular danger in the directions suggested.

Q. When one feel that the food stays in the stomach too long What-is that from one meal to another, What should it do? There is no diestress but a feeling that there is food there.

A. The things you should do is to take a bismuth meal and find out for certain whether that is a fact or merely a feeling. It may be merely a feeling of food in the stomach when there is none there. He must have a bismuth meal and find out. and if he finds out that food remains in the stomach 8 or 9 hours, something ought to be done. I operated in today in a case in which there was trouble of that sort. Food remained for several hours in the stomach. I thought possibly there might be an ulcer here in the duodenum, but there was none so we did not do this sort of operation but down at the other end of the small intestine here. Suppose this represents the colon, this the stomach and here the small intestines. Here is the ileocecal valve, in this case the ileocecal valve was gone entirely and instead of there being a construction here there was a funnel shaped opening like that so that the material from the colon pushed right back into the small intestine and there was great delay in the small intestine and the material came down from stomach passed into the colon then went back again. We have another case in the house at the present time in which the material remains in the small intestine 26 hours and it ought to be gone out, passed away out of the body in half that time but it remains here for twenty six hours. In such a case this bending back process extends back to the stomach itself. When there is delay lower down in the intestine there is also delay in the stomach so all we did was to repair this ileocecal valve

which was a very simple operation. It requires nothing more than simply a little enfolding here, pushing in the intestine here like that and the edges here are brought together and by that means that little fold is restored and that makes the valve and it is all done from the outside of the intestine so that there is no cutting at all it is done in two or three minutes and we have done this operation in over one hundred cases and it always effects a cure and is a harmless and safe operation.

Q. Are the outer coverings of nuts digesible?

A. No.

Q. Would you consider massage beneficial for a case in which a siatic nerve has been injured by a fall?

A. Massage might be beneficial but how beneficial we could not determine without ascertaining how far the muscles were degenerated.

Q. What is the cause of enlargement of the thyroid gland?

A. Autointoxication.

Q. Does the action of the mind from over work and responsibility and loss of ~~sleep~~ ^{sleep} upset digestion?

A. Indeed it does/sometimes. There is no doubt about that. That is the reason it is not a good thing for business men to read the morning newspaper looking up reports on stocks and bonds and things of that sort while eating breakfast, he may get something unpleasant that will upset his digestion entirely.

Q. Is neurasthenia imaginary or is it due to some physical injury of the body?

A. Neurasthenia is never imaginary. A person who has neurasthenia is suffering from a physical disease and that physical disease almost invariably is an autointoxication it is a poisoning, intoxication of the brain, of the nerve cells by poisons generated in the colon. Work does not produce neurasthenia. I never yet saw a person who had neurasthenia because ~~they~~ ^{he} worked too hard. People who work hard do not get neurasthenia. A report made not long ago by an eminent surgeon of 604 cases of neurasthenia, showed only 6 hard working men in the whole lot, &

only 6 men who used their muscles vigorously, only 6 in the whole 604, less than one per cent in number. On the other hand there were one hundred and fifty lawyers, seventy-five rated clergymen a large number of teachers and all sorts of men who used their brain and who's habits were sedentary. The sedentary life leads to inactivity of the bowels, auto-intoxication, ~~the~~ inactivity of the liver and other excretory organs and the accumulation of these poisons intoxicates the brain and the nerves and produces a state of chronic fatigue that we call neurasthenia. I have been writing a little book on the subject that will be through the printer's hands before long and the reason I took a vacation was to write a book on neurasthenia and I got the book done just in time to get home. I worked as hard as I could all the time and I hope it will be in a book form in the course of a few weeks.

Q. What is a good remedy for dandruff?

A. There is nothing so good as sunlight, exposing the scalp to the sun keeping the scalp clean by shampooing twice a week, an egg shampoo is the best form, applying a little oil afterwards. A very good remedy indeed consists of resorcin, ten grains, alcohol one ounce and two drops of castor oil, that is a very good thing for the shampoo and to rub into the scalp.

Q. What is the cause of prominent veins in the hands and arms?

A. A relaxed condition of the blood vessels.

Q. What is the cause and cure of dilatation ~~of the~~ of the stomach?

A. The most common cause of dilatation of the stomach is obstruction at the outlet, the only real source of dil~~atation~~atation of the stomach is due to obstruction of the outlet and this obstruction generally comes from ulcer that ~~the~~ forms in here and partly obstructs the outlet so that the stomach becomes dilated by over extension.

Q. Does frequent bathing exhaust the supply of natural oil of the skin.

A. Yes. So it is necessary to supply some ointment of some kind to

the skin and the best thing to apply is the very simple preparation for which I will give you the formula and you trouble with dry, itching, burning skin will be relieved and this will prevent almost all troubles that comes upon the skin, like chapping; Lanolin, one dram, lanolin is an oil prepared from sheep's wool, boroglycerid, two drams, cold cream, made with vaseline, an itching and six drams. Now if there is anything-in burning of the skin, have the druggist put in five drops of carbolic acid to the ounce and if that is not quite sufficient then have him add ten grains of menthol to the ounce and so you see we have the three preparations, the simple lanolin cream as we call it or the Number two lanolin cream which has five drops of carbolic acid to the ounce in it or number three which has five drops of carbolic acid and ten grains of menthol and that will relieve almost any kind of itching and burning of the skin and it is one of the very best remedies I ever knew, Don't forget to get out doors these beautiful days, there is a great deal more health and life out doors than in the sunshine than there is in this great institution, a great deal more. If you would do just one thing, live out doors or take all the treatment we have got in this house, the out doors will do you a great deal more good than the treatment, that is the truth. Get out doors, not only while you are here but after you go home and don't forget to have your windows open, sleep with all the fresh air pouring over your face that you can get, get out in the out door gymnasium and spend as much time there as you can. Get the skin tanned and well browned, get as brown as a malatto or as an Indian. This adds enormously to one's vitality and adds wonderfully to the resistance of disease and efficiency not only of the skin but of the internal organs. I thank you for your attention.

The Stomach and Stomach Surgery,

Stereopticon Lecture at the Sanitarium Parlor

Battle Creek, Michigan

Thursday, April 30,

1914 at 8 p.m.

by

J. H. Kellogg, M.D.

I promised to tell you a little bit about the surgery of the stomach. When one thinks about having an operation performed upon the stomach, it seems a little formidable. It seems as though it is an awful thing to operate upon the stomach, but it is a very curious fact that the stomach is of all the organs of the body, there is scarcely an organ in the body, I may say, that lends itself to operation so successfully as the stomach. The stomach and intestines seem to be endowed with the vitality of a snake or a reptile. This stomach and intestine always seemed to me as though they were a sort of separate intricacy, a servant that works for us.

When you put a morsal of food into the stomach and chew it, when you have thrown it into the back part of the mouth, we no longer have any control over it. The stomach siezes it just like a boaconstrictor swallowing a rabbit, it just lays hold of it and after that the stomach and intestine have entire control of it. It gets down in to the stomach and the stomach works upon it, manipulates it and by and by dumps it into the small intestine which carries it on into the colon which absorbs the water and dismisses it from the body.

There are three parts, the stomach, the ^{small}intestine and the large intestine. The stomach is the kitchen of the body and the small intestine is the dining room of the body and the colon is the filth receptacle of the body. The stomach prepares the food for digestion; the small intestine digests the food completely and absorbs all the useful part of it and the residue, the debris, it rejects and turns it over into the colon and there is a little check valve between the small intestine and the colon which

prevents the material from going back.

A few days ago, we examined a lady and found she had sixteen gall stones in the gall bladder and the roentgenologist told her, the gall bladder was distended with bile and he knew that because these gall stones grouped themselves sometimes in a mass and sometimes in a long row and there were just sixteen of them, beautiful gall stones. Now today we did an operation to remove those gall stones but we did not stop with the removal of the gall stones because we know there must be a cause for the gall stones and if we simply removed the gall stones, in a few months there would be another crop of gall stones and the process would begin right away because there was infection there. That crop of gall stones began with one gall stone and then there were two, then there were three, so it went on until we had sixteen gall stones and there is no reason why they should not keep on increasing. We felt sure there was a cause, so we examined along down until we got down to this ileocecal valve I was tell^{ing} you about and it was wide open so the filthy material of the colon could pass right on back into the intestine, the small intestine and work its way up through the small intestine into the gall bladder. There the infection of the gall bladder was the cause of the gall stones. And then we must find some reason why this ileocecal valve is damaged, why the intestine has been so widely stretched that the valve was destroyed. So seeking further along, we found what the X-ray had already pointed out to us that the lower part of the colon had adhesion on the left side. The pelvic loop which rises up normally had fallen over and was adherent and made obstruction so that we had to break up those obstructions. Now you see that patient is cured because the ~~cause of the incompetent ileocecal valve~~ has been removed. That is, this lower obstruction which caused the accumulation in the colon and stretched the valve was removed. The valve has been repaired so it is just as good as ever, as good as new and the gall stones have been removed and the gall bladder will be drained until it is perfectly sterile and clean and healthy, then it will be closed up so that wound will be well, and now if she will adopt correct habits of life, if she will eat properly so that the bowels move three times a day so there is no chance for this accumulation and distention and injury to the ileocecal valve again, then we will have no more of this trouble. We must always seek the cause of these chronic troubles. The reason why people suffering

from chronic ailments never get well^{is} because they try to get well without removing the cause. We find, for instance, in a newspaper very frequently, an advertisement of this kind of dyspepsia cure without attention to diet. Now just think of that, a dyspepsia cured without any change of diet. It is absolutely impossible.

I got a letter from a man day before yesterday in which he said, "Now then I have got a very bad dyspepsia. I want to come to your institution to be treated, but I want you to understand that I am not going to have my diet changed because when I come away, I am a traveling man and I cannot pay any attention to diet, and if you cannot cure me without changing my diet, I am not coming." I wrote him promptly, "You need not come. It would be absolutely useless for you to come here to this institution." If you have got dyspepsia, it is because your diet is wrong and it must be changed and you cannot be cured without removing the cause of your difficulties of your trouble. All other methods of treatment are simply palliative and they are more or less delusive because they make you think you are better when you are not better. Here is a little item I found in a newspaper sometime ago:

"We American s eat too much", said the scientist. "Yes," said the ordinary citizen, "we see the cost of food going up so fast that we feel there is no time to lose."

There may be something in that, though I do not think that is the reason why people eat too fast. Here is an extract from a recent novel, a very popular novel dealing with the subject of chicken pie:

"The steward struggling manfully with his grin, presented the dish to Cecile who proceeded to attack it with a blunt knife. The crust sagged like the head of a slack drum but refused to give up its dead. Cecile exerted a little more pressure. The crust held valiantly, while certain unhallowed gurglings came from beneath. Everybody was watching Cecile with that painful anxiety peculiar to ~~and~~ such moments.

Bell began to fidget. 'Cut into it,' he snapped. 'The chicken aint goin' to bite you.'

The popular tension found relief in a laugh at this witticism. Bell Glared and the ill-timed mirth subsided. Cecile threw her solid weight upon the knife

It bent, and a tiny jet of juice found its exit, hitting Mr. Poole in the eye. He wiped it furtively and the others pretended not to have observed the accident."

(This was taken from a novel called "The Magnet" by Henry C. Rowland, published by Dodd Mead and Company, New York.)

The pie refused to give up its dead. Just think of that the next time you eat chicken pie. It is a sort of coffin you are investigating you know. Well now, that is the stomach, the way it used to look in the school physiologies. That is supposed to be the stomach of Elexis St. Martin and Dr. Beaumont discovered Elexis St. Martin a short time after he had had a terrible wound from a gun which was loaded with buck shot and was discharged right against his body within three or four feet of it by accident and it carried away the front of his body and the front of his stomach and left a ~~whisk~~ hole so he could look right in, a place as big as your hand and when it healed up and greatly to Dr. Beaumont's surprise, the edges of the wound in the stomach grew fast to the edges of the wound in the skin so there was the stomach right out doors, you know. He could look right in and see it. Dr. Beaumont noticed that when Elexis St. Martin took a drink of whiskey, the stomach looked like this, like a bloodshot eye and he observed it had the same appearance when he ate mustard, pepper, pepper sauce, ginger and hot things of that sort. Please remember that, the next time you are tempted to put some mustard on your potato or something else. Vinegar and all those things produce that condition of the stomach and after a while they make chronic gastritis. We find people every now and then have a chronic gastritis and wonder why they cannot get well faster. The stomach glands are all atrophid. The mucus membrane of the stomach has practically disappeared. In operating upon the stomach I found the mucus membrane of the stomach as thin as a piece of a sheet of writing paper when it ought to be as thick as a piece of pasteboard and full of glands and active tissues. This is the old fashioned stomach that was upposed to lie horizontally. That is the way the stomach looks after death. When it is dead it lies down like that. I am showing you this picture so you can see the muscular fibers of the stomach Here are circular fivers and here are longitudinal ~~fixer~~ fibers.

Stereopticon Lecture of April 30 cont.

Here is the pylorus and it is the contraction of these circular fibers that moves the food along in the stomach. The joint action of the circular and longitudinal fibers churns the food and manipulates it. Here is the stomach as we see it with the X-ray, as it is known to be in a state of life and health. It holds itself erect and here is one where the food is received and where the gastric juices are secreted. This part of the stomach receives the food after it has been-digested but become fluid and follows along down here, gets into this pyloric portion of the stomach and there is a contraction, starts right here and a little ring is formed which shuts off this part of the stomach from the other part, the pyloric stomach and divides it from the cardiac stomach and forces the material along out through the pylorus. About a teaspoonful of liquid goes out with each contraction and each wave and at each outlet ^{or} there-is about five times a minute these waves come over the stomach. The material is carried out on to the outlet but it is not five times a minute at the pylorus opens however; only once in five or six or seven waves does the pylorus open and lets about a teaspoonful of food is out. Now if every wave that comes down that stomach carried food out of the stomach it would only take three minutes to empty the stomach completely but instead of that it takes three or four hours and the reason is that most of the waves of the stomach are resisted at the pylorus so the food is sent back to be churned over some more but this is the part of the stomach. Now Prof. Pawlow of St. Petersburg made a very interesting study of the stomach which gave us new light. Up to about fifteen years ago we really didn't know anything about digestion. It was only guess work. When a man came to me with his long tale of woe about his peristaltic miseries I was in terror. Many a time while sitting in my office and

2

listening to the tale of woe about the stomach I have just sat there shaking in my shoes saying to myself, "what on earth shall I ~~ever~~ do for this man. How on earth can I ^{deliver} ever ~~save~~ him from these wretched things" and I would say to myself, "Well I will try this thing. If this don't help him I will try that thing. If that doesn't help him I will try something else" and so we would go through the category. We didn't know where to begin and we didn't know where to stop always but Pawlow made this careful study of the stomach of dogs and gave us light so we have now scientific data upon which to base our prescriptions. When a man comes here with stomach trouble we can examine him in such a way as to know exactly what is the matter with his stomach. We can know all about it. what is necessary to know. Then when we have gotten the facts in relation to the nature of his stomach we know what to begin to do, what to tell him what to do. We know whether the case is curable without operation. We know whether operation is required and what kind of operation to do and I am going to tell you a little bit about what operation can do. I want to show you in the first place what Prof. Pawlow did to the dog's stomach. He first made a little incision in the stomach like that and then he would let down that part of the stomach, close up the edges and so made a little stomach one tenth as big as the whole stomach of a dog. Now this little stomach he connected to the skin by a little outlet you see. It is closed off here you see from the other stomach. Then he gave this dog food to eat of various kinds, gave him meat, bread and milk at such a time a meal of meat, a meal of bread and then a meal of milk and he found that when the dog took food into this stomach and his stomach began to work the gastric juice was formed up here and gastric juice was also formed in the small stomach here but while the gastric juice was formed up here was mixed with the food so it could not be very well examined because it was ^{at} contaminated by the constituents of the food, this gastric juice was pure so he could examine this gastric juice and determine its quality exactly and

3

he found that when the dog ate meat it made a very acid, highly acid, and very corrosive gastric juice. When the dog ate milk it made gastric juice that had very little acid in it. When the dog ate bread it made a gastric juice, not very acid but had great digestive power, wonderful digestive power and a very large amount of pepsin. On further examination he found this that it was the ~~fast~~ fat in the milk, the cream or fat in the milk which prevented formation of gastric acid and caused the stomach to make little acid so when he gave a dog olive oil his stomach made no acid at all. Not a drop of gastric juice came down from the little stomach when olive oil was put into the dog's stomach so he found that oil was the thing which hindered the stomach from making acid and making gastric juice. When he gave the dog skimmed milk the dog made gastric juice. Then when he gave the dog rich milk with cream and then gave the dog butter with its bread it did not make nearly as much gastric juice as when the dog ate the bread without the butter. When he gave the dog meat then the dog made a very powerful gastric juice that was very highly acid and not of so great digestive power but of a very great degree of acidity. Those are very important facts to remember because they have a wonderful bearing upon practical dietetics. He made another very interesting experiment with a dog. He made a little opening in the dog's throat here and made also an opening in the dog's stomach, connected that opening by a tube with a vessel and a flask. Then he made the dog eat and when the dog ate the food instead of going down into the stomach dropped right back into the pan. Then he ate it again and so he kept eating the same food over and over and over and while the dog was eating, four or five minutes after he began to eat the gastric juice began to pour out of the dog's stomach even though not a drop of food had entered the stomach, the gastric juice began to pour out so Prof. Pawlow made the interesting discovery that juice is produced in the stomach before the food ever gets there and he calls this juice appetite juice. Within four or five minutes after we begin to chew the food gastric juice begins to pour into the

3⁴

stomach and this appetite juice is the most powerful element in digestion. It is the most powerful gastric juice that is made is this juice that is made before the food is swallowed or as the result of the chewing. You see it has come about in this way. When the food is in the mouth being chewed some portions are dissolved, come in contact with the nerves of taste and messages are sent up to the brain and the psychic centers of the brain telephone down, if you please or telegraph to the stomach, at any rate communicate with the stomach and notify it that food is coming and it must get ready for it so the stomach pours out the gastric juice and gets it ready for the digestion of food when it gets there but in this case it is fooled you see. It never gets there. It is short circuited here and falls back into the pan but the gastric juice keeps right on flowing and just as long as that dog chewed that food, if it chews it all day long the gastric juice will continue to flow and so in Pawlow's laboratory I saw standing up on the table on one side of the laboratory ten fine large dogs. Here is a picture made from a photograph that was taken by my secretary who was with me. He took a snapshot. Here is the keeper and the dogs and the eating pans and the little tubes that carry off the gastric juice and at ten o'clock in the morning when I saw them each one had been chewing industriously since six o'clock in the morning and each one had produced a quart of gastric juice or a little more in four hours. That was the stunt for each dog for each day. Each dog had to chew for four hours and had to make a quart of gastric juice every day. That is, the job that each dog had to do for to pay for his board and as I came in at the door the dog thought that they had chewed long enough and they looked up at me with great expectancy because they wanted to get the order but to have some of the food put down into their stomachs because their appetities had been gaining in ground all the time. They had been improving every minute. They relished every morsel of food more and more and more because they were getting hungry every minute you know. I thought an arrangement of this kind might be found very satisfactory

5

for some people who are so much given to eating and often suffer from who would like to eat for hours and hours but feeling a failure or diminishing of appetite and would like to over-come this, but now the very interesting and practical facts here is that^{as} the food is chewed more gastric juice is formed. Now suppose a patient has more gastric juice than he needs, has too much acid in the gastric juice. What do you think would be the proper thing for that person to do, to chew more or to chew less? Suppose a person has so much acid that he has an ulcer in his stomach or in his duodenum. What should he do, chew more or less? Now Prof. Pawlow's experiments showed us the secret of the cure of gastric ulcer and duodenal ulcer. We had no better sense than to tell everybody to chew, chew, chew for that's the thing to do we used to sing in our chewing song and when the food is chewed more, more gastric juice is formed. Now for the people who do not make enough gastric juice the long chewing is an advantage but if a persons stomach is making too much gastric juice why you see right away the practical deduction would be let him swallow food without chewing. Let him take his food in a soft condition so that it does not require mastication and swallow it at once and in that way the nerves of the mouth, the gustatory nerves the psychic centers of the brain will not be excited so the gastric glands will not be stimulated and will not make so much gastric juice and we have found that to be one of the very best means of aiding people who have hyperacidity, who have too much acid in the stomach, who suffer from heartburn and from acid eructation and/ris^{irritation}ing from the stomach so we give these people food without chewing, that is, they take their food in the form of a puree such as mashed potatoes instead of boiled potatoes. Everything is mashed and put into the form of a puree and if they because-you take bread they take swieback they take it softened in hot water with some butter on it and take a couple of spoonfuls of olive oil at the beginning of every meal and that checks the production of hydrochloric acid you see.

6

Take the food without chewing and take everything in a soft state and that will lessen to a wonderful degree this hyperacidity. Now you think it is awfully cruel to treat those dogs in that way so I am glad to present to you this picture of Prof. Pawlow's dogs. That is the happiest looking lot of dogs I ever saw in my life, wonderfully wise, intelligent fellows too. They knew more physiology than most people and knew all about digestion. They had heard Prof. Pawlow talking about it and helped him about his experiments and really they had attended a great many courses of lectures and become very wise on the subject. Now here is a picture which shows you the liver, the stomach, the gallbladder. Here is the pancreas behind. Here is the colon down here. Now there is constriction you see of the stomach here at this pyloric portion. There is a cancer beginning here. How do we know it is cancer? You see these enlarged glands here. These enlarged glands communicate indicate cancer. Something must be done right away. Twenty-five years ago that case would have been abandoned as an absolutely hopeless incurable case. Fifteen years ago the patient would have very rarely had a chance for his life but now when we have such a case the X-ray examination shows its construction here when we have such a case and do not hesitate to proceed to remove that part of the stomach that is diseased including all of these enlarged glands and the patient has a splendid chance for his life. The stomach tolerates operations very readily. Now in the first place the forceps are put on here and I am going to show you just how the operation is done. In the first place the mesentery is cut away here on each side so as to free the stomach. Then these forceps are applied to the pylorus. Then this is divided through. Now you see it has been cut through and this end has been sowed up and that will be turned in. Now a pair of clamps have been applied carefully here you see and this part will afterwards be divided and that diseased part will be taken away. Now you see that diseased part of the stomach has already been removed and here is just a portion of the stomach left. Now how can a person live with such a condition as that. This little

7

loop of intestine and that small intestine is going to be brought up and attached right under the stomach here and then the patient will take his food in just the usual way and it will pass down into this opening into the small intestine and that is an operation ^{that} is now very frequently performed. I remember of performing an operation of this sort just like that exactly only a larger portion of the stomach was removed for a man who was initiated to the last degree, a living skeleton, eight years ago and six weeks afterwards I met him on the porch out here and I said, "Mr. Jones, how are you today?" "Oh, Doctor, I'm fine. I've gained seventeen pounds with my stomach in a bottle. Just think of it." He went on gaining until he had gained from 92 or 93 pounds up to 180 pounds and he enjoyed splendid health for seven years and at the end of that time the disease returned. At the top of the stomach close up the opening rapidly extended all over the abdomen and in a few weeks he was dead but he had seven years of life. During that time he had made his wife comfortable, had accumulated a comfortable fortune and had a very happy, enjoyable life. He had had seven years of continued life. Now there are not a few cases living today of persons who have had their stomachs removed years and years ago and are still alive, ten, twelve and fifteen years or even twenty years. It is very rare indeed that the disease ever comes back. If it doesn't come back within two or three years it rarely ever does but in this case it came again at the end of seven years. I could not understand it because I gave this man very strict directions about how to live but just a few weeks ago I met a lady from his neighborhood. She said, "Mr. Jones made a wonderful recovery. What you did for him advertised the Sanitarium all over that country. "Why," she said, "He used to go about the country so fat and hearty that he would eat everything." "Why", she said, "He used to come to see me some times and it was amazing what that man would eat. He just ate everything on the table, mustard, pepper, peppersauce, and everything. He just

ate everything " so that accounted for it you see. He got so well that he backslid. If he had lived properly and had taken the care he might have taken I think he might have been alive today. Now sometimes it is necessary for the intestines to be drawn together, to be short circuited and when that is the case I want to show you how easily it is done. A little loop of intestine is put into clamps like this. They are brought up together and sewed together and there is a running suture put through here. Then after the two have been joined in this way an incision is made into each loop of intestine. Then the edges of these openings are joined together as you see here one edge has been joined and now this other edge is being joined and when this edge is joined completely this suture line here will be continued around this point and the intestine will be joined to this point so they will all be enclosed with a double line of sutures and that is the way it is accomplished. Here is this other line of sutures being put in you see from the other. This is the one that closes the edge of the opening and this is the outer line being brought around to complete the line upon the other side so you see it is really a very simple thing. It is rather a matter of nice delicate needlework. That is what it is. It is intestinal surgery.

"Mary had a little lamb,
 When it began to sicken,
 They sent it down to packingtown
 And now it's labelled chicken."

You don't always know what you are eating when you are eating canned food. You don't always know. Now this is a healthy looking chap, isn't it? Hasn't he a fine looking body? Why shouldn't all of our bodies be healthy and why shouldn't all the babies be as healthy as that Minnesota baby? Now that little fellow was born with just the same kind of health and beauty with which a flower bursts from its bud. These little human buds are beautiful as rose buds and by and by they become defaced with disease.
 This beautiful complexion

is all tinged with bile, Brenz catechin stained with colon poison because we are so caref~~l~~ss with our bodies. My friends the important thing for everyone of us to do is to learn how to live and that is why we are here. The most important thing in the world we can accomplish here at Battle Creek is to learn how to live. It is not simply to get a little better while you are here but to learn how to get well and to keep well after you go home. If you are sick it is not because some special providence has sickened you or because of some special misfortune~~s~~ has befallen you. If you are sick it is because there has been some infraction of the laws of health, because you have been getting out of harmony with the universe, if you please, because you have been disobeying the laws of God and the Bible says, "The soul that sinneth, it shall die." The soul that transgresses the laws of health must suffer sickness and has to be confined at the Battle Creek Sanitarium for a few weeks or months and dependent how to learn how to live. Now that is the important thing. I am glad to meet so many of you here. I hope you are getting outdoors these days and getting the fresh air outdoors. Don't forget that morning ^{spray} ~~epary~~ or the morning bath. There is a tremendous uplift in it and those who are living at the Annex I am glad to tell you the sprays will be in operation for the gentlemen over there as they have been for the ladies all along. We found the sprays were not in operation for the gentlemen but any of you who are at the Annex can get your sprays there. Then the outdoor walk and the gymnasium. Don't forget to go to the gymnasium and get those morning breathing exercises. I take them every morning myself in my room and you must learn how to do it so when you go home you will have the habit of taking care of yourself. Get the habit of taking care of yourself and the ~~shik~~ ^{habit} of cultivating health. Just make up your mind, my friends, that you have got to lay in a little stock of health to help you for the next day. Tomorrow you are going to use energy. Today you may accumulate energy to use tomorrow and if we do not lay in any stock of energy to use today we won't have it tomorrow. That is as sure as the world. Don't forget to sleep ten hours. Cut out the theatres, dances and all that sort of thing. Don't waste any time with that sort of foolishness. You are here for

to 13

business my friends, to get well, to get out of this opportunity all you possibly can. We don't want one of you to go away from here disappointed, but with all the health you can get and with a great big bundle of Battb Creek ideas that you are going to plant at home, and after that make them grow and flourish and bear fruit, good health for yourself and your family. I have reached the bottom of the box. I thank you for your attention.

End.

v-m