

QUESTION BOX LECTURE

At the Sanitarium Parlor, Battle Creek, Mich., Monday, July 2, '06

At 8:00 P.M.

By J.H. Kellogg, M.D.

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Q. What is the cause of giddiness in an elderly person?

Can anything be done for it?

A. Giddiness is a symptom of significance. A person who has vertigo and giddiness, especially a person who is getting along in years, a person upwards of forty or forty-five years of age, should give considerable attention to it. It is the duty of such a person to call upon a doctor and get the blood tested, find out what the blood-pressure is. You have all had your blood-pressure tested,--had a little armlet put upon the arm, and by a little instrument had pressure applied until the pulse is determined, and that is the blood-pressure. Vertigo, as everybody knows I suppose, is sometimes a symptom of apoplexy; but it is a symptom of apoplexy only when it is accompanied by high blood-pressure. Sometimes vertigo is simply the result of a little indigestion. It means simply that the stomach is out of order, or it may be that you are in a state of exhaustion, worried, perhaps did not have sleep enough last night, or there may be other causes for it. But when you have high blood-pressure, a blood-pressure of 160 or 170, or more, instead of 125 or 130, that is significant. It means that apoplexy is coming. I have just been seeing a patient who suffers this way. He would be walking along, and suddenly giddiness would come upon him, seize his head, and he puts his hand on his head to try to hold it still because it is whirling around; and he seizes his head because it comes on so suddenly

and with such tremendous force. I know this gentleman had high blood-pressure, and on looking at his record I found it was 160. Now 145 is the maximum limit. The blood-pressure should never be above 145. If it is more than that there is something wrong. But you may have low blood-pressure with giddiness, because when a person has had high blood-pressure, after a long time when the blood-pressure has been up to 200 or 225 or 250 perhaps, after a while the heart gets tired out, the heart gets worn out doing so much work; and it takes twice as much hard work to pump the blood at a pressure of 250 as it does at a pressure of 125. One hundred and twenty-five is about the normal average for adult people. One hundred and twenty-five is fairly good healthy pressure. Two hundred and fifty is twice as high. And the heart working to keep the blood going through it at 250 has twice as much pressure at least as at 125, doubtless more than that; and so the heart by and by gets tired out. Gets weaker and weaker and weaker, and fails by and by, and then the blood-pressure begins to fall,--goes down to 200, 180, 175, and by and by gets down to 125 again. Now you take that person's blood-pressure, and you say Oh, it is normal. This patient has normal blood-pressure! It is not normal blood-pressure, for 175 or 180 would be the normal blood-pressure for that person under these conditions. His arteries have been contracted, and the blood-pressure must be higher in order to force the blood ~~through~~ through the lungs and get the blood where it is needed, so at 125 this person begins to suffer severely. He is beginning to have vertigo indeed very badly. Why? Because his heart is so weak he can not get enough blood into his brain through the narrowed blood vessels which have resulted from this chronic disease from which he is suffering, arteriosclerosis, the withering up of the blood-vessels, and by and by the blood-pressure may be lower yet.

I took the blood-pressure of a gentleman a day or two ago and found it to be 80. Now that man's arteries were hard as pipe stems, so that man's blood-pressure would be a great deal higher at 200 than it was at 80,

because his arteries are obstructed, so it takes a pressure of 200 (not 200 pounds, but 200 millimeters of mercury) to get the blood through the arteries so as to nourish the body; and at 80 the body is so badly nourished it is rapidly falling into weakness and decay, and so in this case we shall work very hard to get the blood-pressure up, just as in other cases we work hard to get the blood-pressure down.

Q. How much sunshine and fresh air is absolutely necessary for the man who works behind the counter in an office?

A. Well now that just depends upon what that man wants to accomplish. It depends on how long a time he spends shut up there in that office behind the counter. If that man has been shut up until he is quite an old man at forty, he ought to be turned out in the sunshine and fresh air, and ought to stay there. He ought to go outdoors and live there. He has had enough of the indoors. Man is not naturally an indoor animal. He was not intended to live in a cage. I feel sorry for people that I find shut up in cages counting dollars, measuring dry goods, as we see a great many poor human beings are confined to these sedentary habits, which must necessarily produce disease. The man who lives behind the counter, the man who lives in the office and sits in a chair, is certain to become a degenerate, and does become a degenerate man. There is no escape from it. Deterioration is just as certain in that man, and premature death, premature old age,- just as certain as that day follows night; absolutely certain to come, because he is violating the great laws of his nature, and it is a natural consequence-- "Whatsoever a man soweth, that shall he also reap."

Now these men behind the counter, if they will go out doors, exercise in the fresh air and sunshine two hours every day, walk at least nine miles at a very vigorous rate, get himself into a perspiration, have a good cold bath after it, he can to a very large degree counteract the bad effects of that sedentary life. That is what he ought to do. Every man who is a teacher ought to do that. Every consulting doctor who has to travel on

horseback or in a carriage thirty or forty miles a day, jumping out of his carriage and into it again a great many times a day, may perhaps get enough exercise, but it is only the consulting doctor that does this. The doctor who sits in his office, he is the man who gets gout, consumption, cirrhosis of the liver, fatty heart, and dies early. Just when he gets into the height of his fame, perhaps, and has prestige and reputation, he rapidly goes down physically and his career ends. What a pity it is, isn't it, that the majority of men have to go into decay and collapse just when they come to the point of life where they are the most able to do something, where they are the most ready to do the most for the world, have to collapse and go to pieces because their bodies fail. The mind is all right, the brain is all right, but the body collapses. It is an awful calamity. He loses the most of what he has got in the world, loses the best of his experience, loses the benefit of it, because just when we have learned how to live, then we have to die, because we neglected to take care of the machine in early life.

Q. Can anything be done for this dizziness?

A. Yes, much can be done. If you have too high blood-pressure we must lower the pressure. How? Not by weakening the pump, by weakening the heart or by lessening the work of the heart. The reason that the blood-pressure is high is ~~not~~ that the blood vessels have become obliterated and so small that the heart has to work very hard to get the blood through, ~~xxxx~~ so it has to increase the blood-pressure. I will make a little diagram on the black-board to make that plainer. You should join the morning health walk, conducted by Mr. Hopkins, the gymnast, which leaves the Sanitarium at 6:30 A.M.. Ladies are especially invited. Don't forget it. That is one of the ways to get your blood-pressure down if you have got it too high. The arteries of the body are a sort of tank, a closed tank. Suppose we have here a big iron tank to represent the arteries of the body, a closed set of tubes. The heart is a pump. Here is the pump over here, and it keeps pumping, pumping, pumping blood into this tank. Here is a pump that pumps water into

the tank, we will say. Here are a whole lot of little holes through which it leaks out. These are a whole lot of little tubes through which water keeps leaking out. Now if these openings were large enough then no matter how fast the pump worked we never could get any pressure in the tank; but if the openings are small, so the fluid can run out as fast as it comes in easily, then the pressure will rise, and it might get up to ten pounds, might get up to twenty pounds, or still higher. Now the pressure in the arteries which forces the blood through the small capillaries, the terminal vessels, is 120. That is 120 millimeters of mercury. A millimeter is one-twenty-fifth of an inch, and 120 would be a mercurial column five inches high attached to one of our main arteries. So it would be held up by the pressure within. The blood runs out of here down into some other tanks. There is one to represent if you please the skin. Here is another one to represent the muscles. The tank representing the muscles is capable of holding half of all the blood in the body. Here is another tank which represents the skin. This tank is capable of holding two-thirds of all the blood in the body. Here is another one which represents a large ^{vein} in the abdomen, the portal vein, which is capable of holding all the blood in the body. The arteries can all be looked upon as sort of irrigating canals for distributing water all over the field. Then there are channels that collect this water and carry it off into reservoirs, so that it is stored up again. That is what the veins are. Here are the veins of the muscles, and here are the veins of the skin, and here are the veins of the portal circulation, ~~the~~ ^{These} veins of the abdomen, -the liver, the spleen, the stomach, the bowels, these enormous veins of the abdomen are so large that they are capable of holding every drop of blood in the body. Now these veins gather up this blood and carry it back to the heart. There is a little bit of a vein that collects blood from the portal circulation, but the greater part of the blood from the portal circulation passes through a long series of small tubes here into the liver. It has to be filtered before it can get into the general circula-

tion, so it goes from these little tubes into the liver, and there it goes through the other way into the general circulation.

Now that is the system of the circulation. Here is a big storage tank that distributes the blood to the heart, pumps the blood up here until it gets up to a pressure of 125. If these tubes remain open properly that pressure is sufficient to drive the blood into the muscles of the skin, the liver, and all the rest of the body. In arteriosclerosis some of these tubes get stopped up, obliterated, you see, or they are obstructed. A lot of them become obstructed, and the consequence is there are not so many tubes to secure the blood through. Now when there are not so many tubes what is the natural consequence? In order to get the same quantity of blood through in a given time, what would be necessary when these tubes become obstructed? Higher pressure, that is the thing that is necessary. If there are only half as many tubes it will take twice as much pressure, you see, and that is what happens in arteriosclerosis. That is a disease in which the blood vessels shrivel up. That is why an old man's skin gets wrinkled. Why he gets wrinkles in his face, why his muscles waste, and his brain gets feeble,--because the blood vessels are shriveled up and he does not get a good supply of blood.

Now so long as the blood-pressure is kept up high enough so that he can get all the blood he needs in every part of his body, then this degenerative process does not take place; but by and by the shriveling of the arteries reaches such a point that the heart can not get blood enough through the arteries, then the withering begins, then the muscles begin to shrivel up, the skin begins to shrivel up, and the liver begins to shrivel up, and cirrhosis of the liver produces disease of the kidneys, angina pectoris of the heart, weakness of the heart, and other disorders come in; and by and by the blood-vessels of the brain get so brittle that some of them rupture, then there is apoplexy.

Now you can see how important the liver is here. All this blood that goes into the portal circulation, the largest blood area in the body,

one of the largest venous areas of the body, has to be filtered through the liver. Suppose the liver gets diseased. Some of these veins are closed up and the blood can not get through the liver. What happens? The serum pours out into the abdomen, and that makes abdominal dropsy.

There is a lot more to be said on the subject, and it is one of the most important questions in relation to the physiology of the body. It is somewhat difficult to understand at first. It seems a little intricate, but it is made very practical by means of the sphygmomanometer--a little instrument which is applied to the arm to test the pressure. In some patients we are very glad to find the pressure high rising, and in other patients just as happy to find it coming down. A gentleman came in today who had a blood pressure of 160 a few days ago. Today his pressure is 130. He is happy because his blood-pressure is coming down. What has brought it down so quick? It has come down to normal in five or six weeks. He stopped beefsteak and stopped tea and coffee. These are things which raise blood-pressure. Tea and coffee raise blood-pressure at once. Smoking raises blood-pressure immediately. If a man finds he has a blood-pressure of 130 and smokes a cigar, immediately afterward his blood-pressure will be 150. The blood-pressure will be raised twenty pounds by the smoking of one cigar; so you see what cigar smoking does. Tea and coffee do the same thing. I prescribed some coffee for a patient the other day, not a cup of coffee, but caffeine, which is the essential principal of coffee. I had a patient whose blood-pressure got down very low, so low something must be done right away, and in employing other means nothing seemed to meet the necessities of the case, so this lady was given as much caffeine as is to be found in two cups of coffee,--the equivalent of two strong cups of coffee. The blood-pressure came right up, came up at once. The lips were blue the pressure was so low, but as the pressure increased they became red again. The patient was wonderfully improved right away by taking coffee. So you see coffee can be useful

sometimes when the blood-pressure gets down very low and you are just on the point of collapsing. But suppose you use caffeine all the while, everyday, keep stimulating the heart with caffeine, and get the blood-pressure higher and higher and higher, and by and by you would get to a dangerous point. Caffeine has the effect to cause degeneration of the arteries, causes palpitation of these arteries, and as I have intimated makes a rise of blood-pressure permanent.

A lady came here last night, with a blood-pressure of 240, and she had taken three or four big cups of coffee every day. I had a lady come into the office not long ago with a blood-pressure of 280. I said,

"What is the matter? I am astonished to see such high blood-pressure. How did you get such high blood-pressure? Do you eat a great deal of beef-steak?"

"Oh no, I don't eat much beefsteak."

"How did you get such high blood-pressure, then?"

"I don't know."

"Do you drink a great deal of coffee?"

"Not very much. I am not very fond of coffee."

"Well," I said, "how much do you take?"

"Well, I just drink moderately."

"Well, how much coffee do you use?"

"Well," she said, "I use in making coffee in the morning for my family one cupful of good Mocha and Java coffee mixed,--one cupful of ground coffee."

"How large a family have you?"

"Just myself and my husband. My husband is English, and you know the English like coffee very good, so I have to make the coffee very strong for him."

"Well," I said, "how much coffee do you make from each cupful?"

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"Three cups of coffee."

I says "I suppose your husband drinks two cups and you drink one."

"No, he drinks one cup, but he likes it very good, and I drink two, but I am not very fond of coffee."

This lady was excusing herself for making it so strong because her husband was an Englishman. I imagine she liked coffee better than he did, because she took two cups to his one. The result of this strong drinking was to give this woman high blood-pressure, and she had reached such a point that her brain had already begun to degenerate.

I said to her, "Madam, where are you from?"

"I am from ----- let me see, ---"

"What is the name of your State?" I said.

"Let me see, -- doctor, I told you yesterday. What State did I say I came from? What was it, doctor?"

The doctor spoke the name of the state.

"Well," she said, "that is it. I just can't remember anything, Doctor."

I saw the real situation. The next time I saw her she knew me but didn't know my name. I think very likely she sometimes could not speak her own name. The arteries in her brain had undergone disease to such a degree that she had lost her memory, and that is one of the first symptoms of beginning degeneration of the brain--loss of memory. That is the reason why an old man can not remember what happened yesterday. He can remember what happened fifty years ago, perhaps, but he can not remember what happened yesterday. By and by his memory is gone entirely, and it is because of this degenerative process of the blood vessels.

Now the same thing that is taking place in the brain, destroying its functions, is taking place in the liver. When the blood vessels are

degenerate, the blood supply is cut off, the brain can not think well.

The same thing is happening in the liver at the same time. When a man's memory is getting short because of this degeneration of his brain, his mind getting diseased, his liver is getting just as short as his brain is. The liver is getting degenerate at the same time, and his kidneys are getting degenerate, are getting Bright's Disease. By and by this patient gets an attack of apoplexy, for instance. I saw a patient a couple of days ago out in the city, a lady, lying there unconscious from a stroke of apoplexy.

High blood-pressure was the cause of it sure enough, and not a very old lady yet, but yet there she was lying absolutely unconscious. A blood vessel had ruptured. The heart had worked so hard getting the blood-pressure up high enough to get the blood distributed through the body, that finally the brittle cells of the vessels had ruptured, and a clot had formed on the brain, and there she lies this minute, absolutely unconscious. Whether she will ever recover or not, I don't know. There isn't very much hope in that kind of a case. Why? This patient you see was just getting apoplexy. Apoplexy is just beginning, and why can't you cure it? Because this is the end, you see, and not the beginning of that woman's illness; it is the end of it.

Suppose you go along the street and see the flames bursting out through the roof of a house, and you peep in through the windows and see right through the lower story, and you see the flames bursting out through the windows of the second story and the third story, and out through the roof of the house. You don't say that house is just catching fire, do you? You say it is nearly burned up. When the flames have been burning all the way through the house, all the way up, and by and by burst out through the roof of that house, then that house is nearly consumed, it is gutted by the fire. That is the situation of the man who has Bright's disease. The man goes to the doctor, and the doctor examines him, finds albumen in the secretion, and says, You have Bright's disease. Well, doctor, it has just begun, hasn't it,--

just begun—you can cure it, can't you? That is the first appearance of it, but that, as I said before of the house, is the flame bursting out through the roof. It has burned all the way up through the house, and now is just making its appearance. The body of the man who has Bright's disease of the kidneys is diseased from the crown of his head to the soles of his feet. The disease is everywhere and you can not cure that man. You may arrest the disease where it is. That man is like a man out on the mountainside, where there is a precipice on the mountainside. That just reminds me of an experience I had once out on Pike's Peak. We were coming down a steep road, and right here was a precipice. Here was the road, and just ~~half~~ a few feet from the road was the edge of the precipice; and the road branched and came off down this way, and so we went zigzag down the mountainside this way. We had a very reckless driver. He was a Western coachman, and he didn't like anything better than just to put on the whip, crack his long whip over the heads of his six horses, and he just got them rushing pell-mell down the mountainside, and got the ladies and children all to screaming at the top of their voices, and we really had a very interesting time; ~~now~~ we were going down hill at a tremendous rate. He was sure he could bring his coach to stop just as we got down there, bring it up short, you know, and down he would go here in the same way. As we were going right down here I noticed the driver was getting excited. He got up, pushed his foot upon the brake with all his might, but it didn't seem to stop us very much, and the horses **finally** were backed up right against the coach; the horses were just fairly sitting down in the road, and we were slipping down hill, and we slipped until we got to the very edge of the precipice, and we managed to stop just there. When we got out we found the blocks on the brakes had dropped out, and there were no brakes; and if it had not been for those good faithful horses we would have gone over that precipice. It was nothing but the horses and the road that stopped us.

Now then here is a man going down hill with Bright's disease, as I was just telling you, and I remembered that experience. If we had gone a foot further I should not be here tonight I am sure, for it was several hundred feet down there, and almost absolutely perpendicular. Now the man that has got Bright's disease wakes up to the fact that he has got albumen and he has got casts, and the doctor says he has got Bright's disease. Now that man has been sliding down hill a long long time, and he has got now almost to the jumping off place, got just to the edge of the precipice. The doctor can stop him right there perhaps; can give the man the right diet, and if he can get him to stop smoking, to stop drinking tea and coffee, to stop eating beefsteak, to stop using mustard, pepper, pepper-sauce, ginger, and all those things which burn and blister as they go down his throat,--if he can get him to stop all these wicked things so as to save the kidneys, it may be he can give that man a chance to stop right there at the brink of the precipice, and stay there for years. He may be able to pause there for years. May be able to travel right along on the edge of it for some-time--just right along close to the brink of the precipice; but it will take a very little to push him over. One big Christmas dinner might topple him over. I have seen that thing happen more than once. I have seen patients come here with Bright's disease, almost just toppling over the precipice; came just in time for us to get them back again, get them to feeling all right after a few weeks, and to thinking they are all right; and then go right down to a restaurant and get what is called a "square meal"--that is a four-cornered meal I suppose, come back here the next morning, and say, "Doctor, I don't feel first rate. That dinner I got yesterday down at the Post didn't agree with me. Of course it was all right as Tavern dinners go. I don't feel just right. Can you do something for me? I guess I won't eat much today." The next day he feels a little worse, and the next day a little worse--albumen and casts come again. And I have seen in such cases

as that, more than once seen such a man go to his funeral inside of a week. It was that dinner that killed him. That dinner killed him just as much as a bullet through the head would have killed him. I know a young man, a splendid young fellow; I loved him very much, he was such a fine splendid sort of man; a man of wonderful ability and good qualities. He had gotten Bright's disease, but didn't know it. He was invited out to dinner, had a Christmas turkey. He ate some turkey, and the good lady said to him, Now have another piece. Well, he said, it is so good I believe I will. We don't have any turkeys where I have been boarding. And he took some more. And the next day that young man came down with an acute attack, and in four days he was dead. That turkey killed him. That is the way these creatures get even with us sometimes. A man that has got Bright's disease, or disease of any vital organ, got hearts disease, or that has had a stroke of apoplexy, or that has got high blood-pressure, a pressure of 150, or above that, that man has got to walk a chalk line all the rest of his life. He can not deviate. He has got to stay right there, because if he varies there is that yawning precipice right at his side, and over he will go. He has got a precipice on both sides, as a matter of fact; he has just got to walk the ridge.

Q. To what use can the cattle of this country be put provided the people do not drink milk or eat beef?

A. Well, I have to think hard to answer that question. I suppose that question was put in by somebody who is interested in the packing business. Well, now, firstly, drinking milk,--what shall we do? If the cows are retired from business, that is from the dairy business, what shall we do with the cows? There is no sale for milk. I suppose some of you heard some of the remarks I made about cows milk the other evening, so you are beginning to think that your occupation is gone--those of you who keep dairies. The farmers certainly, I suppose, would take exception to some of the things I said. We will see about that. What should we do with cows if people didn't drink milk?

Well, in the first place, nobody should ever drink milk. The proper thing to do is to eat it, and if you take pains to eat milk rather than to drink it, it is not nearly so likely to do you harm.

I met a man some time ago who nearly lost his life drinking milk. I used to prescribe milk very frequently for people. I prescribed it for this gentleman, and he said, "Doctor, I can not drink milk. The last time I drank milk it nearly killed me."

I said "How was it?"

He said, "I came home late one night, very tired and hungry. I thought I would not take the trouble to eat, and I just went into the pantry and drank half a panful of milk. And I went to bed, felt all right, felt happy, but in two or three hours I awoke and thought I was strangling. I sat up in bed, felt as though I was choking. I got my finger back in the back part of my throat, and I got hold of something, and I pulled out two yards of milk."

I said "You were very lucky to get it out. If it had remained in your stomach you would very likely have died." He swallowed that panful of milk whole, you see. It was liquid when it went down, but when it got down the stomach made the gastric juice and it became a semi-solid mass. Evidently he had a whole lot of appetite juice there waiting for it. Appetite juice, Prof. Pawlow says, is a sure sign of ability to digest. When we are hungry there is a large amount of gastric juice in the stomach for that use, and that appetite juice is a very powerful juice, so there is a great deal of advantage you see in being hungry. Hunger is the best aid to digestion of anything. There is nothing so good as hunger as an aid to digestion, because hunger is the evidence that gastric juice is already in the stomach ready to digest the meal. Well, this man had a whole lot of appetite juice because he was so hungry, so this milk formed great hard tough curds in his stomach; that is one of the objections to cows milk; and the stomach rejected it.

It could not get through the pylorus, you see; it was impossible for it to pass through the stomach into the intestine. The pylorus is shut up tight because there was so much acid there. So it was lucky for him that he was able to get it out of his stomach, because it was so hard it could not be disposed of in any other way. Suppose he had taken it in small sips, chewed it, mixed it with saliva, moved it around on the tongue from side to side until the milk had lost its flavor, and so sipped it slowly; a large quantity of saliva would have been mixed with it. There would have been as much saliva as milk in the stomach, and instead of forming large hard tough curds it would have formed soft, small, pliable curds, that would have been easily digested. That is one reason why children suffer a great deal from intestinal troubles and die, because mothers feed them in so great a hurry. The child is given a nursing bottle with too large an aperture, so the milk passes into the child's mouth and stomach so fast that these large hard tough curds are formed, so the child suffers severely. It is a great deal safer to give the child cream instead of milk. If you are going to take milk, take cream.

Now suppose we don't drink milk. We can make butter from milk and use the butter. Good sterilized butter is all right. I suppose the great majority of the milk that is used, perhaps half or three-quarters of the milk produced, is used for butter, and the milk itself is given to the pigs, or thrown away. The great majority of milk is used for the production of butter.

Well, now, what should be done if we don't eat beef? That is secondly. What about meat eating? What shall we do with cattle if we don't eat beef? The cows would have to be turned loose, wouldn't they? I met that same question from one of my boys who keeps chickens. He came to me last fall, and he said,

"Papa, I have been thinking this thing all over, and I am sure I never can make a success of the chicken business unless I sell the surplus

roosters to the butcher."

"Oh," I said, "we won't do that! We wouldn't want to have to have a hand in killing chickens."

"Oh, but Papa," he said, "these roosters don't lay any eggs. And then there are some old hens and they are awful lazy and won't lay any eggs either. I think we ought to sell these to the butcher. He will give me so much a pound for them." The boy had found out all about it. "And if we don't," he said, "if we don't do that I think I might just as well give up the chicken business, because I have studied it all over, have talked with several people about it, and I can not find any way at all that I can make a success of this chicken business without selling the roosters."

I will tell you what I said to that boy. I said, "All right, I will buy them."

He said "What are you going to do with them?"

I said, "I will take them into the country and turn them loose."

"Oh, but that won't be right, because they would starve to death if they didn't have somebody to take care of them, I am sure they would."

I said, "Anyway I shall be relieved of responsibility. I didn't make these roosters anyhow, and I am going to turn them over to the right owner of all roosters. They are loaned to me and you, and if you want to turn them over to me, all right, and I will turn them over to the original proprietor, and in that way we will get rid of all responsibility."

So that is the way we fixed it. I think that is about what we would have to do with these cattle. The fact is, we would not raise so many cattle. We would do something else. Raising cattle is an easy way to get a living-- an awful easy way to get a living. Cows take care of themselves. They go out and work for their own living, gather their food themselves on the plains, and require very little care. Then by and by when he has come to be a great fine ox you catch him, cut his throat, or knock him on the head, and sell his

carcass to somebody to eat. It certainly is a very profitable business, but it is not a natural business. It is an unnatural business. And that is the reason why we see these terrible disclosures being published in the papers at the present time. That is the reason why the packing house is becoming such a stench in the nostrils of the whole world. It has been a stench in the nostrils of Chicago for a long time, but now the whole world smells it, and the reason why is because the business itself is debasing. The men connected with it gradually lose their conscience. They lose their sense of the propriety of things, until finally there has come to be a state of things that is so appalling that the President says it is horrible. An Eastern paper in publishing an account of it, said--- It was the Burlington Free Press. I picked up the paper on the cars, and the first thing I saw in the editorial column was the report of the commissioners appointed by President Roosevelt to investigate the packing industry in Chicago, and he said certain details were absolutely unfit to print--too horrible to print. Now we ~~xxxxxxxx~~ would have been spared that at any rate if we had gone out of the meat-eating business. What has happened in these great abattoirs down in Chicago, is nothing, my friends, compared to what is happening in the little abattoirs, the country slaughter shops all over the United States. Think of it! There in that great place there are hundreds of people. United States Government inspectors pass to and fro, visitors going through. But what happens three miles out in the country from this town where there is a slaughter shop? What happens in that miserable little shanty half a mile out of the town where you live? What is going on there nobody on earth knows, but you may just be sure that some horrible things are happening there.

Once a good many years ago I asked a butcher for a piece of liver to look at through the microscope. This was thirty years ago or more. I said I want a pig's liver for a peculiar reason. He said, Doctor, we don't have any hog's livers. We don't keep them here at all. He said, Hog's livers

livers have abscesses in them. You can't find one hog's liver in one hundred that has not got an abscess in it, and sometimes a great many abscesses. I said, "Oh, is that so? You haven't any here. What do you use them for?" "Oh, they make good sausage, excellent sausage." These livers were all disposed of, all eaten, though they were full of abscesses--made into sausage. That is what happens in the country slaughter houses. Sausage is simply made up of odds and ends of everything that can not be utilized in any other way. Mr. Armour has long boasted that he utilized everything of the hog except his squeal;--the only thing he could not find some use for was his squeal, as you all know.

This matter of cattle raising would very soon dispose of itself. If there was not a demand, there would be no supply. The business has grown gradually into a great industry, and if there was not a demand for cattle, the propagation of cattle, the raising of cattle would not be encouraged, and it would soon take care of itself. We don't eat dogs, and they don't overrun us. We don't eat cats, and they don't overrun us. We don't eat horses. So you see this is a question that would take care of itself all right. The forces which are in operation to control these two great important ~~relations~~ features of supply and demand will manage the whole thing without any difficulty.

Q. If you don't hit the point in answering the question which is asked, are we at liberty to ask the question the second time?

A. Certainly, at any time; interrupt me in any way you wish.

Q. Can a bad hernia be cured in any way except by operation?

A. No: operation is the only way. A great many people are born with some weakness which results in hernia very early. Hernia will appear very often early in a child's life. The crying of the child, or straining with intestinal trouble in colic, may cause a rupture of the very feeble muscles of the child, and the result may be hernia. Many hernias begin in very early childhood.

Q. What is the best way to reduce an overflow of acid in the stomach?

A. If a person has too much acid in the stomach, it is not really an overflow of acid in the stomach, it is an excessive production of acid by the glands of the stomach, and the best way is to remove the cause. The first cause is generally irritation of the stomach glands. The trouble is your stomach has been over-excited. When the stomach has produced too much acid it is almost invariably the case that a person's diet has been such as to over-stimulate the stomach. Pawlow of St. Petersburg found that out. He showed a few years ago, in some wonderful experiments upon dogs -- and we are now repeating his experiments on our Pawlow dogs. We have some dogs over at the College upon which I have performed the same operation, and the dogs have a Pawlow stomach, and we are repeating the experiment and having a very interesting time. We will be able to make a report to you soon of some very interesting things that are happening over there. Pawlow showed that certain foods cause the stomach to form large quantities of acid, and that other foods cause the stomach to form less quantities of acid, and that other foods actually prevent the development of acid in the stomach. What are some of these foods? Meat is a food that makes acid above every other food. Flesh food is the greatest of all exciters of the stomach to form acid. How do we know that? Because the majority of people have acid stomachs. They think meat is the one thing best for them to eat, -- the only thing they should eat to relieve the pain. Doctors are laboring under that same impression, and if the patient has a sour stomach, has too much acid, the doctor says, Oh, you must eat meat. Raw meat has been considered a sovereign remedy for this condition for many many years. Scraped meat pulp has been used by the earload. We used to use it here in this institution. ~~Some~~ Twenty-five years ago I prescribed several oxen every week for patients to eat here in this institution, not knowing any better; but by degrees we found out the error of our way. Although I was myself a non-flesh eater, having abandoned the

use of flesh food more than forty years ago. Forty-one years ago I abandoned the use of flesh food, and I have not eaten a pound of meat in forty-one years, except scarcely tasted it in the entire time, on a very few occasions many years ago, so that now for a great many years I have not tasted it in any form whatever. It is extremely loathsome to me,--the very thought of it. But at the same time I prescribed meat. But I have not within the last fifteen years prescribed meat for my patients. I did it then because I didn't know how else to deal with these patients that suffered from acid stomach, and I got myself into great trouble every year. I remember one lady who came to me, or wrote to me after she went home. She said, "Doctor, here is a bill for \$41.50. I think you ought to pay it." I says to myself, What is this for. What does this mean? and she went on to explain. She said "After I came home my doctor found out a few weeks afterward that I had tapeworm, and it cost me \$40 for doctor's expenses and \$1.50 for medicine. Now I think you ought to pay the bill." Why? She said "Because I got it at the Sanitarium. I know I did. I know I didn't have any tapeworm when I went there. I am sure I got it at the Sanitarium. You prescribed that meat pulp for me, and I am sure that is how I got it." Well, I said to myself, what shall I do? The idea of paying \$41.50 for a tapeworm was so repulsive I could not quite bring my mind to it; besides, I didn't have the worm. I have paid good prices for some curios, but to have to pay for a thing I could not get was really I thought a very hard bargain, and I had got to find some way out of it. I thought it over for three or four days. Finally a bright idea struck me. I wrote her this. I said, "If you will have the doctor examine that worm, and look carefully at its teeth and determine its age and write to me how old it is, and if he can certify as to how old the tapeworm is, and its age is such as to indicate that it came from the Sanitarium, then we shall know whether or not it was born here." I never heard another word from her. I got out of that scrape that way, but I said I don't want to get into any more of that kind of scrapes.

Oh , I did. I got into another one. There are ~~two~~ ^{three} patients I know got tapeworms right here in this institution, although we got our beef from Mr. Armour, and we specified that it should be Western beef, and we took particular pains to have every piece of it carefully inspected, gone all over to see that there were no tapeworm cysts in it; and after all that precaution three patients in this institution, to my certain knowledge, got tapeworm right here. I said, That is enough. We are not going to sow any more tapeworms. Besides that I found out that meat did not cure these cases. I had one patient who stuck right to meat year after year, and I fed her beefsteak right along; gave her meat pulp, quantities of it, until she got down to where she didn't eat anything but meat pulp. And she finally rebelled, and would not take any more. Her stomach was just as sour as ever, and got worse every time. I could not discharge the patient,--she was my own wife, as a matter of fact, so I just had to stick to that case and see it through. Mrs. Kellogg by and by rebelled, said she would not eat any more meat. She was horrified. Didn't like the idea, didn't like the principle. But she ate it for five years, lived almost entirely on raw meat, meat pulp, and scraped meat. It was all prepared in the most delicate, nicest way it could be; and it was the nicest beef I could get, and prepared with the greatest care. But she finally rebelled, and said "I will eat no more meat if I die!" Then she began to use zwieback--very dry toast, and very little food. She lived on such a small quantity of food I didn't see how she lived at all. But by long careful study she finally got well and gained flesh, so that from being almost a skeleton, when I really despaired of her life because of her great loss of nutrition, she gained thirty pounds in sixty days, became a strong well woman, and has done many years of very hard work since, and is constantly at work, and without a particle of meat now for twenty years--nearly fifteen years at any rate Mrs. Kellogg has not touched meat. It was one of the worst cases of hyperacidity I ever saw. At any rate it gave me more

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trouble than any case I ever had, because by the old methods that were in use--the use of meat and all the old methods that we knew anything about, I could not give her relief. She abandoned the use of meat entirely, and by getting rid of the exciting influence of meat we gradually overcame the difficulty and she recovered from it.

One very important point that Pawlow pointed out was worth everything to me to find out. That was the fact that fats prevent the formation of acid. A person who has a great deal of acid in the stomach the most of the time must eat a great deal of fat, easily digestible fat--good milk, or cream, unless the cream is very thick, and butter, or olive oil, or fat in the form of nuts. Fat in the form of nuts is really one of the very best of all because it is in an emulsified state. Butter is good. Butter mixed with food is better than butter in the free state. Butter in the form of very thick rich cream, like Devonshire cream for instance, is better still. These are the two most important things, perhaps, to know with reference to hyperacidity. Dextrinized cereals may be taken, such as zwieback, corn flakes, and browned rice. These are all very excellent foods for one in this condition.

Q. What is the cause and cure of warts?

A. I don't know anything about the cause of warts. I don't think anybody knows. Somebody has recently said they have discovered germs which produce warts. I don't know whether that is true or not. It has not been verified yet. But warts can be cured by simply removing or destroying them, but it is not sufficient to just cut off the top of them. They must be cut out, clear out to the very bottom. You must go almost entirely through the skin in order to get to the very bottom.

Q. Is the test breakfast a thing to be dreaded?

A. I think I ought to call upon you to testify with reference to that. Those of you who have experienced this delightful thing can testify better than I or any book. I don't really know what the test breakfast is like personally. But now I am going to ask you-- It is a good thing, isn't it? I see some of you think it is a very delightful thing. Some of you know something about it, and I heard somebody say that it is a delightful experience. I suppose some of the rest of you will now be induced to try it. Now what is the value of the test breakfast? Whether it is delightful or not delightful, it is an extremely valuable thing. In the old days when we didn't give test meals it was simply a matter of cut and try. We looked at a man, heard his tale of peristaltic woe, then made up our minds as best we could as to what was the matter with him. It was always a guess, and often a very wild guess. In those days as far as the practice of medicine as far as the stomach was concerned, it was a question of tact, of sagacity, and good luck. We had to depend more on intuition. The doctor would sit in his office, look at the patient, let him tell his story, and try to form a picture as to what his stomach was like and what would be a good thing to try; would try to think of some patients who had come in before and told ~~the~~ a similar story, and of what helped him. We always had to ask the patient, Well, what have you tried? and he would tell what he had tried. Then we would see if we couldn't think of some more things he had not tried and make an application of them. And the patient would go ahead and come back in a day or two, and say, Doctor, I feel better. Then we would keep on doing the same thing. If he said, I feel worse, we would try something else, you see, because we would think we had given him the wrong thing.

I remember the very first patient who ever had a test meal in this institution, about thirty years ago,--a lady from the South, who had been

here some little time. She had a great deal of trouble with gas in the stomach. All the books said gas was due to fermentation, so we had been giving her hydrochloric acid to stop the formation of that gas, and she imagined she felt a little better sometimes, but on the whole she was getting worse. So we gave her a test meal. She was very anxious to have a test meal, because she suffered so much from gas and sour stomach. We supposed the foods soured in the stomach and made the acidity. Now do you know we found that woman was producing in her stomach just twice as much acid as she ought to have there, and we had been giving her hydrochloric acid in increasing doses in order to relieve the acidity. Wasn't that horrible? I felt as though I wanted to go off somewhere and have somebody horse-whip me. I felt as though I ought to be made to suffer, to be punished, to suffer something of what that woman suffered. Not that I was to blame. We did the very best we knew how, and that was the thing that was being done everywhere all the time. Some of the books said Try acids. If the patient gets worse, then try something else. Or try alkalies. If the patient don't get better, try acids. That was the only way to find out. But if we give the patient a test meal, at the end of an hour the food is removed from the stomach, and we know exactly what ought to have happened in it in an hour's time in a healthy stomach; and the contents of the stomach are taken to the laboratory and assayed, just as a piece of ore from a mine would be assayed to ascertain something of the value of the products of that mine; by exactly the same methods, with the same care and precision as though you were looking for gold or radium, if you please, or some other precious metal, we assay the stomach contents. After the analysis is made, which requires three or four hours, the report comes in and tells all about it,--just how much digestive power it has, just how much gastric juice there is, just how much digestive work has been done, just what kind of work, what quality of work has been done, and all about it. So we know just what kind of work that stomach is doing, and we know a great deal about what

kind of a stomach it is. So when we go to make a prescription for a stomach, after making the examination, we don't have to cut and try, but in nine cases out of ten, at least, we can hit the nail upon the head the very first time. All the difficulty we find since adopting this method is to get patients to seriously co-operate, to get them to do exactly what we tell them to do.

After my talk last Thursday night a gentleman came to me, and said "Wouldn't it be a nice thing to organize a Fletcher Club in the Sanitarium,-- a Club of people that would weigh out their food, make their calories exactly right, find out what it ought to be, then eat exactly right, and chew, chew thoroughly?"--Chew their food exactly right. Chewing is a thing somebody has recently said which requires labor, and it is the kind of labor you have to do yourself. You can not employ cheap labor to do your chewing for you. You have got to do it yourself, and do an honest job of it. I think that will be a nice thing to do, and I think we will get that started soon. Any of you who are interested in this question, who wish to join a Munching Club and see how much it will add to your progress, call at the ~~diatit~~ dietitian's office tomorrow at any time between 9 o'clock and 11 -- just down the hall a little ways. If any of you are interested in dietetics and have some questions you want to ask and can not get them answered as fully as you like by your doctor, see the dietitian. There are charts on the walls of the dietitian's office, and specimens of food from all countries of the world, and you can get the whole system of diet explained to you, and the scientific principles that underlie the system. Of course the dietitian will not give you a diet prescription. You must get a prescription from your doctor. He knows about your stomach. The dietitian does not know anything about that. He does not want to hear your symptoms, because he might get tangled up and tread upon the other doctor's toes, you see. So he won't make any prescription for you, but he will tell you the principles of dietetics. Get your prescription from your doctor. Keep your doctor posted

about what you are doing. The matter of your eating, my friends, is the most important thing in the whole concern. In this whole institution there is nothing so important as what you do up in the dining room. There is nothing you can do in the bath room or in any other department of the institution which will counteract wrong conduct in the dining room. So chew your food properly. Take right quantities and proportions, and you may just be sure the rest of it will go all right. That is a thing you can do yourself. The doctor is not responsible if you don't live up to his suggestions.

Q. Can you relieve migraine?

A. Yes indeed: you can expect to be absolutely cured of it if you stay here long enough. If you do your part, the Sanitarium will do the rest of it.

Q. What is the cause of migraine?

A. One of the causes of migraine is cows milk. I am sure we have relieved more people from that kind of headache by saying Don't eat milk, than by any other thing. Some time ago I met a lady in Chicago. She said "Doctor, do you know me?" I said, "Yes, I saw you at the Sanitarium three or four years ago." "Yes, I was there three or four years ago. You know I had those terrible headaches. One day I heard you say in the parlor that milk was one of the most common of all causes of sick headache. Well," she said, "you know I just made up my mind I would try that. I stopped eating milk right away, and didn't have another one. Before, I had had two headaches every single week for several years until I was just completely wrecked. Two or three weeks after I discarded milk I came home, and I have not had any headache since. Two or three weeks after I got home an old friend of mine, one of the wealthy ladies of the city,--I met her up at our Club, and she told me she was a perfect martyr to headaches; used to have them once in two weeks, then once a week, and then one every day, and she said to me, 'Oh, if you can only do something for my headache! It aches this minute so terribly

I can hardly endure life.' I told her all about it; that I stopped the use of milk. So she stopped, and I saw her a few weeks afterwards, and she said she had not had any headache since she stopped eating milk."

I might tell you a great number of stories of that sort.

I was a martyr to headache myself. I used to use milk. I thought it was a good, easily digestible food, and bread and milk was my diet, with a little fruit. I was particularly fond of it for many years, and had headaches almost all the time, and I had a coated tongue. I had done everything else I knew of to do but that one thing, and finally I gave up the use of milk, and my tongue got clean for the first time in thirty years. I had a clean tongue in a few weeks after I gave up the use of milk, and I not only got a clean tongue, but a clear head, for the first time in several years. I got rid of my headache after I entirely abandoned the use of milk. I seldom ever taste milk. I sometimes take just a little bit of cream. But if I should take a couple of ounces of milk today I would have a headache tomorrow just as sure as tomorrow should come. I have met a large number of people who have had exactly that experience in the use of milk. I am satisfied it is not a very wholesome article of food, and many people must abandon its use altogether.

Prof. Glenard, the eminent French physician who discovered enterop-
toxis, discovered the relaxed condition of the bowels, stomach, and other
organs of the abdomen, the man who published a great work in French upon this
subject, he discovered this thing, that people who have prolapsed stomachs
and dilated stomachs can not use milk, that milk is a poison to such
persons. Just why and how, I don't believe anybody knows; but it is a fact.

Q. What is a good remedy for dandruff?

A. A little kerosine oil applied to the hair at night, well
rubbed into the scalp.

Q. After six years of what my home doctor says is malaria or ague, is it possible it can be caused from stomach trouble?

A. Now it is possible you may have trouble with the liver--beginning at the stomach and extending to the liver. Infection of the liver is very commonly mistaken for malaria,--chronic inflammation of the liver. Chronic cholangitis or infectious jaundice, gall-bladder trouble, may be mistaken for this condition.

Q. What can you do to cure a stomach which rejects all food?

A. Let it rest a little while,--a day or two, or three, and then begin with a small quantity of dry food. The food should be taken in the mouth and held there until it becomes liquid before it is swallowed.

Corn flakes are very excellent, or rice flakes, or boiled rice is very good.

Q. I have pain about my heart which distresses me very much. My doctor says I have no heart trouble. What can this thing be?

A. When you have pain about the heart, it is not necessarily in the heart at all. Pain about the heart is in the intercostal nerves which run around between the ribs. That is where the pain really is. It is very seldom the heart is connected with it at all. It is more likely to be the stomach.

Q. Is it true that colitis -- inflammation of the colon-- of a year's standing, destroys the tissues of the colon and impairs it for life so that there is no possibility of cure?

A. No, no. Hundreds and hundreds of people suffering from that trouble have been cured here. Scores of people are cured every year. You can get well of it. Colitis is simply a disease of the mucous membrane of the colon, just like it is in the skin. We sometimes have people who have skin trouble covering the whole body, and they get well. Such trouble can be recovered from inside the body as well as outside.

Somebody wants the history of the Battle Creek Sanitarium.

It would be a pretty long story to tell tonight. Just forty years ago this summer a little two-story frame house on these very premises, near the south end of this building, was purchased and work was begun as a water-cure. The place opened with one doctor, two patients, and no nurses,--no trained nurses at all. Some good stout men and women, one or two, were on hand to be instructed by the doctor, and that is the way the institution began; in fact the doctors themselves gave most all the treatment. The institution ran along as a water-cure for ten years. Exactly thirty years ago this present year, the latter part of the summer, I was in the East, and the President of the Board came down to Wilmington, Delaware, and asked me to come here and take charge of this institution. The thing had gotten into such a condition that they determined to shut it up unless I would come. I was Hobson's choice, you see. I was a boy of twenty-four, and I didn't feel that I was competent to take charge of an institution, and said so, and begged off, but the President of the Board said "It must be shut up unless you will come." I was interested in medical progress and progressive medicine and in reform medicine. I was at that time the editor of Good Health, as I am now. I had been editing the paper for some three years, so I have known all about the history of this institution. My father was one of the two men that purchased the property and held it as trustees, and I myself had been deputy treasurer of the institution almost from the very beginning, and so I was interested in it, and on that account came here into the institution.

I set to work to reconstruct it and make a new thing of it.

It was a water-cure at that time, and my idea was to make a new thing of it, to make it an institution which would include all kinds of rational applications, which would cover the whole ground of scientific medicine. And I set out to do that. And to do that I changed its name and called it the Battle Creek Sanitarium Medical and Surgical Sanitarium.

We began our work and inside of a year we had --- I might say that when I took charge of the institution we had just twelve patients;--that was the Battle creek sanitarium thirty years ago next fall,--twelve patients. There had been more, but the work had run down. It began to build up as we began to introduce modern methods, and the work has progressed until the present day. There has scarcely been one week in the whole history of the institution in the last thirty years that there were not more patients in the institution, and that there was not more medical work done than was done the corresponding week of the year before. That is the way we keep track of things here. I get a report every week of the present week and of the same week the year before, so I see just how we are drifting. This institution has not discovered a great many things, and I do not claim a very great many discoveries, but our whole work has been systematized, ^{and} organized, and we have tried to make a practical application of all the really progressive sound rational ideas that have been developed in these modern times.

Q. Would one subject every few days to prostrating attacks of bowel trouble, which temporarily greatly impair the digestion, dare to camp out now? The patient is very susceptible to colds, or could get strong between the attacks of bowel trouble.

A. I wouldn't wonder if camping out would cure such a condition, still it would be a little safer to get on a little more solid ground first. That trouble ought to be cured in a short time. Proper diet and treatment would cure that sort of trouble in ten days or two weeks. If you would stop eating altogether you would get over it right away. The trouble is to know how to regulate the diet in such a way that the digestive organs will themselves behave in a normal way.

Q. Can a person with diabetes drink grape juice and eat fresh fruits?

A. Yes: not the grape juice you buy at the stores, because it

contains ordinary cane sugar in large amount. Ordinary fruit juice can be taken. The diabetic needs some sugar. It is not safe to dispense with it altogether.

Q. Why can't we have music in the dining room during meal time?

A. You shall. It will be begun tomorrow. We will have music in the dining room every day when you don't have it in the lecture room. We don't want to give it to you on lecture days, because I am afraid it would interfere with my lecture.

Q. What kinds of baths are best for one to take when he goes back to his home, and when is the best time to take them?

A. Take a cool bath every morning of your life. Not a cold bath, if your blood-pressure is high. In such a case it would be very dangerous to take cold baths. If you have got low blood-pressure, the cooler the baths the better, provided you react well. Moderate cold baths are safe for anybody. If you are a sedentary person, two or three times a week before going to bed take a sweating bath for fifteen or twenty minutes, and a cool bath at the end of it, just before you go to bed. Then you won't take cold. If you are a very sedentary person, take a neutral bath two or three times a week, half an hour before you go to bed. Lie down in the bath tub, read a newspaper if you want to, just before you go to sleep. The neutral bath is a very powerful hypnotic.

Q. After taking a ten weeks' course in ~~the~~ Domestic Science will one be capable of helping others?

A. Most assuredly. If after ten weeks' instruction in our course of Domestic Science you can not help somebody else, you will be a very dull sort of scholar. A ten weeks' course will be invaluable. I wish everybody who comes to this institution would enter the school of Domestic ~~Science~~ Economy and get something of this valuable instruction. It is not something new. It is simply the summing up of all the experiences, and the accumulated

knowledge of this whole movement during the last forty years; so I hope some of you at least will avail yourselves of the opportunity.

Q. If, notwithstanding a considerable gain in weight, one suffers more from colitis in California and Michigan than in Colorado, must he return to Colorado to get well?

A. No. Colitis is not a climatic disease. If you suffer more in California and in Michigan than in Colorado, it is simply because there is something in the food you eat, or the conditions of life which help make it. It is not the climate. This disease is one that is greatly influenced by diet. You can get well in Michigan or California. No matter where you are, you can get well of that trouble by proper regulation of the diet, and a reasonable amount of proper treatment.

Q. With a view to putting Fletcherism, or economic nutrition, on a practical basis, and teaching us and drilling us in the habit, can you not provide tutors and establish clubs for same?

A. Here is a question asked by somebody who is enthusiastically searching for health. He also wants to know if the life of Cónaro is published yet. The Life of Cónaro is published by a book publisher in Milwaukee. I think you can get the address from the Good Health Publishing Company, or if you will take the pains to telephone to my librarian at any time you can get the address. The Life of Cónaro is a very interesting book.

Now about the Fletcher Club, or The Munching Club, as they would call it in England. Some of the great lords and ladies in England are establishing Munching Clubs, and they are very interesting. I am not sure but it would be a very good thing to have clubs arranged at tables by themselves, and have an orator stand there and call your attention to the fact that you are eating too fast. It would be a good thing for clubs to be formed at the different tables, and for the members to say, Let us admonish one

another if we find we are eating too fast. That is the way we do at our house, and we all take it good naturedly. One of my boys says once in a while, "Papa, it seems to me you are not Fletcherizing enough." My eating gets to going right along with my thoughts, and we are all more or less subject to the same propensity, so I think it would be a very good thing.

Don't forget this Walking Club. Don't forget the wheel chairs here at the North end. Don't forget to get your doctor to mark out the number of calories for you of proteids, carbohydrates, and fats. Don't forget the breathing exercises in the morning before breakfast. Get in and attend the morning worship after the breathing exercises. Don't forget to go to your breakfast and to chew your food well. Don't forget the outdoor gymnasium. That is the thing of greatest importance. Be sure to get out there and roast in the sun, as a French doctor said when a lady brought some little ones to him and asked him what she should do for them. He said, "Madam, roast them! Roast them in the sun!" And it will do you all sorts of good.

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THE OLD WAY AND THE NEW

1906

A Lecture at the Sanitarium Parlor, Battle Creek, Mich., Thursday, July 5, 1906

At 8:00 P. M. by

J. H. Kellogg, M. D.

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Which is the better way? Which is the true way? Which is the way? Three or four thousand years ago when a man was sick in Egypt, he went out in the street, found a comfortable seat somewhere on the public thoroughfare and held out his hand if it were sick, or his foot if that were sick, or presented whatever portion of his body was ailing to the passers by and asked each one if he had had anything like it, and if he had had anything like it, what did he do for it? Then he tried it. And perhaps it helped him, and perhaps it didn't. If it did not help him, he would try it again.

Some of you have done the same thing, haven't you. When you got sick you asked your neighbors what they did when they had that sort of trouble, and you did what they told you. When I had malarial fever quite a number of years ago, the neighbors kept coming in and presenting various things until the mantle-piece in the room where I was ill was completely covered with remedies that had been brought in. I had declined to take any of them. Finally an old gentleman came in and said he had a remedy he knew would cure me sure. He said, "My grandmother tried it and it cured her, and I had several relatives who tried it and they all got well." And this was it: In the morning of the day you expect to have your chill, go upstairs and climb down head foremost three times, and do that three mornings in succession; then skip three mornings, then do it three mornings again; and do that three times, then you will be well. I did not try

that because I had got so weak by that time I could not get up the stairs, though I could have gotten down very easily. But the gentleman assured me that it cured his grandmother and several of his friends. Doubtless they got well.

Now, the practice of medicine in the olden time was based upon absolute empiricism, just as was this practice the old gentleman told me about. Another remedy recommended to me was to be buried out in the garden up to my neck for three or four hours on the day when I expected to have chills; and I supposed it was expected that would scare me so that I would forget to shake. Well, I got well without swallowing anything at all. A good old lady finally came and told my mother to give me a corn sweat, and the corn sweat consisted of putting ears of corn into water and boiling them, wrapping them up in cloths, then packing them around the body till vigorous perspiration was produced. That was done, and that cured me of fever and ague. In the old times we had fever and ague in Michigan, but we do not have them here now. The malarial mosquito has moved down into Indiana and Kentucky, Tennessee and other parts of the South. In those days the Anopheles mosquito existed here, and in a very robust condition. Until the last forty or fifty years, the greater part of medicine was empiricism, blind empiricism.

Old Dr. Willard Parker, of New York, one of the most eminent physicians this country has ever produced, stated fearlessly in his public lectures--he was considerable of a surgeon, more of a surgeon, perhaps, than a physician,--in one of his lectures he stated fearlessly that every dose of medicine we administer to our patients is a blind experiment upon his vitality. And Dr. Holmes, the autocrat of the breakfast table, spoke out very vigorously in meeting, one day, at the meeting of the Massachusetts Medical Society. He declared that if all the drugs of the materia medica were cast into the sea, it would be better for mankind but bad for the fishes. And Jacob Bigelow, another eminent Boston

physician

physician, wrote a book on rational medicine, and in this work he ridiculed the so-called artificial medication, the practice of bleeding and purging and vomiting, and subjecting the patient to all sorts of violent processes by which it was supposed that the disease might be driven away,--according to Dr. Bigelow, nothing more than a modern interpretation of the ancient method of casting the demons out--the expurgation of demons who were supposed to possess everybody who was sick. I was remarking to a medical friend the other day that I believed that if the general public really knew and understood and appreciated how they had been made the subject of experiment for thousands and thousands of years by the medical profession, they would rise and massacre the whole of us. I do not know, however, that the medical profession have experimented upon the public any more than the clerical profession have, or any more than have the legal profession; but the results have been worse. The experiments of physicians upon men and women have been at the expense of men and women, of human beings who have been made the subjects of the experiments. I do not think there is a nobler profession in the world than the medical profession; I do not think there is a class of men in the world who are more self-sacrificing than the medical profession. I remember very well a story a doctor was telling some time ago, how that doer in Cincinnati he had a poor girl up in the poorhouse hospital who was going to die, and he worried about her because she had not been a very good girl, and he thought she was going to die, so he sent his brother, a minister, up there to see her. His brother happened to be a clergyman, and he sent him up to see her. The next day he met his mother. The mother said, "Tom, why in the world did you send William up there to that pest house?" "Why," he said, "the poor girl there was going to die, and I thought he ought to go up there and pray with her and teach her something. She had not been a very good girl, and I was worried about her." "Why, Tom, didn't you know he might catch it? Supposing

he should die!" "Well, mother, I am going up there every day myself. I didn't ask him to do anything I would not do myself." "But you are a doctor."

Now, nobody expects a doctor to flinch from danger. Doctors are supposed to go right along and expose themselves. Other people flee, but doctors must walk right straight up and face the danger. I remember once knowing a doctor that visited a small-pox patient and looked at the patient through the window. How his fellow practitioners did ridicule him. He was held up as an object of contempt for having tried to make a diagnosis of a case by looking through the window. The window was open, but nevertheless, the wind was blowing in the proper direction. It seemed rather ridiculous for a doctor to do anything of that sort. I think really a great many people have the idea an old lady had who asked me once to go and see a case of contagious disease. "Now," she said, "Doctor, I know you have got a lot of children, and it would be unfortunate if you should take this disease, but then I know, Doctor, you always carry something in your pocket to prevent taking it, and I don't see why you doctors don't let folks know about that. I would give a good deal to know that secret--what to carry so as not to take diseases."

I suppose doctors are just as subject to contagious maladies as anybody else. In fact, the medical profession is the most short lived of all professions. Doctors have the shortest lives. Doctors have to take that into account when they enter the medical profession. Nevertheless, it is true that the history of the medical profession up to the present time has been almost a history of blind experiments upon men and women, and it has not been anything different from what men and women have been doing to themselves, so it is no use to complain, for men and women are rather more ready to experiment upon themselves than doctors are to experiment upon them; and it is far better to be experimented upon by somebody who had summed up the results of the experiments of the race, profes-

sionally for thousands of years than to undertake to go through the whole process of experimentation anew on your own behalf, your own hook. So I don't think the medical profession can be charged with having committed any crime when you look into the thing fairly. Nevertheless, it must be recognized that a vast deal of mischief has been done because of lack of the knowledge of right principles.

Now, when I was first graduated in medicine, a new class of remedies was just coming into vogue, and it was supposed these remedies would render vast aid to the physician, and be a vast benefit to the human race--remedies that were manufactured from coal tar. It had been discovered that certain drugs made from coal tar--there are a vast number of them now,--and a few of these had the remarkable property of lowering temperature. One of the first of these was antipyrin, so-called because of its power to lower temperature. I remember visiting the wards of the Philadelphia hospital one morning some years ago, and the nurse took me into the fever ward. She said, "Doctor, do look in here; look at these fever patients. It is wonderful; I am giving them antipyretics, and it is wonderful. Why, now there is that patient, just look at him. His patient's temperature last night was 105°, and I have given him four doses of antipyrin and his temperature is actually below normal." I looked at him, and there he lay, ghastly pale, his eyes closed, so pale, and with such a deadly expression upon his face that I said, "Is he alive?" "Why, of course, he is alive, of course he is." Just then he opened his eyes, but that was the only evidence I could discover that he was alive. He looked to me as though he was just about dead. He was not dead--he was pretty likely to be,--but his temperature was below normal with typhoid fever, and a few hours before his temperature had been 105°. Now, that was a powerful drug, wasn't it? That drug

promised great things. The only thing it did was to kill some thousands of people. That is the only thing it did. A New York doctor not very long ago spoke out boldly upon that question, an eminent New York physician, Dr. Baruch, and he said there was one great advantage in antipyrin and all the rest of the pyretics possessed--they permitted the patient to die with a normal temperature. They were very satisfactory, for the temperature was down.

Now, we have discovered since that time that temperature is not the thing to be afraid of in fever at all. In those days we were fighting temperature; the doctors bled patients to bring down temperature, gave them purgatives to bring down temperature, and gave emetics to bring down temperature. It was supposed if you could only bring the temperature down the patient was certain to be safe; but now we know that high temperature is a benefit to such a patient; we have actually discovered that the fever is necessary for the man that has been infected with typhoid germs; he must have fever or die. And the patient who has fever and does not have a rise of temperature, that man is almost certain to die. The most deadly form of typhoid fever is that form in which the patient has no rise of temperature at all. The infection is so intense that the patient is killed right off; he does not have power or ability to react against the disease. Now, we know, as I said before, that fever is necessary, and that is really one of the facts that constitutes an enormous addition to the knowledge that has come to the medical profession in the last twenty-five or thirty years in relation to the nature and history of disease, and the so-called natural cure of disease. In typhoid fever, it has been found it is necessary that the temperature should rise up to 101° , $101\frac{1}{2}^{\circ}$, or about three degrees above normal; it must go up that high at least in order to kill off the typhoid fever germs.

When a man has typhoid fever he has germs growing in his body, and these germs are multiplying and producing poisons in quantities which are being

absorbed into the body and circulated through the whole body; which go to the liver and set up disease of the liver; go to the kidneys and do mischief there; they go to the heart and weaken the heart. Everywhere these poisons are doing their work of mischief. Now Nature,--I don't like to say "Nature"--the power that is within the body--this live power within the body--I don't like to call it "Nature." Nature is an abstraction; it is nothing more than a panorama; it is a picture, not a force. This power within the body, this healing and creating power within the body--this power knows what is necessary; it knows when this patient has been infected with typhoid fever the temperature must be raised; so, up the temperature goes to $101\frac{1}{2}^{\circ}$. It is necessary to have that temperature of $101\frac{1}{2}^{\circ}$; so if you ever get typhoid fever and you take the temperature and find it is $101\frac{1}{2}^{\circ}$, be happy, be happy; that is what it ought to be for typhoid fever, because with a temperature of $101\frac{1}{2}^{\circ}$ the body is able to fight the disease successfully, and it is able to manufacture antitoxins. You know when a child has typhoid fever nowadays, they inject a little anti-toxin into the child, and the child gets well fast. I knew a little baby down in Philadelphia. A dear friend of mine had a child that was sick with diphtheria, and he telephoned to me over at Boston about the baby, and said he gave it anti-toxin six hours before, and it was just marvelous to see the change in that baby--a little baby only a few months old. I got a letter in a day or two saying the little one was all right all out of danger; in a few hours the membrane all came off the throat, and the little one was getting well. I saw the child some days later, and it was apparently perfectly well. Antitoxin is a wonderful thing. You know how they get antitoxin? Give a horse diphtheria, take the blood from the horse, get the serum from the blood, and that is the antitoxin--the serum of the horse's blood when the horse has had diphtheria; and the horse is given diphtheria in increasing doses until the dose given to horse is enormous. The poison of diphtheria, the

diphtheria germ is injected into the horse, and the system of the horse reacts against the antitoxin; then a bigger dose is introduced; and so it goes on until the horse takes enormous ~~massive~~ doses, doses big enough to kill one hundred horses perhaps; but if the horse is manufacturing antitoxin to such an extent, the blood is filled with it, and the poison does it no harm.

Now, then, that horse gives up its serum. Several ounces are drawn every day. The horse can spare a little blood in that way every day for weeks and months, for weeks at any rate the blood is drawn from this horse, and the serum is carefully preserved in little bottles, and that is injected into the baby's arm, and the baby's body--a small amount of the concentrated antitoxin, and there is such power in it that the diphtheria germ is killed off and can not grow in the body. The poison produced by the diphtheria germ is antagonized.

And what is true of diphtheria is true of other germ diseases. In diphtheria, if the little child had a sufficiently strong constitution, and if the number of germs introduced into its body is not too great, the little child would after while make its own antitoxin, then it would be safe. But in order that we should run no risk, the safest thing is to inject some antitoxin to help the system of the child out in its effort to protect itself against the disease. That same thing happens in typhoid fever. Antitoxin is produced. And in Pneumonia antitoxin is produced; and in order that this antitoxin may be produced, it is necessary that the temperature of the body should be $101\frac{1}{2}^{\circ}$. That fact was discovered some fifteen years ago now by an Italian physician who read a paper at the International Medical Congress held at Rome, and there was after discussion by others who took it up. In this country men have investigated the subject and found it to be true. I mention that simply as an illustration of how the symptoms of disease are evidences of the battle which is going on within the body to cure the disease. There is a battle going on to cure the disease.

Then suppose we find remedies which will destroy these symptoms. They may stand right in the way of recovery instead of helping. How often that may be the case. Here is a child who has looseness of the bowels, has cholera infantum. Now, the first thing in the world that used to be given in such a disease as that was a dose of opium. Why? Because opium will stop the action of the bowels. Here is a child that has looseness of the bowels; we must have opium, of course. Fifty years ago if a person had looseness of the bowels or any sort of bowel trouble, he was given opium right away, right off. How ridiculous, how perfectly ridiculous! What is the cause of this looseness of the bowels? It is poisoning in the intestines, poisons formed that must be cast out; and this casting out of poison then is the thing that is to be helped and encouraged instead of being stopped. And the same thing might be said of many other diseases.

Here is a person who has rheumatism, and the rheumatism makes him sweat, and he says, "Oh, this sweating is so uncomfortable; I must have something to stop the sweating; give me some medicine to stop sweating"; but the sweating is the means by which the poison of rheumatism is carried out. That is the way of the body for carrying off the lactic acid which is produced in that disease in great quantities. Suppose we take every one of the symptoms--the fever in rheumatism--there is the rise in temperature; we give antipyrin to stop the fever; then we give him atropia or something else to stop the sweating; and we give him opium to stop the pain, and keep on giving him doses of that kind; by and by we will stop the patient altogether. I knew just such a case as that in Chicago. A patient who was under the care of a distinguished Chicago physician, who was the wife of one of the leading newspaper proprietors of Chicago--it was the proprietor of the Chicago times, and he published the story in his paper some years ago, he published the whole thing in his paper--

how that his wife was treated for rheumatism, and the doctor gave her this medicine, and that medicine, and the other medicine--the whole long list of them, and told all about them all, and finally how about three o'clock one morning the doctor pronounced the patient cured of rheumatism, that the rheumatism had all disappeared, and the patient was cured; and at seven o'clock that morning she died. He claimed that she was cured to death. And I suppose that sometimes happened in the old days. But an entirely new era has dawned in the medical profession. The medical profession has discovered--nearly the whole medical profession, at any rate the leaders of the medical profession have discovered that in the treatment of disease we are not to fight against the powers of the body, but we are to work with them. We are not to oppose them, but to assist them. Now, it seems remarkable that it should have taken us so long to find that out.

When I was a medical student at the Bellevue Hospital Medical College, Dr. Austin Flint, the grandfather of the present Dr. Austin Flint, Jr. said to himself one day, "Now, I am going to find out what will cure rheumatism." So he began to experiment, tried all sorts of remedies and didn't see any difference at all in the results. Finally he prepared a medicine which had no medicinal properties whatever--something that had nothing but a bad taste--nothing else. He labeled it anti-rheumatic syrup. That is a good name. It was anti-rheumatic syrup for rheumatism,--a syrup which was opposed to rheumatism. And he gave this to one-half of his patients in his rheumatism wards, and to the other half he gave the ordinary remedies. At the end of three months he compared notes, and he found that the patients who had his anti-rheumatic syrup got well just as quick as those that had the ordinary remedies, and they most all got well in about six weeks. So, when he lectured to the class in which I graduated at Bellevue, on the subject of rheumatism, he said, "Gentlemen, the best remedy for rheumatism, and the only remedy I know of is six weeks in bed.

Six weeks will cure rheumatism." He told us the story about his anti-rheumatic syrup, told us how it had become so famous among the people that came to the hospital that when a man came there sick with rheumatism, he always inquired for Dr. Flint's anti-rheumatic syrup. And the patient's mother begged her doctor that she might have some of Dr. Flint's anti-rheumatic ~~syrup~~ syrup. There was quite an agitation in the minds of the profession at that time, and many men were waking up, doubting and questioning, making experiments in wards of this sort. Among others was Dr. George M. Beard, of New York City. He undertook a very extended series of experiments and investigations at the DeMilt Dispensary. I happened to be assisting him at the time in the DeMilt Dispensary, and I assisted him in his investigations, and he chose psychic means. His ^{specialty} ~~specialty~~ was that nervous disorders; and so he employed various means of impressing patients' minds to see what the influence of the mind was upon the body, how that it would act as a remedy for disease; and he achieved some very remarkable results which were certainly very interesting. My duty was to take the history of cases, make a record of them, introduce them, and afterwards follow the cases up. In some cases, Dr. Beard posed as a magnetic doctor. I would bring the patient in and introduce them with a great deal of display to the great Dr. Beard. Dr. Beard assumed a very pompous air, a very big manner, and sought to make as great an impression as he could. To illustrate his method, I will ~~now~~ just mention a case that occurs to me at this moment, of a woman that was suffering from toothache, neuralgia of the face. It was an Irish woman. I brought her into the door and introduced her to Dr. Beard. Dr. Beard said, "Good morning, madam, good morning. You are sick, I suppose, and you have come to be cured." "Of course I am, of course I am, sir, or I would not come here." "Sit right down. We will cure you--we don't care what is the matter. We are doing miracles here; it is just as common to work miracles here as to eat our dinner.

We will cure you." The lady looked about a little suspiciously, looked around. The doctor said, "Where is your pain?" "In my face, Doctor." "All right-- cure it in five minutes, the pain will be gone." He took up a couple of brass knobs that belonged to a battery we had--the connection had been taken off before the lady came in. He said to her, "Now, madam, you see these two things here? These are magnets; they are powerful magnets. Now, you see, I take one of these magnets and put it in the window; now I hold the other in my hand. They always belong to one another, and when I separate them in this way, put one in the window and bring the other one here in my hand, the magnetism is passing from one to the other all the while. Now, I am going to put this magnet on your head, and the magnetism will pass through your head, then to that other magnet, and carry off the pain with it. You see? Now, it is necessary for you to put your eyes right upon that magnet and keep your eyes right there; be careful not to take your eyes off the magnet once during the treatment. If you should, the magnetism might scatter, and I would not be responsible for the consequences. Now, be careful; keep the eyes on the magnet". And so he began applying the magnet and counting at the same time,--1, 11, 5, 9, 11--"Do you feel better? Don't you feel it? Don't you feel it?" And pretty soon she began to feel it. "What do you feel?" "I feel something running up and down my arm; I feel something twitching my big toe on my left foot. I feel something running over me that feels like electricity." She was very greatly interested. After about five minutes, the Doctor said, "Now, madam, where is the pain?" She looked all around the room and could not find it; it had gone, had disappeared. I followed this case up, visited the tenement house where this woman lived, inquired for her, found her at work, and perfectly well. I visited her several times. She never came back to the dispensary for treatment, and she was cured in five minutes, didn't have pain again.

Another case was a very different sort of case. A lady came in looking very pale and thin, and she said, "Doctor, I want something to make me sleep; I can not sleep. I have not had a sound night's rest in three months, and I am just all worn out." "All right," the doctor said, "just sit right down there". And he told the story of the magnets, and said to her, "Now, this will surely carry away the sleeplessness, and will take away all your weariness. This magnetism will strengthen you and you will feel better. Now here is some medicine"-- medicine that had nothing in it but a bad taste--just double distilled extract of bad taste, made up of quassia and some other things that had an awfully bad taste but were perfectly harmless as a medicine, really had no medicinal effect really in the dose in which he prescribed it. He said, "You take this bottle home, put one little drop upon your tongue exactly as the clock is striking twelve--one drop, remember only one drop, because it is very powerful medicine, and if you take more than one drop I would not be responsible for the consequences. And be careful not to swallow it, because it is a powerful drug; put only one drop upon your tongue and let it slowly dissolve and absorb from your tongue, but don't swallow it." He wanted her to get the full benefit of the taste of it you see. "And if you take this medicine in this way, when you go to bed tonight you will sleep, sleep sound, sound as you did when you were a little girl, sleep sounder than you have in ten years; you will sleep perfectly sound." The lady passed out the door, passed off down the hall, and the Doctor kept saying to her, "You will sleep tonight, madam, you will sleep sound"; and as she went out the door the last word she heard was, "Sleep, sleep." She came back in a week, and she had slept sound every single night. She had gained several pounds in weight, had another dose of magnetism, was told to go on with the medicine just as the clock was striking twelve, and if it stopped striking before she got it on her tongue, she must not take it at all until the next day. At the

end of three weeks she had gained fifteen pounds, had roses on her cheeks, and slept sound, and was perfectly well. Not another thing was done for her. There were scores of patients treated in just this way, with remedies that had no potency except through the mind. Dr. Beard said one day, "This is perfectly horrible on the materia medica isn't it? I never had my patients get well any faster on the very best prescriptions I could make.

There were numberless men who experimented in various ways in different parts of the world, great numbers of physicians, an increasing number, until the fact was fully proven and impressed upon the profession at large that there was power in the body which cures, and that the so-called battle with disease is not a hopeless battle, that it is not a battle in which the powers of the body are aimlessly struggling against a foe which is too mighty for them; but that these powers that work in the body are intelligently directed, that they are intelligently directed; that the battle which we call disease is a directed and a controlled battle just as much as any battle that was ever fought; that there is a power within the body that controls the heart and regulates its action, just as the body needs; that controls the temperature; that the whole thing is under a marvelously intelligent direction; and that the doctor's duty is not to stop symptoms, not to stop symptoms, not to jugulate these so-called disease processes, but rather to aid the processes, to aid them, to render assistance, to supply conditions. No doctor ever cured anybody in the world. I never cured anybody; but I don't know but I have helped some cases of ingrowing toenails, corns, and a few cases of that sort occasionally--removed a tumor or something of that kind; but cases of ~~xxxxxx~~ diseases, fevers, dyspepsias, rheumatisms, disorders in general doctors don't cure and can't cure. Remedies do not cure; baths do not cure; diet does not cure. If there ever was a cure of a man who was sick, the cure was brought about by the powers within the body. The power that heals the

man is within himself; and it is exceedingly important that people should know that thing and find it out. What the sick man needs most of all is more knowledge with reference to himself, and more faith in the powers within him.

What is this power that cures the man? My friends, it is the same power that made the man. It takes exactly the same power to heal a man that it did to make him in the first place. When we look into our bodies and study them, it is wonderful how much dependence we find, how we discover right away that we are absolutely dependent every instant of our lives upon that power which made us in the first place. When God made man he did not stop his work then. When Adam was created, the moment that he was created, there came into being the necessity for a continuous process of creation in order to keep him alive. It takes exactly the same power to keep Adam alive today that it did to make the first man Adam. There is only one man in the world any way--just one man, and that man is Adam. Some of these ladies are smiling. Man thinks himself the whole thing. And that reminds me of a story. There was a little boy in Sunday-school, and his teacher had been telling about creation, how God made Adam then made Eve. As she came to review the class, she said, "Of what did God make Eve?" A little boy shouted out, ~~sixth~~ "Out of Adam's back bone." Well, we are talking about man now in the generic sense. We will admit that women represent the best part of the race.

Suppose we have here a tree. I will make a very rough illustration of a tree. Suppose this is a tree. Now, if I take off one of these branches here and set it out here, by and by that would grow up and become a tree. If I take off another one and set it out here, that grows up and becomes a tree. So, I may take off other twigs off this tree, and other trees will grow up in other places, and if we continue to take off twigs and plant them out, by and by we will have a whole forest of trees, willow trees, perhaps. We may count

them all as separate trees, but there is really one tree only there; they are only parts of that original tree. So there is only one willow tree in all the world, for all the willow trees have come from the one original tree, you see. So there is only one man in the world--we are all Adam; the whole race is Adam, and we are simply buds. The child is simply a bud from its parents, just as the willow tree grown up from a stick is a part of the original tree from which it came. That is the reason why the sins of the parents are visited upon the children. The children are the parents, you see--can not help it. "Whatsoever a man soweth, that shall he also reap", and the child is simply an extension of the parents. The boy is simply an extension of his father; he is simply a bud from the father; he is really a part of him, and consequently what the father sows, the boy reaps, but only for the three or four generations. Why? Because he runs out if he is wicked. The third and fourth generation runs out,--if they have been sinning, been sowing tares instead of wheat.

Now, when Adam was made and the processes of life were all set in operation, it was like an intricate machine, for instance, a machine for spinning yarn, for weaving cloth, and all those delicate machines that make the beautiful embroideries--wonderful machines they are. Suppose he set such a machine going and then went off and left it? What would that machine do? It would soon be ruined; it must be cared for. Suppose you start a locomotive on the tracks and set it going without any engineer to take care of it? What would happen to it? It would soon go to its destruction. Exactly the same thing is true of the human body; it would soon be in ruins if the maker, the designer, the Creator did not stand right by it and take care of it.

Now let us see what proof there is of that. Here is the body. Take out a little drop of blood and examine it through a microscope, and you see it swarming with little cells. How many of them? There are more than thirty

million million in the human body. Thirty million million--more than that. These all die every six weeks; every one of them disappears every six weeks; they must be entirely reproduced, must be all created new. Every one of those little cells swimming along in the blood, every one of them is a live creature just as much as a bird or a fish, just exactly as much. They can live there in the blood, but they can not live outside of the blood. They are just like the fishes swimming down here in the river. The blood corresponds, if you please, to the rivers running through the land, with these wonderful little cells swarming in it. They all die every six weeks, and must be reproduced; and at that rate it is necessary that at least ^{eight} ~~thirty~~ millions of them should be reproduced every second of our lives. About half the blood is made up of these cells. Eight million of them die every second of our lives, and eight millions must be reproduced. See what a marvelous work of creation that is. Every second, every time the clock ticks here, eight millions of cells have been created in your body, and that is blood-cells only. The same is true of other cells--muscle cells, brain cells, liver cells, cells of various parts of the body--lung cells, these are all working at being reproduced. So you see, my friends, what a wonderful creative ~~power~~ work is going on. You get tired sometimes, and you say, "I am going to recruit a little while." How do you spell that word recruit? R e--re with a c and an r and ~~ax~~ a u and an i and a t--recruit. And we change that to recreation. But re-creation is not a thing that takes place of itself; it must be effected by the same Power that made the first man. It takes exactly the same power to make every one of those little living cells. You question that? You ask a professor of biology in your university in your home town, ask him how cells are made. An eminent English physician imagined a little while ago that he had found the formula for making cells--put certain things under certain conditions and he said he would find cells; that under the influence of

radium cells were created, but he found out afterwards they were dead cells; they were not live cells. There was something that looked like cells--simply round masses of matter, but they were not living cells; they did not grow and multiply; they did not reproduce; so it was impossible for them to be living cells. There was a great deal of interest stirred up by the experiments which he made, however, but it is known perfectly well to scientists of the present time that cells are created; that they do not spring forth spontaneously, but they must be created, and created by the same Power that made the first cell, the first living thing; that same power is operating now. Now that power is working in us, and it is through this power that the sick man gets well.

It is through this power that our lives are maintained from day to day, from moment to moment; and it is only by this power that the sick man can ever recover.

Now, how do we get sick? We get sick by neglecting to co-operate with this creating and healing power. We are fearfully and wonderfully made. We have a will which is under our control. We have our bodies, to a certain extent, under our control. We can not make the heart beat faster or slower, but we can make it stop beating. By an effort of the will we can do that thing. We can make it stop beating altogether; we can make it beat too fast or too slow by damaging it or injuring it. When a man takes alcohol into his body the heart will beat faster. If a man takes digitalis, his heart beats slower. There are various poisons which will influence the heart. When we take alcohol into our bodies, the heart beats faster, and it is because that is the necessary thing to be done in order to get rid of that poison. And the same thing is true of digitalis; we can damage our hearts by interference in various ways, but we can not create a thing in our bodies; we can not create anything in our bodies. Suppose you tear off a little bit of skin. You may say, "Why, now the

doctor can heal that." We have to wait for a new skin to grow over the bare spots of that skin; it grows there over the bare spot, and it is a creation, a reproduction. It is just as much a creation as the making of the first man. What a wonderful thing it is. Now, this process is carried forward day by day. We watch the little patch of skin growing in and we see the work of creation right before our eyes; and we can look into the body any minute, and see that spectacle precisely of cells, eight millions of new cells being created every single second of our lives. Now each one of those cells is about $1/3000$ of an inch in diameter. Now, we see how many inches long it would be. It would be 2,666 inches. Divide that by twelve, and it will tell us how many feet that will be. It will be 222 feet. There is a procession every second of our lives, a row of cells nearly half the length of this building, created; so that every time the clock ticks, just think of that long row of those little living cells created, made new, made right out of the materials that require life put into them. Now, these wonderful, living processes are all being conducted by the Power that made us, by the same divine Hand that constructed the human machine in the first place, and if we co-operate with it, put our wills in harmony with this divine will that creates and cares for us, then our lives are wholesome and sweet, happy and normal; we are well, we are in health and remain in health. We are sick only because we err, because we deviate from the right path; because we forget to do right, because we do not know how to do it. We sometimes are sick because we inherit the consequences of our parents' sins, as I was remarking a moment ago, for the sins of the father are visited upon the child, not empirically, not arbitrarily at all, but they are visited upon the child because the child is the father; they are simply an extension to the child; the child reaps what the father has sowed, because he is part of the father.

If we find ourselves sick, it is only because there has been some interference with these normal processes; because there has been some failure of harmonious co-operation. If we expect to recover, the thing necessary above all other things is that we should co-operate with this power which made us; that we should put ourselves in harmony with God, in harmony with Nature, we say, but I don't like that word "Nature" because it gives a wrong impression. It gives people the idea that there is a power in the world, a force in the world that is called Nature which does things. We see some corn growing. How does that corn grow? Oh, it is Nature that makes the corn grow; it is natural for it to grow. We see flowers blooming. How do they do it? Oh, it is natural for them to blossom and bloom. But, my friends, this is not an automatic process. The scientists have given that idea up. I don't think there is a scientist living today, of any note at all, who does not know, and who would hesitate to say that all of these life processes, these so-called natural processes, that they are intelligently controlled, that they are carried forward by a Power which is the source of all power, which is the original source of all power, and of all energy; so that when we talk about life, we do not mean life as a power separate and distinct, by itself, that can stand out by itself and do things; power that is working by itself; but when we talk about life, we mean the original Power, the original Source of power. There can be but one life; there can be but one life. There can be but one source of life, and all life comes from that source; and the life that you and I are living is simply the life that is given to us; it is simply loaned to us; and this life that is infused into us, given to us, is maintained within us by the same Power which made us in the first place. We are in immediate connection with that life all the while, in immediate touch with it all the time. This life is being communicated to us, or we would die at once. Then, what the sick man needs most of all is to get in harmony with

this Power, to be in harmony, to keep in harmony; to do right in other words. He needs to cease to do the things that have made him sick, and to learn to do the things that are conducive to health. That is the most important thing of all. A man has tobacco heart because he has been smoking. He must stop the use of tobacco absolutely. What would you think of a man who turned over a new leaf to be a better man, who had been a wicked man, had been a thief, and had been a burglar and a highway robber, a pickpocket and a sneak thief. Now, this man says, "Now, I think I will reform; I won't break into banks any more; I won't rob men on the highway any more, won't shoot anybody. Pickpockets have a kind of harmless practice; picking pockets does not hurt anybody at all; I will slip up into a crowd and get a man's pocket book out, and he will scarcely miss it, and it will do me a great deal of good; and I am going to be good now, I am going to taper off. I will pick pockets for a while, then by and by I will be a shoplifter, and after while may be I will stop altogether." Now, what would you think of a man doing that sort of thing? Yet, it is just as sensible and reasonable as for a man to say, "Now, I have been smoking twenty cigars a day, and I am satisfied it hurts me, but I will stop smoking so many cigars, and smoke only three." It is the same sort of thing. Tobacco is a thing that has no good in it; it has evil in it, and nothing but evil. The nicotin in tobacco is a damage to the heart, and a damage to the body, every single particle that enters the body. A man who wants to recover from illness due to tobacco must cut it absolutely off. It is this sort of thing.

A man is away down in the water; he has got a weight attached to him, and the weight is holding him down. He is trying to hang onto his money bags, perhaps, and they hold him down in the water, and he has not got a great length of time to meditate about that; but he will say to himself, "Now, had I better let go of some of this money so that I can rise?" Of course, the more money

he lets go of, the better chance he has to rise to the top. He lets go of enough so that the top of his head gets out of the water; his eyes are out of the water, but he hangs on to just enough to keep his nose under water. He is just as bad off with his nose under water as though he was clear down to the bottom. He is just as certain to drown as though he was 100 feet under the water. He must get his nose out of the water. That is the man that smokes one cigar; or the woman who has been accustomed to tea and coffee, that takes just one cup of tea. It is just as bad to take strong tea as it is to smoke cigars. It is not quite so bad for other people, perhaps, but it is just as much a sin, infusing poison into the body, taking into the body something that interferes with the working of the delicate machinery of the body, and it is just as certain to do damage.

I met a lady the other day who was only forty-five years old, who had a blood-pressure away up to 170 at 45 years of age, and she said, "How did I get that?" I said, "What have you been doing, eating a great deal of meat?" "Oh, no; I don't like meat, and very seldom eat it." "How about tea?" "I like tea; I am very fond of it." "How much do you take?" "Well I drink considerable tea. I like it pretty strong, and I take generally two or three cups at a meal, and sometimes a cup of tea between meals." That is not an uncommon experience. Some little time ago I saw a note that a lady in Massachusetts had been sent to the insane asylum because she drank such strong tea. She had become insane from drinking tea. She kept the teapot on the stove all the time, and took a kixx cup every few minutes. It was simply a narcotic poison.

Down in New York there was a large factory, and one of the doctors who had charge of the factory told me the experience. The girls in this factory got into the habit of chewing tea, and the doctor noticed they had peculiar spells; every little while a girl in the room--a cotton mill--would suddenly fall down with spasms. It got to be an epidemic among them. They did not

know what to make of it. Every little while some girl would be falling over onto the floor. They found on investigation that about two thirds of the large number of girls employed at the factory had gotten into the habit of chewing tea. They took it to the factory in their pockets, and kept chewing tea all the while.

The story is told of a couple of Irish girls arrested in Boston for being drunk and disorderly. They got very disorderly, were arrested, and in court they proved that they had not taken a drop of alcohol, but they had simply been chewing tea, and the tea had brought them into this condition, so they were just as bad off as though they had taken alcohol.

This question is, my friends, a fundamental one; it is exceedingly important that every sick man should know why he gets well, and how he gets well so that he may know how to keep up this curative work. If the disease is a thing we must jugulate; if these processes are something we must stop, then it is all right to swallow the antipyrin to destroy fever, popium to cure pain, and some other drug to cure some other symptom. That is the plan that is usually pursued. That is the plan the patent medicine vendor operates upon. All these widely advertised nostrums are ~~advertised~~ operated on that plan. There are a few anti-parasitic drugs like quinin for malaria, and like some things for tapeworm and other things of that sort. Those, of course, are rational remedies; they kill the thing that is making mischief in the body, but they are remedies that destroy symptoms which are the result of natural processes within the body, and are damaging. They are not to be relied upon; they do not cure, but they destroy. They interfere with the processes by which a cure is effected. It is important for us to know this, and to know that the way for us to recover, especially in chronic diseases, is to stop all the things that make us sick; then earnestly go to work to co-operate with the powers that are

working in us to heal us.

One thing more: We must have faith in ourselves, as I said before. It is a good thing for a sick man to have faith in God, to be able to look up to that higher power, that Power that made us, the Power that created us, to look up and have faith and confidence and hope and belief that this power that made us has power to heal us; the same power that created us may also heal us; and if we do our part, we may expect that this great beneficent power that cares for us night and day, that provides for all of our momentary wants,--this Power will accomplish for us everything that can be done. Now, I find so many sick people that are afraid; a great many sick people are timid; they are hesitating. A great many of you came to the Sanitarium and said, "Doctor, do you think you can cure me?" I remember that anxious look upon so many faces, and when I said "Yes, certainly you will recover; just as sure to get well as the sun is shining," what a changed expression I have seen come over the countenance of a good many people that I have been talking with in the office, because I saw there was hope coming into the man's heart.

Now, my friends, the basis of my hope for your recovery is what I have just been saying to you. There is a power that is greater than I that is able to heal. I can not heal you; I can not cure you, and this institution can not cure you; but there is One who can cure you. The power that made you can cure you. That is not a new idea. Moses said to the Children of Israel, "He is thy life." That is the motto of this institution. Come in at the front door and look up at the glass on the opposite wall, and there you see it--"He is thy life." That is the motto of this place. That is a very old thought. It is not a modern one. Moses presented that to the Children of Israel. God said, "I am he that healeth thee"; "I am God that healeth thee." It is

God that heals. In the 103d Psalm, you will find the same beautiful language,-- "who forgiveth all thine iniquities, who healeth all thy diseases." This is not a modern idea, as I said, not a modern notion. The Christian Science philosophy inculcates the notion not only that God heals--that part of it is correct; but it goes a little further and says we are God, or at any rate, that we have power to heal. That is where the mistake comes in in Christian Science--that a man has power to send forth from himself healing potency. No man on the face of the earth can do that. That is fallacious; it is the fallacy of Christian Science, and it is a very great and damaging fallacy too--to claim that any man himself has power that God only has; that man has power to heal; that Mrs. Eddy has power to sit in her luxurious quarters and send out healing potency that will heal other people. Why doesn't she, if she has the Christian spirit in her, why doesn't she heal all the sick in Chicago? I said to the Christian Science convention in Chicago some years ago, "Now, you are trying to convince the world you have something genuine. Now, let this whole convention set themselves to cure all the people in Chicago by means of absent treatment, and if you succeed you will be doing something that will convince the world of the genuineness of your claims." The Christian Science prospers because of the potency of the psychic influence, the potency of hope, the potency of the hopeful state of mind. That is what makes Christian Science prosper so as it does. When I was in Boston the other day I saw the great temple they have just put up and dedicated. The people were gathering in, the building was being decorated for the occasion, and within a couple of days it was to be opened up, and there was to be a great dedication. It is said that that great temple is the most gorgeous building in all Boston, dedicated to the temple of Christian Science. The whole thing in

it is this psychic influence I was telling you about. There is this great fallacy in it--that one person has a power to heal another. That is absolute fallacy. There is no power to heal in it; there is no potency in it, and no ability to heal.

The only healing power there is is that power which is operating within us, maintaining all the processes of life, and that power, whenever there is anything going wrong, sets to work to cure that thing and to do it in the most intelligent way possible; and it is our duty to co-operate.

Now, I wish that every man and woman in this institution might have absolute faith in that Power. That is the really best hope. There is One who can heal you, who has power to heal you. There is One to whom you can go who has power to help you through means, not by arbitrary methods, for that is inconsistent. God works through means. Here we are trying to carry out in our methods here, the natural method. Why? Because the natural method is the divine method--not because it is a fad--that is, not because we are devoted to that theory, but because it is the only true method; it is the divine method, it is the method which God himself used when he made man; so we are endeavoring to work in harmony with it.

Now, put yourself in harmony with God, my friends,--in tune with the Infinite, as Mr. Trine so beautifully puts it--in tune with the infinite Power; and when you come to be in tune with the Infinite, then you have all this infinite power beneath you to help you, help you and heal you.

I thank you for your attention.

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TALK TO WOMEN

A Stereopticon Lecture At the Sanitarium Parlor, Battle Creek, Mich., Tuesday,

July 31, 1906, at 8:00 P. M.

By

J. H. Kellogg, M. D.

I almost feel as though I was getting into a dressmaker's establishment. I hope tonight you will be as merciful and gracious as you can be, considering that doctors are privileged characters any way, and can say hard things sometimes when other people would not be allowed to.

In the first place I am going to tell you that I believe that women are responsible for more of mischief, of disease, and the evils that the race are suffering from than are alcohol and tobacco put together. Unwittingly, certainly not purposely and intentionally. Women have become accustomed to hearing themselves called the weaker vessel, and have become accustomed to considering themselves as the weaker vessel. "Oh, I am only a woman; what can you expect of me. I am expected to be an invalid; I am supposed to be sick and weak because I am a woman." If there is anything to be done, we must go somewhere and hunt up a man to do it. Now, that is the attitude of mind, I fear, of a great many women--not in this audience, I know; I am speaking of women at large,--not of this present audience.

There is a good reason why women are called the weaker vessel--because they are weaker; but with an equal chance, why should woman be weaker than man? Why should woman be an invalid? If you attend a medical convention and attend a dinner which is sure to be given, some time during the convention,--a big banquet, one of the usual entertainments, there is always cer-

tain to be one toast there that rarely fails to put in an appearance,--"Woman: God's best gift to man, and the chief support of the doctors!" Certainly if it were not for the medical treatment of women, the great majority of doctors would have to go out of business. The care of sick women constitutes three quarters almost, I might say nine tenths, of medical practice; and these invalids are of such character as ought not to be, ought not to exist, because of the defects in dress which women are guilty of unknowingly, unwittingly, ignorantly. The race is deteriorating and degenerating, and one of the chief marks of this degeneration, one of the most certain indications of it, is the deterioration of woman herself; the depreciation of woman herself.

Now, this depreciation is going on at a fearful rate, and it is strange and alarming that women do not appreciate it and recognize it more. One of the most certain indications of the depreciation of the feminine portion of the race is the increasing number of women who are not able to nurse their children. Dr. Ethan Allen some years ago obtained statistics upon this subject in New England. In 1850 he studied that thing. In 1850 there was scarcely a woman to be found who was not able to nurse her infant; but in 1883 nearly half the women of New England were unable to nurse their infants at all. Why? Because they were degenerated women. A woman who can not nurse her child is a degenerate woman. She is physically degenerate, and her child will have the same mark of degeneracy upon it, if it is a woman child.

Women who can not nurse their children nearly all have one of two things in their heredity--a mother who could not nurse her child, or a father who was a drunkard. Bunge has shown that the use of alcohol on the part of men is responsible for about half the cases in which women can not nurse their children. Alcoholism is the cause of the degeneracy which leads to that thing. Bunge, the great physiologist of Basle, published not very long ago an article upon that question, and it was extremely interesting. He showed that in 100

women who could not nurse their children, nearly half had drunken fathers, and about one third had mothers who were not able to nurse their children; but it is degeneracy in either case--whether it came from alcohol or some other cause--it is degeneracy.

Now, what are the causes of this degeneracy in women? Doubtless one cause is the neglect of physical development. My mother when she was a girl took the wool from the sheep's back, after my father had sheared the sheep,--my mother took the wool, washed the wool, carded it, or teased it, spun it into yarn, then wove it into cloth and made the garments for my father and my brothers, and for me when I was a little chap. My mother brought up a family of seventeen children. There were ten of them her own, and seven of them were the children of her predecessor, for there were two crops in my father's family. My mother was a sturdy woman, but a strong woman. When she was a girl of seventeen, she rode forty miles through the woods on a bridle path to go to a school she used to teach. She was a pioneer. Now, how many women can do that nowadays? I am sure there is not one of her daughters can do it, not one of them; and none of her granddaughters could do it. Women no longer use the loom, and no longer use the spinning wheel. The large majority of women no longer even cook. The majority of women don't do much in the way of housekeeping. They walk about with a carpet sweeper instead of using brooms; they use a washing machine instead of the laundry. So machinery has relieved women of a great amount of tedious work which was not wholesome for them in that respect but was a blessing, but the great number of machines have deprived women of the opportunity for muscular work, so they are deteriorating, and largely for lack of exercise. Now, they are not really deprived of it, because all of these things which have relieved women so much from drudgery give her the opportunity

to get outdoors for exercise. The bicycle was a blessing as long as it was a fad, but it was served as a fad instead of a serious mode of exercise, and it passed away in a short time, which was a great misfortune. The bicycle did a whole lot to emancipate women from the trammels of fashion. They could not ride a bicycle with corsets on, or with fashionable clothing on. Woman is not necessarily a weaker vessel. There was a time when she was not a weaker vessel. There is no reason why she should not equal in strength a man of her own height. At the present time the average woman has just half the strength of the average man. Here in this institution we have tested the strength of nearly 30,000 persons,--nearly 50,000 persons, including men and women. This large number of persons whose strength has been tested, showed that on the average women have half the strength of men--just half. This has not always been so. One hundred years ago there was an expedition up into the Northwest Territory, and the leaders of this expedition employed some Indians away out there in what is now Washington to go with them exploring a certain river away out in the wilderness of the mountains. As they were about to start, the leader of the expedition said, "Now about this baggage; who is going to carry this baggage? There are no ponies, we will have to have some stout young men." Said the old chief, "There is no man strong enough to transport this baggage; we will have some squaws do it." So some squaws were employed to go along with the expedition and drag the baggage over the ground. It was done up in skins, and rawhide ropes fastened to it, slipped over the shoulders of the squaws, and they dragged the loads behind them to the satisfaction of the explorers. Some women are doing that still. Twenty years ago in Paris, I saw three women hitched to a cart, with harnesses upon their shoulders, pulling a cart full of rubbish that had been gathered up; and the man was driving that three-woman team. I saw in another place a woman hitched up with a

dog pulling a cart. The woman pulled in front of the cart, and the dog underneath. I saw in southern Italy, a woman and a cow pulling a plow together. Not very long ago I met a German woman and her daughter. They had suffered physical injury, particularly the young woman, and on inquiry, I found that in Germany her father had required her to pull the plow,--her and her other sisters. The sisters had been hitched together, and had pulled the plow alone.

Women work in some places. I do not defend that as the kind of exercise women ought to undertake, but those women were strong, or they could not have done it. Dr. Zerner, an explorer in the Alps, some years ago found himself down in a deep valley collecting a large amount of geological specimens. He wanted a porter to carry the specimens out for him. There was not a carriage or even a donkey road--no road over which a four-footed animal could travel. There was nothing but human beings there, and everything that came into or went out of that valley had to be carried by human beings. His specimens were all nicely arranged in boxes which weighed somewhere from 150 to 200 pounds, and he said he must have a porter to carry the specimens. The men with whom he was talking looked at him dismayed, and said, "There is not a man here who can carry such a heavy weight as that. If you want that weight transported, you will have to get a woman." So a woman came along, the box was lifted on her head, and she carried it over the steep mountain paths, and landed it safely on the other side with no damage to the box or to herself.

In Naples, some twenty-three or twenty-four years ago I saw a couple of men tugging away at a great, big case on the pavement. By and by three men lifted it up, and I expected to see them marching off down the street; but instead of that they lifted it up, and a little Italian woman marched under the packing case, and it was balanced upon her head, and away she went, all alone,

with nobody near her; she trudged off down the street with that great, heavy packing case on her head, and left those men behind.

When Tasmania was discovered, the women were altogether the most active, nimble, and vigorous people on the island. They were just as large as the men, and that included nearly all the savage tribes. The Mongolian women are about the same size as the Mongolian men. The natives of the southern part of this continent, the tallest men in the world--the women are nearly as tall as they. In Tartary the men and women are of equal size and equal strength. It is said the women are so homely you can hardly tell a woman from a man, they are so vigorous and masculine in appearance. It is only by dress you can distinguish them. Their features are exactly the same; they are equal in size with the men, and this is true of most savage nations. In one of the tribes of the Congo, the women are more vigorous than the men. They do the hunting--go out in the forest and catch the wild beasts, and destroy them, kill them; collect the cabbage palms, the dates, and wild fruits that are growing, and everything they need for food; they cultivate the gardens, and the men stay at home and make the dresses, etc., and take care of the children; and if a woman can show a neglected rent in her garment, she can get a divorce from her husband.

There is no reason why women should regard themselves as the weaker vessel. Women feel that they have not equal rights, and the reason is they have allowed themselves to deteriorate physically, to run down, become degenerated so that they have to live a sort of parasitical life, as, don't you know, many, many women do; and they have not the physical vigor. They feel that they have not the physical vigor to care for themselves, and they must have a preacher,--some one to care for them, to be a guardian to them, a father to them; so they recognize their weakness. Now such women will always be in the condition of

being almost chattels--not quite. In heathen lands women are chattels. In Africa women are sold. In Egypt, women are sold. If a man wants a wife, he buys one. A man told me some time ago he would inherit his father's property; he was going back expecting to inherit his father's property. I said, "Of what does it consist?" Well, so much cattle, so much land, so many houses, and 200 wives. I said, "What in the world will you do with your father's 200 wives?" "Oh," he says, "I will sell them, of course, and buy some more." This custom does not prevail exactly among civilized lands, yet women are almost chattels in civilized lands, almost. How many parents really sell their children! How many mothers put their daughters up, put them up on exhibition for sale to some foreign prince or some foreign lord, or titled man, or somebody who has money? You know it is not an uncommon thing. It is a more discreet, insidious way, but it is the very same thing exactly. This thing would not exist if women had more power, more vigor, physical vigor, more physical ability, and more endurance, the amount that they are entitled to. But as it is, women are degenerating and deteriorating so that, as I said before, half the women of New England can not nurse their children. That was true in 1883. Since 1883 there must have been a still greater change for the worse, so that at the present time, it is hardly to be believed that half the women of New England can nurse their children.

Men are getting to be millionaires in the manufacture of infant food. What are all these great factories of infant food for? Not one of them should exist. It is because the maternal fount has stayed its flow; mothers have become incompetent to furnish food for their children, and chemists, and commercial men who have no idea but money making, have gone into the business of making food for babies. This is certainly a most extraordinary state of things. In large cities there are places where cows' milk

is modified, and carts go around and peddle modified milk for babies whose mothers are not able to provide them with their natural sustenance. We are certainly getting into a very degenerate state. Every savage woman is able to nurse her child, just as every cow is able to provide for her calf.

The cow mother provides the natural food. The human mother has become so degenerate physically that she can not. There is something more to that. This thing means more than simply inconvenience for the child that is not properly fed. The child that has been fed on artificial food has only one chance to live where the infant fed on natural diet has six chances to live. Isn't that a serious matter? The mortality of bottle fed infants is six times as great as that of infants that are breast fed. Isn't that a serious matter? What will ~~you~~ I say, then, to the mother who refuses to nurse her child, if she can? If her child dies, she has murdered her child, by refusing to give it the food that belongs to it. Cow's milk is not adapted for human infants; it is adapted for bovine infants. A baby cow or calf is properly fed on cow's milk; but cow's milk is absolutely unfit for human infants. It is a deadly thing unless it is modified in some way to make it more safe.

Right along that same line, we find another thing. Dr. Ethan Allen some years ago pointed out a most alarming, and that is, that while the average number of children in French-Canadian families, people who live in a simple, more natural way, where the women work and are strong like their husband's, the average number of children is four to five, whereas ~~the~~ average number of children in New England families is only one and a half. But now go back one hundred years, and you will be amazed at the long list of children. You do not find such a thing there now as a family with ~~xxxx~~ ^{no} children; you won't find it. If you look into the old genealogies you would not believe there was such a thing. If there was, you would not be here. There would not be

that book; there would be no genealogy. That is the end of that line. But you will be surprised to find the great number of children. I was going back in my own genealogy a day or two ago,--a gentleman came here, a Kellogg, and he wanted to look over the Kellogg books. Five generations ago his ancestor and mine were half brothers; so we were related. As we were looking it over, we were very much interested in noticing that very thing. There were families with seventeen children, twenty children, twelve children. There was rarely a family that did not have at least eight or ten until you get down to the last fifty years. Since the last fifty years there has been a tremendous dropping off. Scarcely any family in the last fifty years has had more than five or six, and a great many of them have had only three or four. There is no question that the reproductive power of the race is tremendously weakened amongst civilized people, and this is one of the most certain indications of race deterioration and of race degeneration. For this thing women are not altogether responsible. Alcohol, tobacco, and civilized living, getting far away from Nature,--all these things are responsible for it. But women have been very largely responsible because of their neglects of physical training, physical education,--a very important thing.

Now, I will show you some pictures and let them talk, and I will talk too. Notice the proportions of this figure, and recall the fact that you never saw an undraped model that did not have a good, large waist. Imagine that woman wearing your own corset, perhaps. Think of the ordinary fashionable woman, as she walks along the streets. She doesn't have that kind of waist, does she? It is round. This represents the idea of the ancients in relation to the shape and the size of the woman's waist. I carefully measured the originals, or very exact copies, plaster casts of the originals of the Venus di Milo, and the Venus di Medici, and a large number of them, and I find the proportion

is 47.6% of the height. This proportion is very different from the proportions of most of you. Suppose, for instance, a woman has a height of five feet six,--66 inches, what is the size of her waist? What is the average waist? The average woman's height is 64 inches. Now, what is the waist measure for the average woman? About twenty-four. Now, twice twenty-four would be 48, and that is just four feet. The average woman has a waist measurement for a four foot woman, and she may be six feet tall. It doesn't make any difference how tall she gets, the waist doesn't get a bit bigger.

Some years ago I was passing along the street in Washington, D. C., and I saw a sign up, "Dancing School", and a whole lot of little girls, ten or twelve years of age, were going up. I said it would be awfully nice to see how large the waists of those little girls were, and I thought I would go up and measure them. I found the average waist proportion of those little girls to be twenty-four inches. One of them was 26, and one was 22, and scarcely one had a waist smaller than twenty-two, and the average was 24 inches. When these little girls grow up to be eighteen or nineteen, their waist measurements will be found to be no more than 22. I afterwards took waist measurements of little girls from twelve to fourteen years, and I found their average waist measure to be 26 inches.

Dr. Anna Wooden of Wellesley College sent me some years ago figures of 1100 girls, and she found the average waist was $24\frac{1}{2}$ inches. How did it happen that those girls who had a waist measurement of 26 inches when they were fourteen and sixteen years of age,--how did it happen the measurement was only 24 when they were older? How does it happen the waist gets smaller? Here are some milk maidens, and not one of them has a small waist. Women have naturally a larger waist than men. Men have a waist proportion of 45.6%,

while women have a waist proportion of 47.6% of the height.

Look at these Congo girls, daughters of a king. The string that supports their garment is just above the hips, and at this point the compression can do no possible harm. Up here is where the mischief is. See what splendid figures they have, and what strong, well developed trunks. But you say they look like athletes. I want to tell you, my friends, the duties of a mother require athletic strength. No mother is prepared to go through the perils of maternity safely without good muscular development. Nine tenths of all the difficulties women suffer from as the result of child bearing come from lack of proper physical development and would be obviated by good muscular development. I was very much struck some years ago when I met a woman who was a performer, a barebacked rider in a circus. This woman continued her exercises, one of which was to spring from the ground upon the back of a flying horse, a horse going around the ring, as fast as it could go,--she continued these performances until one week before her baby was born--till three days before her baby was born, and in a week was back again, doing the same thing. She didn't suffer a particle in consequence, not a particle.

Some years ago I investigated the brick-making women of Leigh, in the Black Country of England, some thirty or forty miles from Birmingham. I found they were almost strict vegetarians, rarely ever tasted meat, had a soup bone on Sunday, and meat of some sort on Christmas, and once or twice a year, but rarely ever tasted meat at all, and they lived on very simple food and worked very hard making brick; and they knead the clay by hand just as a woman kneads dough; and I saw a woman tossing upon her hands a great mass of clay, and I thought it must be very light. I said, "How much does it weigh?" She said, "Try it." I put it on the scales and found it weighed sixty pounds. That woman

was all day manipulating that mass of clay, tossing it upon her hands, working it around, working it first one then another; and when she had finished that, she gave it to some boys who put it in moulds and carried it off. One woman had been there in the brick yard ever since she was a week old. Sue was forty years old herself, now a mother, and she worked there in the wet, without any harm; never dropped it on any occasion. I asked two doctors in that region what the women in that region suffered from. "Oh," he said, "they suffer from nothing." He said, "I have no business here whatever except obstetrics and occasionally an accident."

Notice this strong, well developed figure; notice that ~~XXXXXXXX~~ dress. That would not constrict that figure at all. Here is a Japanese girl. Notice her loose garments--just a little sash around her waist, nothing to restrain her movements. Here are some Korean women with loose gowns so that their limbs have perfect freedom of movement, and their gowns are not ungraceful. We very often see in this country some of this fashion. Here are some more Congo belles. See what beautiful bodies those are--what splendid curves. Those women are just as healthy as squirrels. They are very particular about their gowns, and are just as modest as anybody who wears more garments. They would feel terribly to leave off a single one of those royal garments; they would feel that they were undressed. Here are two Moorish women. See their splendid figures and splendid faces. The marks of health are on their faces. They have a sash about the waist, but no waist constriction. Their limbs are modestly clad by their skirts, and they are really beautiful specimens of womanly vigor. Here is a Dyak--the same sort of ~~XXXXXXXX~~, really--no waist constriction. This woman has a perfect form, and splendid development. Here are some Siamese girls--the same opportunity for splendid development, the same evidence of strong, vigorous forms, and splendid endurance. Here are

two German girls, the one with the bodice a peasant girl, but the bodice is on the outside, not the inside, and is not drawn very tight. The peasant woman never wears that sort of thing when she is at work--only when she goes to town, puts on her best clothes, simply for show, and not for any other purpose.

Here is a little girl fully dressed up. She lives in a climate where there is no cold, no frost, and she has on all the clothing she needs. You see the figure here,--the waist and shoulders, and the hips. In development, the hips, shoulders and waist will all develop symmetrically if they have a chance. The civilized mother takes the little girl when she gets a little older, puts her into a shape, a form. The dressmaker says to the mother, "Mrs. Jones, it is time to begin to shape the figure of your little daughter; she is developing, and we must begin now to shape her figure." To what model will the figure be shaped? To the latest fashion in corsets. Didn't the Almighty know how to make the woman? It is not the Almighty's model, it is the fashion maker's model to which that little girl must be shaped so she grows up in a form like a cucumber in a bottle. The constriction of this form is right the waist, because this part can be more easily constricted. The parts here can be forced down out of place. Here is a German girl that has been undergoing that very process. There is the waist line. Nature never made a waist line. It is the dressmaker, the corset maker that makes the waist line. This is a waist furrow created by the bands of the clothing, skirt bands and corset compression,--wherever you find that furrow. If you have got such a furrow, yourself, it is a deformity; it is an evidence of waist constriction of a most damaging character. If you pick up a little flesh here you find it is nothing but skin. The pressure upon the fat has caused it to absorb, disappear, and your finger leaves a furrow, a crease under it.

Here are some men of the Solomon Islands. See what splendid great development, and what great men these are. The women are just as strong and

vigorous as the men. What wonderful forms and figures they have, because they have strong mothers. The mothers have splendid development.

Now, here are some little Indian girls, of the Pueblo Indians. They live in the mud huts in which their ancestors have lived for hundreds of years. They are arranged in terraces, and these women are living in their primitive states. They have their loose garments, but they are trying to become civilized. These women are constricting the waist. This girl pulled off the bandage so that I might take the measurement; and she took off eight or ten feet of bands she had drawn up just as tight as she could possibly make it. I am sure that is a practice which has recently been acquired from contact with civilization.

Here is a splendid figure of statuary. You see here the old time clothes that clothed the ancient Greeks and ~~xxxxxx~~ the style ~~xxx~~ of dress of the ancient Grecian women which gave them opportunity for splendid development; which gave us those magnificent models of the Venus di Milo, and the Venus di Medici. If an artist wants a model for a perfect figure, he must get a leg from one, an arm from another, a head from another, and a waist from another woman.

Here is an Arab woman with a simple loose dress, and a splendid figure. Here is a Japanese woman taking her bath, and you see what splendid development; no evidence of waist constriction here at all; no possibility of it. Splendid figures all. And I found there a woman who was bathing; the artist was making drawings of her, and he was a friend of mine, and he invited her in and I found this woman had a splendid figure. I noticed there was no waist line at all. The young woman was twenty. I said to her, "Do you wear a corset? Do you wear your clothing tight?" "Oh, no, oh, no, I never wore a corse, and I never wear my clothing tight." "Why not?" "Because," she said, "the artists tell me it would spoil my figure." I inquired about that of the artist,

"does your wife wear a corset?" "Oh, yes, she wears a corset, because she has to dress according to fashion, to be in style." He didn't care about that, but his model's figure must be preserved, so she must not wear a corset.

Here is a masculine figure, and here is the feminine. Here is the broader chest and the larger shoulders. Here is the smaller waist, and the smaller spinal column; for woman is slighter than man, as every woman is; but you see there are the same convex lines and concave line behind, and convex line in front. The woman is a little more concave behind, while the anterior convexity is about the same. Please notice that. There is no waist furrow in the normal woman. These outlines were made from living people, and I have made hundreds of them. Here are two outlines I have made. That is the conventional shape of the woman who has worn the conventional clothing until her muscles are broken down. What is the cause of this shape? It is simply because the stomach, liver, spleen, kidneys and things have all dropped down here where they don't belong. When these women straighten up, there is an ugly curve there that don't belong there, which exaggerates the opposite dorsal curve. Here is a pouched abdomen which is absolutely abnormal; Nine tenths of all the women who have worn the ordinary, conventional clothing until they are thirty years of age have got that form. This is a young woman, a school teacher who came here and was just as miserable as she looks here. She was miserable. At the end of a year, this woman had that figure, as a result of swimming, gymnastic exercises, training exercises to develop the abdominal muscles by which these intestines that have fallen down were pulled up into place. They were shortened by vigorous exercise until the woman was straightened up into this shape. She looked so vigorous and so happy that she got married, and remained happy, I am glad to say. She became a physical culture

teacher.

Now see the skeletons of those two women, women who have worn the conventional dress, whose bodies have been deformed. Here is the convex line that belongs to the figure in front, and here is the concave line behind. Here is a figure which has been broken down by compression at the abdomen, compression of waist bands with corsets and stays, etc., until there is a concavity in front as well as behind. All the vital organs of the body nearly are above this point. The organs which are above this point, which lie below the diaphragm, which runs right up here,--this point and the organs which lie there are the stomach, spleen, two kidneys, the liver, the pancreas, and the colon, the transverse colon. The transverse colon is not away down here. The middle third of the colon lies above this line. When the waist is constricted or compressed, it must go down. In this figure, the ribs are straightened out; in that figure they are bent in. The liver is prolapsed, the kidney becomes movable and by and by becomes floating; and here is the cause of dilatation of the stomach. Prolapsed bowels, movable kidney, cystic kidney, painful kidney, stones in the kidney, gallstones, intestinal catarrh, gastric catarrh, besides all the five or six disorders, so-called feminine disorders--disorders peculiar to women, are the outgrowth of this mischievous condition resulting from the compression of the abdominal wall, the weakening of these walls.

Now, you see here are figures I constantly obtain in the examining room. When I was studying this question up a few years ago, I didn't know very much about it. I went west and studied the Indians. I studied the Japanese and the Chinese women, and other women; and I studied the Mexican women. I studied Egyptian women, women of all nationalities that I found in Cairo, and I made measurements and studies of these women for the purpose of finding out what is the natural feminine form.

Here is the outline of a healthy woman. That same woman had this figure when a corset was put upon her. She was broken in at the front, you see. You can hardly find a woman who wears the ordinary, fashionable clothes that doesn't have a worse figure than this one here, or one as bad as this. That woman was a good, strong woman. This is the figure with the corset off, and this is the figure with the corset on. They get the same outline sometimes from doubling up in sitting, breaking down the dorsal curve and developing the abdominal cavity in front. This man in the course of three months' training, reduced his transverse diameter just four inches. That is a very common outline indeed. The majority of people who are chronic invalids have just this kind of outline. You see the cavity in front, and the straight back; here is where the stomach should be, and here is where it is.

Now, look at these figures. You don't want those figures, do you? This woman said her waist used to be too large. She had fever and ague, and her waist was big because she had a big spleen. She asked a friend what to do, and the friend said, "I had the same thing, and I put my corset on just as tight as I could in the morning. Then at night I tightened it up some more, and kept it on all night. The next morning I tightened it up some more and I kept right on until I got what I wanted." "Is that so?" she said. "Then I will try the same thing." She did, and after six weeks she said, "I felt something pop one morning, and this thing has been rolling around in my abdomen ever since." I thought it was a fibroid tumor, and thought I should have to remove it, but one day it was on one side, and the next day it was on the other side. This was a ~~great~~ girl of sixteen. Her mother declared she never wore anything tight in her life; she didn't allow her to wear anything tight. I measured her chest over her underclothing, then measured her again with all her clothes on, and she measured two inches less outside of her clothes than over her under-

clothes. When all her clothes were on, she measured two inches less than when her clothing was removed. Here is where the kidney ought to be, and there is where it was. Here is where the uterus ought to be, and there is where it was. The stomach was away down there. That girl was an invalid for life because her mother permitted her to do this. This man's stomach was off here. We straightened him up, and he got well. This woman wore a health corset, which is an invention of the devil. Her stomach was here, and it should have been up here. Now, you see exactly what happens when this constriction has been working for years. It breaks down all the body, then the abdominal supporter comes in.

You also see the effect of the high heel. It brings a strain upon the back in order to balance the body, and it is a constant source of nervous irritability and weakness. This is a woman with a weak waist, a broken down invalid. Here is that same woman when she got well as a result of training; she had this outline. This is a young woman who never wore anything tight. She had worn a health corset. There is where her stomach was. A small amount of waist constriction, anything that weakens the strength of the abdominal muscles will rapidly break the body down. Here is a woman with a straight figure, but she is going to town, so she must wear a corset, you see. You see the shape of it there, the constriction of the waist results sometimes in terrible mischief. I have seen these peasant women who have acquired the habit of constricting themselves in this way with these organs, almost outside of the body. In Germany where I was, the women get erect figures from carrying things on the head, and that part of it is good.

See these beautiful undraped figures. No artist would ever dare to make an undraped figure with a little waist. Now, compare these waists with those I have just mentioned to you. These are pictures of costumes copied from

from fashion magazines in the year 1830, from the Woman's Journal. See how much we have improved. This is from one of the latest magazines, copied directly from a fashion magazine. You have seen that thing, and the fashion magazines have vitiated the tastes, have put wrong ideals into women's minds until the average woman thinks it is necessary to have a small waist. There is no objection to the straight front corset, but the objection is to the waist compression below. The waist compression is in the highest degree vicious, atrocious and diabolical, absolutely destructive to health. A woman can not be otherwise than an invalid whose waist muscles have been weakened by these abnormal habits of dress. Where is there any room for this woman's stomach, liver, colon, spleen, pancreas, and kidneys? Echo answers, Where?

Well, now, see these organs. Here are these great vital organs in this part of the body,--the bowels, stomach, liver--all these great viscera, with millions of nerves and blood-vessels, all lying about this part of the body,--one of the most delicate parts of the body where the most vital processes are carried on, where the chemistry of the body is conducted, where the great chemical laboratory of the stomach and intestines are located. The liver is another great chemical laboratory. When these parts become diseased, reflexly every other part becomes diseased, the nutrition fails, and the whole body falls into decay. These organs lie right in the waist line. The colon lies above the waist line. These organs under pressure become necessarily diseased. Notice these large vessels here. They have thin walls, and there are so many of them here in the abdomen that they are capable of holding all the blood in the body. The only thing that keeps the blood ~~from~~ of the body from all running into this great venous, splanchnic lake, the only thing that prevents it is the pressure of the abdominal wall. When the pressure of the abdominal wall is removed,

these fill up with blood and become gradually more and more distended and hold more and more blood, until a large part of the blood in the body is gathered here into the abdomen. That is the reason why women have backache. They get too much blood in the head and the head aches; they get too much in the abdomen, and the back aches. If the accumulation of blood is in the pelvic organs, that is the lower part of the back--that is higher up, chiefly it is in the middle of the back. These pains are very rarely kidney pains, but it is headache in the back. It is produced in the same way. Too much blood in the brain will produce headache. So this accumulation of blood produces pain, and it robs the rest of the body of the blood which belongs to it. It is exactly the same thing as bleeding. If you should tie a constriction around each leg so that the venous blood accumulates in the legs, one may faint away from loss of blood. Crile has shown us that that is the very thing that happens when one does faint away--because blood has run away into the abdomen, and there isn't enough to keep the brain going. So that is the reason why the first thing you always do is to loosen the woman's corset so she can expand her lungs, contract the diaphragm, and the diaphragm compresses this mass of muscles, and drives the blood out of them into the circulation, so the brain is revived. If these organs are congested, there is necessarily an anemic brain and spinal cord, so the woman is necessarily a weak woman and hasn't power to think or to act as she ought to have, because of being deprived of blood which should be in the general circulation, which is sidetracked into the viscera here.

Here are the viscera again--the liver, and the gall-bladder; and this accumulation of blood in the abdomen leads to diseases of various sorts, lowered vital resistance, catarrh of the intestines, catarrh of the bladder, catarrh of the womb, catarrh of the kidneys, catarrh of the gall-bladder, catarrh of the

stomach,--these are all conditions which grow out of the lowered vital resistance from the accumulation of venous blood in the viscera. This all comes from weakening of the abdominal muscles.

Here is a German woman whose abdomen has been somewhat constricted, but not very bad; still you can see the furrow made by the band, and that band compressed the viscera and dragged down the abdomen. Here is another normal figure, you see, a splendid, healthy waist. Here is a girl of sixteen, and she has, you see, here, a splendid, normal figure. Why should this figure ever be changed? Why should there be a furrow put in here where God never put it? Why should there be a waist line created where God never made any? The doing of such a thing is a desecration of the body, an invasion of the sanctity of the body.

Here are some more central African girls that have no waist furrows. Contrast that line. You see this becomes the convex line all the way down. Here is another convex line. The expressions of the faces are not very admirable, but the bodies are strong, vigorous, enduring, natural bodies. Here is a girl of North India, with the very same strong waist, no waist line here, no furrow--a strong, enduring little woman that works just as hard as a man. Here she is again. She really has the same endurance a man has. Here is the strong, healthy body of a German girl whose body has never been constricted, has no waist furrow, has never been damaged by abnormal dress. Here is another good strong figure, no waist constriction. Here are some women of Greenland, wearing the same kind of clothes the men do, and they have an equally good chance for development and endurance. It is only among the so-called civilized nations that women are subjected to these tortures. The savage, primitive women would never submit to them. Here are some Zulu girls whose pic-

tures I got at the World's Fair in Chicago in 1893. Here is a Japanese lady in wonderful costume, loose, flowing, simple garments which give ample opportunity for waist development and movement of every organ of the body. Here is a splendid figure that has splendid chance for full development. Here are some strong, hardy figures, of women with strong faces and figures. These are Japanese women, and they are carrying their little ones on their backs. That does them no harm. These are peasant women working in the fields. Here is a German mother. The vigorous exercise she is taking does not do her any harm. So many civilized women who wear the ordinary dress think it is dangerous to reach up, for fear something awful might happen. This man is not afraid to reach up, you see; and this woman is not afraid to toss her little ones about or to do anything else that it comes to her lot to do; she is not afraid of waist constriction.

I want you to look at these again and see what a woman's figure ought to be. These are natural outlines. This woman grew up in a perfectly natural way, naturally as a squirrel in the woods; and that is the kind of outline to have. Women are thoughtful about the shape they have when they are dressed up. They don't stop to think about the effect they have when the body is undressed. It is far more important to have the body right when the dress is off than when it is on. These waist constrictions are not simply a source of deformity to the looks of the body, but they result in all sorts of mischief to the interior. Here are some specimens to show you what these mischiefs do. I have here some fibroid tumors. A very eminent pathologist not very long ago made a statement to a medical society that he believed the congestion resulting from waist constriction was one of the causes of fibroid tumors which are coming to be so very common in women. Here is a dilated stomach. Savage women are almost entirely exempt from these things.

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Lee
Dr. J. H. Kellogg.

At the Sanitarium Chapel, Thursday, August 2, 1906, at 1:25 P. M.

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I think Elder Tenney has said all that needs to be said. I wish everybody could be awakened to take an interest in this matter of Sabbath observance. I don't think it is possible for anybody to lead a religious life without observing the Sabbath. Drop out the Sabbath observance, and you really get to be a heathen. One of the first distinctions between heathen people and Christian people is that the heathen have no Sabbath. They have some days when they worship, but they are more or less irregular; they have no stated Sabbath. God said we should observe the Sabbath, and we can not remember the Lord as we ought to unless we do observe the Sabbath. It is very hard for doctors and nurses and for the Sanitarium to keep the Sabbath; not necessarily so, but it really is hard, because we have a great many necessary things to do on the Sabbath, and doing the necessary things, by and by we forget about the Sabbath and get to doing unnecessary things. It is very easy to slide from necessary things to unnecessary things, ~~ixix~~ isn't it? I never go down to the boiler house and see the men shoveling coal down there, but I feel sorry for them. It must have the effect of lessening their respect for the Sabbath; nevertheless, theirs is necessary work. I can not see any way to avoid that. The Sabbath was made for man, and not man for the Sabbath; so it is not an arbitrary thing that man should suffer; that his wants and vital interests should be neglected in order to observe the Sabbath. That would be abusing the product of God's creation in order to remember the Creation. That would not be right, because man is God's handiwork, and it is our first duty to preserve our lives and health. It is right for us to do anything that is necessary to do on the Sabbath. I met a lady just a few minutes ago who is to have an operation.

ation very soon. She said she didn't want ~~me~~ to do that on Sunday. I said, "You are not going to do it; I am going to do it." She said, "It might be done on some other day." I said, "Yes, it could, but you can not be got ready in time to have it done before. It might possibly be done on the Sabbath, but if we do it on Sabbath, a whole lot of our people would have to be deprived of their Sabbath rest; still, if it is a matter of necessity, I would just as soon do it on Sabbath as Sunday, if it is a matter of necessity." She decided to have it done on Sunday.

The matter of Sabbath observance here is a difficult question, but I think it is our duty, who profess to believe the day is the Sabbath, to observe the Sabbath day. The board of managers of this institution, have got to try to stand on that thing, and see that the workers here observe the Sabbath day, or else they don't stay here. Men and women who profess to observe the seventh day and do not observe it, are to be regarded as not Christians; they are not Christians. Isn't that right? And this is a Christian institution, and nobody gets a permanent place in this institution unless he is a Christian. That is the rule of the institution. People may be employed in an emergency or incidentally to do something, but as a Christian institution, it is our duty to maintain a Christian family. If we are going to do that, when you find a man who backslides, and is no longer a Christian, that takes him out of the family. Then, he is not a man we would take in in the first place, and when he does not possess the qualifications necessary to receive him, that takes him out. Here comes a Christian man who observes Sunday, a Methodist, Baptist, or member of some other church. I said to this gentleman to whom I referred, about Sunday, I said, "We observe Saturday here, and most of our patients who come here rest on Sabbath, Saturday, and recognize the fact that Saturday is the Sabbath. Very

few people at the present time question as to whether Saturday is the true, original Sabbath. The only question is whether Sunday won't answer just as well. Any number of ministers, leading Methodist ministers,--one I had a chat with less than a month ago, said, "Of course, we all know about that; we know Saturday is the original Sabbath; there is no doubt about that"; so there is nobody of intelligence, who understands the history of the thing would question that Saturday is the Sabbath, and the man who observes the Sabbath is all right as far as the Sabbath is concerned; but the majority of people believe that the Christian church can rest on some other day, that God is not so particular that he would refuse to allow people to rest some other day if they rested one day in seven. Many people believe that, and are conscientious about that. Now suppose that those who come here, such persons who are Methodists, Baptists, Presbyterians, and some others brought up to observe Sunday, find it necessary to work on Sunday. The argument they make is this: "Well, Sunday--there are works of necessity; we must work on Sunday; work has to be done for sick people, and it is all right for us to do it." I met a young man some time ago who carried on the argument further than that. He was an engineer on a railroad. No, he was a telegraph operator and he worked on Sunday regularly, yet he was a church member. And there are many such. They said it was work of necessity. I think that is going a little too far. But I am sure those who are working with us, it must be works of necessity, working for the sick, and it is proper to do it.

Now, the question is, what should be our attitude on the whole? When a man works all day Sunday in the bath room, a Methodist or a Baptist, what ought we to do with reference to his religious privileges and service? I think such a man can not afford to lose his Sabbath, and that he ought to rest on the

seventh day if he works on the first day, whether he is a Methodist or Baptist, whatever he may be, if he works on Sunday, he ought to rest on Sabbath. I don't think he ought to be walking around town, doing things of all sorts, spending no time at all for meditation and prayer, Bible reading and Bible study,--he can not afford to do it; his religious life will certainly suffer; and I feel we should be doing harm to the Christian church, in the cause of Christianity if we did not see to it that our Methodists and Baptists and Presbyterians working here in this institution, observe sacred time, give God some time every week; spend some time in meditation and study. I don't say that those persons should recognize Saturday as the Sabbath; but I think they ought to spend some time, if they work all day on Sunday,--they ought to spend ~~time~~ time on Saturday in Bible study; because it is not simply the observance of time; it is not simply that the man rests on Sabbath. A man might sleep all day on Sabbath and not keep the Sabbath at all. A man might rest all day Saturday or Sunday, might sit down and not do any work at all, and yet not be doing any Sabbath keeping at all,--might be simply loafing. Is loafing keeping the Sabbath? That is not keeping the Sabbath, although it is not doing any work. He better be working than loafing. Wouldn't you think so? Certainly he might better be doing some work of necessity, a great deal better than loafing. So I believe we should give some attention to this matter of the Sabbath.

Now, here are our friends who observe Sunday. Here is the opportunity of going to church Sunday evening. If they don't go to church here in the Chapel on Sabbath, I think they ought to go to church somewhere on Sunday evening. If you are a Methodist, go to the Methodist church on Sunday evening. If there wasn't any religious service of my church here in town, I should be glad to go to hear a sermon on Sunday evening at some other church. I would not feel that a good sermon would do me any harm on any evening of the week,--

Monday, Tuesday, or any other time. When I was a medical student in New York, I often went to church on Sunday; went to hear Mr. Beecher, went to hear other people on Sunday evening. I got good from what I heard. Those men were Christian people, and God was using them to teach truth, and I got some truth from them.

We have Sabbath-school here. We are glad to have our Sunday keeping friends come in on Sabbath. Mr. Moody kept the Seventh day as the Sabbath. Mr. Moody worked on Sunday, and every Sabbath was a sacred day to him, as a day of rest. He rested on the Sabbath, kept it as a Sabbath. Sabbath means rest. That day means physical rest, mental rest, and moral rest is the order of the day on Sabbath. Moral and spiritual growth and development are the order of the day. That day is a Sabbath set apart for rest and the service and worship of the Creator. We hope our friends,--we ought to see to it that they take and use a part of their time to make it sacred to Him; they owe it to God. If their time is occupied as Mr. Moody's was, each Sunday doing works of necessity, then rest on Saturday, and take time for Bible study, and for spiritual recreation. We have our Sabbath-school. It is absolutely non-sectarian. The subjects for study are absolutely non-sectarian. I have a Sabbath-school class, and I think there are a number of good people in our class who are not seventh day observers. I am glad to have them in my class. We don't have anything there that is sectarian or denominational. The great Bible truths of Christianity are so much bigger than any creed or any denomination, so essential, those are the things that ought to have first attention. The other things can come in in due time.

I hope you will all think about it and make some suggestions. Respect for religious opinion, freedom of conscience is the first thing we must respect.

Here is a non-sectarian institution, an undenominational institution, and all denominations are represented here, and we must find some way of holding up our spiritual life and our religious life, and at the same time allowing freedom of conscience and freedom of worship--to worship God according to the dictates of our own consciences, but without any sectarian pride or discussion. Let us worship God, and cultivate our souls, and spiritual lives, try to grow in grace, and keep our atmosphere sweet, pure, and spiritual, and I believe we can. How many of you think we can do that thing? Hands up. How many are willing to try to help hold up the spiritual life of this institution without regarding sectarianism of any sort? How many will try to help about that? How many don't want to do it? I wish one hundred more of you would answer this question. How many feel that we ought to hold up the spiritual life of this institution, and keep it as a spiritual, religious institution, and are willing to try to help do that thing,--think we should ought to do it, and try to help about it in such ways as you feel you can? I think almost every single hand in the house is raised. A few hands are not raised. You may have some good reason why, but I hope the Lord will put it into your heart to do that thing, for we certainly all ought to do it.

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OLD AND NEW IDEAS ABOUT DISEASE

A Lecture on the Sanitarium Driveway, Battle Creek, Michigan,

Thursday, August 2, 1906.

8:00 P.M.

By J.H. Kellogg, M.D.

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When the world was young people were not very much troubled with doctors. At the present time every community is more or less afflicted with medical men. They are a sort of necessary evil. The world can hardly get along without them, and yet we would be a great deal better off if there were none and no necessity for any. Dr. Oliver Wendell Holmes said that it would be better for mankind if all the drugs in the world were cast into the sea, but it would be very bad for the fishes. Now some of you know from your own experience the bad effects of casting drugs into your stomach. Certainly the sea is a great deal better place for them.

There is no doubt that a large share of the maladies from which we suffer in these modern times are due to the multiplication of remedies which have been invented in these recent years. We are coming to recognize the fact that there are many diseases which are produced by drugs. I received this very day a letter from one of the most eminent physicians in the United States, a man whose name is familiar to every one of you, sending a patient here; and this letter said "this patient came to me with such and such symptoms which are supposed to be due to a certain disease from which she is supposed to be suffering. But I think her trouble is due to a certain medicine which she has been taking for several months in large doses." If a woman goes from one doctor to another, and from him to another, her maladies will multiply as she

goes along. To start with she had something. She went to a doctor who gave her something for it, and that gave her another disease. The doctor got perplexed, sent her off to another doctor, and he discovered it was another disease, so, in this case, the last doctor sent her here, because here he said "I think your food--your very wholesome and nutritious diet, and your pleasant surroundings and physiologic treatment will assist this lady to get well;" and he didn't say a word about giving her any sort of medicine at all. He didn't mention any.

Some time ago I had a letter from another very eminent doctor, now in charge of one of the largest and most famous hospitals in the East. He sent me a patient and a letter of introduction, saying, "Doctor, I am sending you this patient chiefly to get him away from his drugs. His doctor at home is giving him such and such drugs, and I know it is making him sick all the time, and he will never get well in the world under such conditions, and I advised him to go to you because I know he won't get any drugs there."

I got a letter a while ago from a professor of materia medica in a large college and university medical school, and he said "Doctor, I have a patient who is suffering from neurasthenia, and I am sending this patient to you, because I have for nine years been treating him and he has been getting worse all the time. I have given him all the drugs I know of, and he has got more symptoms now than he had when I began, and I made up my mind that he needs a little physiologic stimulation." Now that is the thing. The doctor got the word exactly right. He needs physiologic stimulation. There is stimulation that is all right. It is a stimulus to eat your breakfast. Stimulants are not all wrong. Some of them are good. But there is a difference between an artificial stimulant and a natural stimulant. There is a difference between a physiologic stimulant and a pathological stimulant. It is the difference between the old and the new.

Now the old way was the right way. People say very often, Well, I don't know I am sure, about trying your new remedies. My friends, we haven't any new remedies. We have nothing new here at Battle Creek. It may be new to you, but it is very old to the race. Go away back two or three thousand years ago, and you find people doing what you are doing here.. Go back as far as you can go, and you will find people used water. Water is the one universal remedy which mankind have always used. It ^{is} ~~was~~ an instinct in the race to flee to water for relief. You don't have to teach your baby to drink. You may have to teach it to drink out of a bottle or tumbler, but you don't have to teach it to drink. It can drink when liquid is presented to it in the natural way. A chicken knows enough to drink. you don't have to teach a dog to drink. The puppy knows the benefit there is in water. You don't have to teach a bird to take a morning bath. The bird knows that. You don't have to teach an elephant. You don't have to teach any of these wild creatures the use of water. They all understand it.

The man who invented the wet sheet pack, and nearly all methods of treatment you find in use in our bath rooms here in the use of water, was a peasant who lived in the hills of Austrian Silesia, in the Graafenberg hills, away out in the Eastern border of Austria, almost on the Russian line. There Priesnitz found a wounded deer taking a cold bath, a leg bath in a cold spring in the woods. The deer had been wounded by a rifle shot, and the deer got well. Afterwards this boy himself got hurt, so he tried it, and it did him good. Then, when he was helping a veter^{er}inary surgeon, he persuaded him to let him try water on sick horses. He did, and the horses got well. He tried it on a dog, and the dog got well. He tried it on a pig, and the pig got well. He tried it on himself more and more, and he got well. People begun to get interested in it, so people began to come around and have this boy treat them, and they thought he had some magic in it. The priest said he put magic into the water, put medicines into the water. so they analyzed the water.

They said he used magic in his bandages that he put on. So they analyzed them to find the secret, but there was nothing at all in them. It was simply a plain cloth, and the water was simply plain water; and by and by they came to realize and appreciate the fact that this boy had discovered a lost art,-- the art of using water curatively. And from that boy, away out there in Austrian Silesia, one hundred years ago, who practiced medicine with water, using water so successfully that people were cured of incurable maladies, there began what is known as the water-cure. People who had been pronounced incurables went there from all over the world, even from South America. They traveled from Rio de Janeiro one hundred years ago in a sailing ship on the water to London, took the stage to the Russian border and traveled away off into Austrian Silesia six weeks by stage, and finally arrived at their journey's end, and found simply a peasant boy who could not even read or write, didn't know a thing of the arts or sciences at all. He was just simply a plain ignorant boy. But he was skilled in the use of water, and they got well. And from this country men made the long pilgrimage to Graafenberg. Great doctors in this country took it up. Benjamin Rush, the great physician of Philadelphia, adopted it, and other physicians in different parts of the United States adopted these methods, so little by little water-cures sprang up all over the country.

There was a little water-cure that started away off in Northampton, Mass., many years ago. And in this city a little water-cure was started fifty years ago. There is a little lake about six miles north of here, and on the border of that lake a man who was a doctor, but had only a very incomplete medical education, started a water-cure. People were cured there, but the thing didn't succeed. By and by another water-cure started right here on this very ground. There was a two-story frame house purchased, and the institution opened forty years ago this summer with one patient and one doctor, and half a dozen helpers; not a single trained nurse, or bath man or bath woman. But the work began. The water did the work, and it was

not so very long before the place became known. Ten years later we enlarged our borders somewhat. I took charge of the institution myself. I became connected with the institution seven years after it started, and I have been here ever since. I have seen this institution growing up from a little beginning. The little institution I took charge of was a little two-story wooden building, burned up four years ago, no larger than some of these cottages that you see around here; in fact it was not so large as some of the cottages across the road. And I had twelve patients under my care when I took the position of superintendent of this institution thirty years ago the first day of next October. So the work began in that small way. The power of these principles built it up. Here we have this institution and forty buildings besides the main building; eight hundred patients and eight hundred people to take care of them; and nearly one hundred other institutions which have grown out of this institution in different parts of the world, all doing the same thing that is being done here in a smaller way.

These remedies that we are using here, as I said before, are all of them old. They are old remedies. That is why they are good, why they are reliable. New things are not always reliable, but the old things are. That is, the oldest things are. Fresh air, for instance, is thoroughly reliable. Fresh air is just as good today as it was when Adam breathed it;-- just as good provided it is just as fresh, and it does one just as much good. So pure water is just as good today as it was when it was first used. It is just as good today as it was when the first man drank the first swallow of water. Water is not only the only drink, but it is almost the universal remedy. It is the only remedy that is valuable in almost every possible condition of disease. It has ^{more} curative power in it than all other remedies put together. It has greater versatility in it, greater power of adaptation to different things and different conditions. I hope every man and woman here in this institution will learn what you can about the use of water before you go away.

The last time I talked to you here I began to tell you something about how, when the brain is stupid, if you put cold water upon the face ~~the brain~~ a little telegram is sent to the brain to wake up. The face is really the face of the brain. Every other organ in the body has a face. The heart has a face right here. The lungs have a face in front and behind. All the skin covering them is the face of the lungs. And whenever your lungs get out of order, if you put some water on the lung face you may just be sure it will help the lung. It is very easy to think about it and to understand it. If you have got something the matter with your head you almost always want to put some water on it. If it aches you put some water on it. If it is cold, you put hot water on it. If it aches, put cold water on it. If a dog has ear ache it will put its paw over its ear. If a baby has the ear ache it puts its hand up to its ear. Why? An instinct tells the baby that its warm hand is good for the ear. So there is instinct that guides in the use of all these natural remedies. The liver has got a face, two. Down near the lower half of the right edge is the face of the liver; and if the liver is torpid you can help it more by putting some water over it than in any other way.

We expect to have some pictures pretty soon, and in the meantime I will answer a few questions.

Q. What foods should one eat, after leaving the Sanitarium, to take the place of meat?

A. Now let me tell you you don't need to take protose or nuttolene. We supply protose and nuttolene to you because of the hardness of your hearts, because you must have something to gnaw. Lord Byron, I think it was, said "man is a carnivorous product." So we give you protose because it has some fibers in it which make you think of the lean meat you used to gnaw when you gnawed bones. Now it is not necessary to eat protose. It is not necessary to eat nuttolene. It is not necessary to eat any kind of meat, or any

substitute for meat. None of them are necessary. Why? Because Prof. Chittenden has shown us that we eat too much proteid. Meat is proteid, and we eat too much proteid. When we eat too much proteid it clogs the blood, and develops in the body poisons of various sorts, which make rheumatism, particularly chronic rheumatism, and rheumatic gout.

I met a gentleman last evening, as I was going through the Lobby, and he put out his hand, and said, "Doctor, I guess you don't know me." He was shooting along through the Lobby like an express train.

This man is a very wealthy man, a railroad builder, worth some millions of dollars. I don't know how much. He built this large electric line that runs from Battle Creek to Detroit, and got that pretty nearly done. He exploits large enterprises of that sort and then sells them out; and then starts ~~starts~~ other things. He is a promotor, and an exploiter, and an all-round pushing vigorous business man.

Not long ago this gentleman came here and I went to his room to see him. I found him groaning. He looked very melancholy, and he said,

"Doctor, I am in a very unfortunate situation. I have a great business on my hands; great enterprises on my hands in New York, Boston, and all over the country, and here I am, I can not take a step, I can not put my foot to the floor. just look at me!" And there was the great toe swollen up as big as my fist, and he was suffering great pain.

He said "Do you think you can help me, Doctor?"

I said "Certainly; you can be ~~helped~~ cured."

"Do you believe it, Doctor?"

"Just as surely as the sun is shining you can be cured. You need not doubt it a minute."

"Are you sure of it?"

"Why, certainly. You don't have gout unless you eat it. If you

didn't swallow gout you would not have it. You will soon be over this gout, but if you keep on swallowing gout you will have another one, you see. You will be well of this in two or three weeks, then you must take great care not to swallow any more, so as to keep so. That is all there is to it."

"Well," he said, "is that so? I never knew that before."

I said "Didn't you ever see people drink too much wine and get the gout?"

"Yes, but then I don't drink wine."

"Oh, you don't! Well, I guess you eat beefsteak, then."

"Oh, yes, I eat a great deal of beefsteak. On my farm I have got a whole lot of fine cattle, and I raise some for myself and some to sell. I pride myself on having the finest cattle in my part of the country. I have got a stock farm, and I raise fine cattle for the market. Now I have some of these fine cattle -- just the finest of them, shipped down to my home and I divide them with my neighbors, so we have the very finest beef going. Do you imagine that that does me any harm?"

"Certainly: that is where you get your gout. It is either wine or beefsteak, one or the other."

"Well," he said "I never heard that before. I thought beef was necessary; that if one who works hard would be strong and vigorous he must eat beefsteak."

"Oh," I said, "you imagined that to be a strong man you must eat a strong animal, did you? Why not eat an elephant, then?"

"Oh," he said "I never looked at it that way exactly."

I said "That ox is stronger than you, isn't he?"

"Yes, he is stronger than I am."

"How does he get strong? Does he eat elephants? -- No, the ox eats grass and corn and hay and potatoes, and any other good wholesome vegetable food. Then why not eat what the ox eats? The ox eats corn; that is good;

he gets strength from the corn. If you have an ox working very hard you feed him corn. If the ox is not working very hard he gets along with grass. Corn has more strength in it than grass has. Grass has in it a moderate amount of strength, while the corn has a large amount of strength; it is strength concentrated. Grass is mostly water. So if you want strength you must eat corn, or potatoes, or eat rice; eat foods in which energy is concentrated. But if you are not going to work very hard you can get along with grass or lettuce and celery and cabbage, and things of that kind."

"Now," he said, "I never studied dietetics very much. I am glad to have this information." So when he went away he said,

"Doctor, I feel sort of conscience-smitten. I have been reading that little book *Shall We Slay to Eat?*, and I confess I feel conscience-smitten. I have made up my mind to sell off those cattle of mine and go out of the business. I am not going to eat any more beefsteak, and I don't want to sell it to my neighbors, because I don't think I want to ask my neighbors to eat what I don't think is good for me to eat."

I met this gentleman again last night, and he was ~~such~~ a fine healthy looking specimen I had to look twice to recognize him. He came in here the first time on crutches, and here last night he was fairly sprinting across the floor. He said,

"Doctor, you told me that I could get rid of that gout, and I have not had a twinge of it since I left, and I do not intend to have it any more. I have stopped eating gout."

Now that is the way. Now, my friends, I imagine some of you have gotten hold of some of these ideas for the first time, and you say, "Oh, this seems very plausible, if I only knew the thing was reliable: If I only knew I could depend upon it: I wonder if it is really safe for me to go home and try to live without beefsteak." My friends, I want to tell you that meat is entirely superfluous. Why? Because it furnishes only proteid;

that is the only thing good in it; and it has a lot of other things in it that are not good at all. It has in it the Beef extracts which are poison, every one of them, and it has in it venous blood, that is not good at all. If you want to eat beefsteak in a good condition, the only way to do it is to take the best beefsteak and put it through a washing machine and wringer two or three times, or a pounding machine, and thoroughly wash the blood out of it; and when you have got a nice white piece of beefsteak it will be comparatively wholesome. But even then it is not really necessary. It is superfluous, because it furnishes proteid which you do not need. It furnishes more proteid than the body can possibly require. Prof. Chittenden has proved that. Prof. Chittenden has proved that the potato has all the proteid you need; that one can live on potatoes, with a little fat of some kind added. The Irishman is raised on potatoes and buttermilk, and he does not get much of anything else. It makes a sturdy man of him. The Irishman is one of the longest lived men today. The Hungarian, the Irish, and the Bulgarians are the hardiest and the longest-lived people in the world today,--hardy, strong, enduring people. Why? Because of the simplicity of their diet.

Now if you want a little more proteid, you can get it in whole wheat bread or patent flour bread. You can get all the proteid that is necessary. Bread and butter, and fruit and eggs give you all the proteid substances you require. The great variety of food stuffs that we put into our stomachs is quite unnecessary. It is only to tickle the palate, and it does not do the stomach any good. A few things are all that we really need.

But, you say, I can not eat fruit. I met a gentleman down in New York a few years ago, the president of a publishing house there, and I went in to see one of the publishers who had invited me to stop in when in New York, for they wanted me to write a book for them. I told them I didn't think I had the time to write any more books, but they insisted I should, and I have been thinking about it ever since, and haven't found the time yet.

The President came in to see me, and he said,

"Now, Doctor, while you are here, I would like to have you look at my tongue, and tell me what is the matter with me. I can not sleep nights."

"Why?"

"Why, I have got such an awful bad taste in my mouth."

He put out his tongue, and it looked as though he needed a muck-rake to clean it off. It was simply horrid, abominable. There was a coat upon his tongue almost one-sixteenth of an inch thick. You could not see his tongue at all, as a matter of fact. It was covered all over with a brown color, and I didn't wonder he had a brown taste in his mouth.

I said, "What do you eat?"

He said "I eat whatever comes along. I have to eat what my wife gives me to eat."

I suppose most men are in that unfortunate situation,--they have to eat what is supplied to them; what the servant girl, or the cook happens to think of, what the housewife provides, and generally it is something that he likes."

"Well," I said, "I think it would be a good thing for you to take a diet of fruit and bread."

"Oh, Doctor," he said, "I can't eat fruit. Fruit is poison to me."

I said "Oh you can take some fruit, I am sure; watermelon, for instance."

"Watermelon! Why, Doctor, if I should eat watermelon I would swell up and burst within an hour's time. I have tried watermelon to my sorrow. The last time I ate watermelon I nearly died. I was actually afraid they would have to put a tube into me, or something. I was swollen up like a drum, and had a frightful time."

I said, "My friend, it is not the fruit that does the mischief;

it is the things you take along with the fruit. It is the combination you make; not the fruit. It is what you eat with the fruit. You say you eat most everything that comes along. Now it is the 'everything' that hurts you; it is not the fruit at all."

"Now," I said, "suppose you try an experiment for dinner. Eat fruit for dinner, and don't eat anything else at all. Eat nothing but fruit. Eat all the fruit you want, of any kind you want."

He said he was rather afraid to try it.

I got aboard a New York Central train at 6 o'clock that evening. I never have any time to wait around depots, and on that occasion I was hurrying to the train, with a bag in each hand, and a porter with a couple more, when some one tapped me on the shoulder and said,

"Hello, Doctor! Stop a minute!"

But I didn't have time. I looked up, and I saw it was my friend whom I had seen in the morning. He said,

"Doctor, I ate a whole watermelon for dinner, and I am happy as a clam, and I have an appetite like an ostrich, and I am going home to get something to eat." He hadn't had an appetite before for weeks. His tongue was so coated he hadn't any chance to get an appetite. He ate in the morning without appetite, ate at noon without appetite, and ate at night without appetite. He ate to keep his strength up, you see. And that is a mistaken idea--that he must eat to keep his strength up; and it kept him eating all the while; he would not allow his stomach to get empty for a minute. You can not drink water, you know, unless you are thirsty. you can not eat when you are not hungry. When one is not thirsty it is hard for him to swallow; and if you have a great repugnance for food it may be hard to swallow food. Thousands of people never allow themselves a chance to get hungry. Food is left in the stomach from one meal to another, and it is contagion to the fresh food all the time. One of the worst crimes you can

possibly commit against the stomach is to take food into it when there is food already there. That is one of the worst crimes you can commit against your stomach. Why? Because this is the simple process of digestion. Food is taken into the stomach. The minute you begin to chew that food the stomach begins to get ready for it. After you have been chewing for five minutes the stomach is pouring out gastric juice, appetite juice. Even before you swallow the food, if it is something you like, the stomach is making appetite juice. That is the reason why you can digest some things that are hard to digest-- because you have great relish for those things. Now this food that is taken into the stomach, after about half an hour, stimulates the stomach in such a way as to cause the stomach to pour out a large amount of chemical juice for digesting the food. So this juice remains there, this acid gastric juice, acid and pepsin, and dissolves the food, converts it into a substance out of which blood can be made. This process goes on for about two or three hours, then the acid is absorbed. Then this acid that has been sent out is absorbed, taken back into the blood, so it can be used again, so that it won't be wasted. It must be taken back into the blood. It is needed in the blood, so it is taken back again; and its absorption is just as important as the secretion of it, in order to keep the blood balanced, and keep the relations of the different chemical substances which are found in the blood and in the body normal. The acid is absorbed back again. But suppose about three hours and a half after eating, or four hours after eating, while the food is still in the stomach, when the acid has been absorbed back and the end work of digestion is being done, the food is unloading in the intestine, suppose we take some fresh food into the stomach. That fresh food finds the stomach entirely unprepared for the digestive work. It is the same as though you called upon a carpenter to do a job for you when he didn't have his tools. What can he do without his tools? Or as though you should call upon a barber to cut your hair when he has not got his shears; or to call on a blacksmith when

he hasn't got his forge, or his anvil, or his hammer. That is why you feel so much inconvenience, why you get bilious,--because you keep on eating when you have no appetite.

The first thing necessary for good digestion is a good appetite, and a good appetite will come if you will do the right thing. Now one of the ways to wake up the stomach to get up an appetite is to put cold water over it, over the stomach face, right down here below the breast bone, right here at this part of the stomach, just below the breast bone, in a place about as big as your hand, is the place where your stomach ought to be. Cold water put on there is a good thing to wake up the stomach, just as cold water on the brain face will wake up the brain. If the brain face is awakened it wakens the whole body; so if you put over the stomach face a good bag full of ice for half an hour before meals, it will wake up the stomach so that it will demand food, it will create an appetite. That is a good thing for people who have no appetite. Another good thing for people who have no appetite is to stop eating until they get an appetite, or live on fruit, or something of that sort.

Q. When one leaves the Sanitarium, what are the best foods he can carry along with him?

A. Malted Nuts is a good thing. It has got more beefsteak in it than a pound of beefsteak has. A pound of Malted Nuts has got more beefsteak in it than a pound of beefsteak has. When you dilute the Malted Nuts with seven parts of water it has practically the same composition as mother's milk, so it is a good thing for babies, if well diluted with water. With a little less water it is a good thing for older people who can not eat milk. Two or three parts of water to one of Malted Nuts makes a very good food for older people.

Q. What should bilious people avoid.

A. Bilious people should avoid coarse vegetables, because they lodge in the stomach for a long time; and they should avoid fats, because

fats prevent the formation of hydrochloric acid in the stomach, and the prevention of the formation of hydrochloric acid in the stomach has the effect to allow food to remain there so that it decays, and that produces biliousness.

Q. What causes baldness? Can it be cured?

A. Baldness is due to failure of the nutrition of the scalp. It may be due to an over-taxation of the vital powers in any way. Indigestion will produce baldness. Parasitic disease will produce baldness. Some people are bald early by heredity; but it is rather a bad symptom to lose the hair early. It indicates rather a failure of the vital powers.

Q. What are the effects of gum-chewing?

A. The effect is to disturb well-bred people very much. And it is not good for the salivary glands. It has the effect to wear out the salivary glands, so that their saliva is attenuated, and is not prepared to digest the starch, because it is too dilute; because the salivary glands are tired out and can not keep on making saliva. They should make saliva only when the food is in the mouth requiring this.

Q. What is your opinion of vaccination as a preventative of smallpox?

A. I think it will lessen the liability to smallpox.

Q. If you were compelled to choose between beef, mutton, and chicken, what would you eat?

A. I should eat neither mutton, chicken, nor beef. I think that question has been asked once before. I would eat eggs. Inside of the egg shell is the whole chicken. The whole chicken comes out of that shell, doesn't it? So if you eat the egg, you eat the chicken. But you get everything you eat when you eat chicken. So you don't have to eat chickens with feathers on them in order to eat chicken. You can eat eggs, and eggs are perfectly wholesome.

Q. Is appendicitis due to vegetables?

A. No. An eminent French Surgeon, the Surgeon General of the French Army in Algeria wrote some time ago to headquarters in Paris that he had observed that appendicitis was very rare among the Arabs, but was very common among the British soldiers. That French soldiers ~~was~~ ate a great deal of canned meat, while the Arabs ate none, but lived on figs, dates, barley and wheat, and they were almost absolutely exempt from appendicitis. There is no doubt that meat eating is the cause of appendicitis. There is no doubt about it at all. Why? Because appendicitis does not begin in the appendix. It begins in the colon, in the cecum. The appendix is attached to the lower end of the cecum. The cecum is a large pouch, and the appendix hangs on below. All the food stuffs which go into the large intestine are deposited right upon the mouth of the appendix, and ~~the~~ ^{if} the food stuffs are retained here in the colon for a long time, -- and people who eat a great deal of meat; forty-eight hours in general food stuffs are retained; usually at least forty-eight hours before they are discharged from the body; in that time the undigested remnants of various animals that have been eaten-- rabbits, squirrels, pigs, calves, cats, dogs, and other things,--whatever goes into our sausage; sausage has everything in it; these remnants lie about and decompose in the colon. They decay, and the putrescent process which is set up there adds virulence to the colon germs, renders it extremely virulent and infectious. The virulent colon germ sets up in the appendix a catarrhal condition there, or ~~the~~ ^a suppurative condition which results in appendicitis. In my opinion this is one of the common and chief causes of appendicitis.

Q. Give the proper treatment for spinal irritation.

A. Spinal irritation is one of the old phrases which has almost entirely disappeared from literature. When I was a medical student I heard a great deal about spinal irritation, and I remember a poor actress-- some of you perhaps remember all about it-- who had her back burned all over with a

hot iron to relieve spinal irritation. The trouble was not on that side of the body at all. It was on the other side. It was not a backside disease, it was a frontside disease. It was not a disease of the ^{posterior} ~~posterior~~, but of the anterior. This patient was suffering from indigestion. That was the whole cause of the trouble--an irritable stomach. That is almost the sole cause of spinal irritation. That is, a pain between the shoulder blades indicates a sore condition of the stomach and solar plexus. Put the finger upon the breast bone, and you will find a sore spot there every single time, when you have spinal irritation. The thing is to treat the stomach. It is just as absurd to treat the spine as to treat your head for an ingrowing toe-nail, or for corns. There is some temporary relief afforded by the application to the spine, but the real thing is in the stomach, and there is where the remedy must be applied. Hot applications over the stomach. Hot applications over the spine, the proper diet, the Sanitarium bill of fare will cure almost every case of spinal irritation. Persons who will sit down and eat at the Sanitarium table for three or four months, and adopt that as a regular dietary, will get rid of spinal irritation, and a great deal of other irritation too. Then your neighbors will not be so worrisome to you. Drop out mustard, pepper, pepersauce, ginger, and all the other things that burn and sting and blister as they go down your throats, and keep on stinging throughout the whole length of the body, drop these things off your bill of fare entirely, and it will relieve you of a great load of troubles; and not only relieve you yourself, but relieve your family and your neighbors. That is the way to extract the teeth, as Dr. Paulson says, from these troubles.

Q. Tell me the cause of a sudden hoarseness in a weak emaciated person.

A. It is simply a weakness of the vocal cords.

Q. What will cure paralysis?

A. Now it is not always possible to cure paralysis. Massage, manual Swedish movements, phototherapy, hot and cold applications, graduated exercise, applications of electricity, are all proper remedies for paralysis. But the most important thing for one who has paralysis is to stop it where it is. If you have had a stroke of apoplexy, and one hand is partly paralyzed, there is another one coming, sure. If you don't die of sunstroke or pneumonia, or heart failure, or some other thing, from injury of some kind, there is another stroke of paralysis coming just as sure ^{as} you are living. The thing is to avoid it. You have got arteriosclerosis, degeneration of the blood vessels, and there is a little break in your veins, and the next time there will be a big break. How will you stop it? Stop the use of tea and coffee. That is one of the things that makes brittle arteries. Stop eating beefsteak, for that is one of the things that certainly makes brittle arteries. I don't believe there is an intelligent physician in this world today that does not know that thing; and I doubt if you can find ten per cent of the intelligent physicians who will not say to a man who has got arteriosclerosis, You must stop eating meat: You must eat vegetables; eat vegetable food. Why? Because vegetable foods contain ^{alkali} substances which are necessary to neutralize the blood and render the blood more alkaline; while meat contains acids, which are the things which harden the arteries, which causes this hardening process in the arteries, so you must cut off this acid. These things are found in tea, coffee, chocolate, cocoa. They are in all meats, in sweetbreads. One pound of beefsteak contains fourteen grains of uric acid. Now then, suppose you eat a pound of beefsteak a day; and a great many people eat that much in three meals, some eat more than that. A man told me the other day that he ate a great big beefsteak that large around, and so thick, at every meal of his life. He took it three times a day--that great big steak, and it was no wonder he was sick. It was no wonder his arteries were hard. He had never

worked at anything that would naturally make his arteries hard, and they ought not to have been hard at his age. The man was as old at fifty as he should have been at one hundred years. Suppose you go on doing that for a year-- then you have eaten 365 pounds of beefsteak in a year, and there are fourteen grains of uric acid to every pound of it. See what that would be. If it was ten grains it would be 3,650 grains of uric acid. Think of it! That is more than half a pound of uric acid. That is enough to harden every artery in a man's body. If it were not for the fact that the liver destroys some of the acid, and the kidneys eliminate some of it, so it does not all accumulate in the body, a year's beefsteak eating would be enough to kill a man. Fortunately, the body consumes it. But as you get older the liver and kidneys become less active. They lose their power, they become more and more inactive, and the result is they are less able to burn up uric acid.

I met the other day a case in which the uric acid had accumulated within the body and hardened the arteries within eighteen months. Why? The kidneys had got to the point where they could no longer eliminate it, and it began to accumulate. Here is a boat out at sea which springs a leak. The sailors bail the water out and keep the water out, bail the water out just as fast as it comes in. At first they can bail it out faster than it comes in, but by and by they get tired, they can not bail so fast, they can not work the pump so fast, and the result is they can only barely keep up with it. They must keep it out, take it out as fast as it comes in. But by and by the sailors get exhausted. One by one they fall completely exhausted. The others are tired, they can not pump so fast, the water accumulates, and by and by rises more and more and more and more until it puts out the fire in the engine. Then it comes in rapidly. The ship is at the mercy of the sea, and pretty soon it is swamped and down it goes. That is exactly the situation of every man who eats meat habitually; with every man who smokes; with every man who drinks; and with every person who drinks tea and coffee.

The kidneys are destroying the uric acid, but as you get along in years these faithful servants get tired, get worn out, lose their ability to destroy the poisons, and the poisons accumulate in the body. Then come on various diseases, and you begin to say, Well, I guess I am getting old. My joints begin to feel a little stiff. What is the cause of that? Poison;--uric acid, if you please. That stands for all poisons. I use it in a sort of generic sense to cover all the poisons which the kidneys ought to eliminate. You say in the morning, "I can't remember as I used to do. What is the matter? I forget. I was going to do something today, or I was going somewhere today. I can not think now what I was going to do." So you see your brain is beginning to fail up. You try to introduce ^a friends of yours, and the party's name all of a sudden leaves you, and you feel awfully ashamed of yourself, and are obliged to ask her what her name is. What is the matter? Uric acid. May be you would feel that way if you didn't sleep enough last night. But if you are in that condition all the time, when you have had plenty of sleep, if you are going on in that condition, you can just be sure your body is getting filled with poison. If a good night's sleep does not clear the poisons out, it is because you are getting swamped with the poisons, because the pumps are failing and the water is gaining on you, and it won't be very long before the water will begin to put out the fires in the furnaces, and you will find yourself going down fast. You say, I overdid a little yesterday. I didn't know it. I didn't do any more than I am accustomed to do, yet I feel all used up today. What is the matter? Uric acid.

And you say, Well, now, what is the matter? I am losing my complexion. I used to have such a nice clear complexion. Some of your intimate friends say "Mary, your complexion is getting very tawny. What is the matter?" Sure enough! poisons, autointoxication, uric acid, and the whole tribe of poisons which come along with it, accumulate in the body.

You say you feel Kind'a old. That is simply because of an accumulation of poisons. I asked a man what he came here for a few days ago, and he said "I came here to get young again. I want to live twenty years yet, and if you can make me good for twenty years, I can do something. I have got better prospects than I ever had in my life before, and I want twenty more years to life. Then I am satisfied." "All right," I said, "I guess we can do it if you will do your part." But I want to tell you we have got a pretty close call with that man. We have got a pretty hard job on our hands. He is seventy years old already, and I thought he was pretty nearly one hundred when I came ~~youssess~~ to feel of his arteries, and we have got a pretty hard job on our hands to give that man twenty more years. If he has five years more of real good active life, and fifteen years of gradual^{ly} depreciating power, I think we will have done pretty well by him. But we have had people come here seventy or seventy-five years old, and sometimes it seems as though they get younger every year for six or eight years. We have a fine old gentleman with us now, and he has been with us seven or eight years, and he is younger this year than he was last year. He does not seem to be more than half as old as when he came here eight years ago.

I met a gentleman today who came here six years ago, and he said "Doctor, I came back here to get young, to get a little taste of the Battle Creek Idea, to sort of line myself up. I stopped smoking when I was here before. I went home, and I have been trying to stick as closely as I could to the Battle Creek life under the circumstances (he was down south in a southern State), but I can not educate my family into it. But I have not smoked. I have eaten a little meat sometimes, but haven't eaten anything like what I used to eat, and I have been trying to live up to this Battle Creek idea." I hope we shall be able to give him a great boost this time, so that when he goes away he can get above beefsteak. It was a splendid thing for that man to do to get rid of smoking.

He said, "Doctor, I have been examined, and all my reports are in, and I am in a whole lot better condition than I was six years ago when I came." Now isn't that satisfactory? There must be some satisfaction in that to a business man, a professional man, a lawyer, a professor in a college, or for a man who is just climbing up in the world. A man at fifty finds himself just reaching ^{some} ~~thousands~~ of the things he has been stryⁱing for all his life, and he does not want to let go right away,--wants to have a chance to enjoy the fruits of his labors. But thousands of these men are dropping off just at the time when they ought to enjoy life the most. When they learn how to use life, how to appreciate it, how to appreciate people, and the worth of the world in general, then they have to die off, wither up and die off; and it is an awful misfortune, a terrible thing, and absolutely unnecessary. I don't believe there is a person in the range of my voice this minute, I don't believe there is a single one ; -- It seems to me this audience looks like a splendid lot of promising invalids, exceedingly promising invalids for sick folks. I can hardly make myself believe you are sick at all, you all look so healthy. I think the most of you have good constitutions enough so that if you go right to work today and live just right up to the line all the time, eat right, you can add years and years and years to your life. Some of you will do it. Some of you won't do it. Some of you will eat up your little span of life in a very short time. Some of you will be gone in a year or two from now, just because you don't do as well as you know how.

A lady said to me today, "Doctor, I can't eat cane sugar. I am very fond of sweets. If you could only get my stomach fixed so I could eat cane sugar I would feel very glad. I am so fond of chocolates. Lowney's chocolates are so nice. My stomach used to stand it all right. I could eat half a pound a day, and my stomach seemed to stand it all right." Now, you see, that is the idea. I think the majority of people are doing

everything to themselves that they think they can stand. I think the majority of people are eating every bad thing that they think they can possibly endure. Thousands and thousands of people treat the body as a sort of fiddle,— you get all the tunes out of it you can, get all the music out of it you can. That is not the thing to do,—to treat the body like a musical instrument and get out of it all you can. The palate, for instance,—to play upon that palate and get all the tunes out of it you can. That is not what the palate is for. The palate is to select food for us, to tell us what to eat and what not to eat; to tell us when we have eaten enough, and when we ought to stop; what kind of food we ought to eat. But instead of using it for that purpose we use it for pleasure, just as we use a violin. We have no right to do that. I see people eating a whole lot of different kinds of food. People actually get up great feasts and sitting down there to have fun with their palates. Just think of it! My friends, it is nothing more nor less than crime. We may use our ears and our eyes for pleasure, and it does not do us any harm. The palate we have no right to use for pleasure. We should eat that which is good, and enjoy our food, but we do not have any right to put things across our palate, and tickle our palate with things just for pleasure, to eat just for pleasure; because there is something more to it.

What we take into our bodies becomes a part of us. The things we eat today are walking around and talking tomorrow. Did you ever stop to think of that? Suppose you eat pickles, then sour-kraut. It is pickles and sour-kraut that is walking around and talking tomorrow, and no wonder it is not very good talk. It is pickle talk, you see, sour talk. So with mustard, pepper, and peppersauce, when you eat that sort of things, hot pepper, it is pepper that is speaking bad things tomorrow— hot ~~tasty~~ and testy they are, too.

Now that is so when one takes alcohol. He is alcoholized. His brain is alcoholized. When one eats meat largely he gets a meat temper, gets the temper of a carnivorous animal. Feed a hog on meat and he gets

really very dangerous for a man to go into the yard with him. An old hog that has been eating meat will attack a man. Some little time ago a drove of hogs was going through a town in Pennsylvania going to market, and there were two babies disappeared that night,--a little three-year-old and a two-year-old, and afterwards the bodies were found almost entirely consumed by these hogs. The hogs had run the babies down and eaten them. The hog is that kind of a creature. And they drove the hogs on to market, and some people ate hogs, babies and all. That is what you do when you eat hog. You eat everything the hog has eaten, and when you eat the hog then you become,--or, rather, then the hog becomes a part of you. Prof. Bronson Alcott, a Concord philosopher, did say that if a man eats hog he becomes pigified. If he eats an ox he becomes oxified. Somebody said to him, "Professor, if a man eats a potato, then what does he become--potatofied?" "Y---y-- yes," he said, "but, ^apotato is nice and sweet, white and wholesome and pure, and a pig isn't."

Q. What do you think of the raw food diet?

A. Raw foods are all right. They are the natural diet. Nature makes foods to be eaten raw, to be taken right from the tree and eaten; but we must eat natural foods if we do that. No raw-food advocate would ever undertake to live on raw grains. The next time you find an enthusiastic raw-food advocate, you say to him, Now, then, won't you try the experiment of living a month on raw wheat biscuit,--cabbage, lettuce, celery, and your raw wheat biscuit, and see what kind of creature you will be at the end of a month. My friends, he would starve to death. The human body can not be sustained on such diet as that. There is not enough nourishment to keep one alive. If you are going to eat raw foods, look over the bill of fare of the raw food apostle, and you will see it is eggs, milk, nuts, fruits, and those foods that can be eaten in what they call an uncooked state, because they are already cooked. They have already passed through processes which

are allied to cookery, which are essentially the same as cookery in the laboratory of nature. Ripe fruits are served by nature already cooked. Ripe nuts are served already cooked. They do not require longer cooking.

Things are more digestible raw than they are cooked. Raw milk is often more digestible than cooked milk. But when we come to turnips, and carrots, and parsnips, and grains, and things of that kind, that is quite another question.

Now I am going to tell you another very interesting and important thing to know. There are some things about raw foods which are very important and useful for the body. There are the juices of raw fruits. So we have sometimes served juices here. If we find a person that we think needs raw juices we have some raw juices expressed. You can not get them very well by chewing up a piece of celery; but you get the juice of celery, and you will get everything in the celery that is good. You don't have to swallow the wood, hay, and stubble of the celery stock. This vegetable is practically nothing but wood and water, and the water is flavored a little bit. The juice is all there is that is of any account at all. So if you want some raw food to get the benefit out of it eat cabbage, and lettuce, or celery, chew it all up thoroughly, get all the juice out of it, and the juice has something in it that is valuable. It has some enzymes in it. Some various subtle substances which are valuable to the body; has anti-toxins, perhaps, that are antidotes for scurvy, and that whet the appetite. They are found in raw fruits just as much as in raw vegetables. That is a good thing to know, and in all fruit juice which is freshly expressed, and fruits themselves,--in apples, in grapes, you find these same subtle substances. And one does not have to eat raw potatoes in order to get the benefit of these raw vegetable juices. You can find them in raw grapes, raw apples, raw peaches, raw plums, raw cherries, just as well as in raw

turnips, or parsnips, or raw wheat.

There is an idea in the raw food. The idea ~~is~~ has a good idea in it. The raw food suggestion has something in it that is sensible, but we do not need to eat everything raw. If they keep on they will have us eating sawdust next, and there is just about as much nourishment in saw dust as there is in these raw vegetable foods. A dog will starve to death on a raw food diet. Give a dog raw wheat, raw potatoes, and raw food of that kind, and he would starve to death. Take a raw food manufacturer, feed him his own raw food biscuit, and he would just as certainly starve to death as that the sun is shining. He does not get more than ten per cent ^{of the} energy out of raw wheat. If you get that much out of wheat, it must be cooked, and the cooking of the wheat is essentially the same thing as the ripening of the fruit in the sun.

Now there is just another word I must say about combinations. It does not make much difference how you combine foods, provided you chew them very thoroughly. But there is one thing more. That is, when you chew coarse vegetables and seedy fruits, the unreducible part of it, the part that can not be reduced to a liquid or a soft pulp in the mouth, should be rejected, should be returned to the plate. When you eat raspberries, for instance, do not swallow the seeds. When you eat figs, reject the tough skins and seeds. Simply swallow the sweet pulp of figs. The seeds and skins of raisins should not be swallowed, or the seeds and skins of cherries. A man some time ago had an operation performed for him in a hospital, and there were found 640 cherry stones in his stomach,--cherries that he had eaten during the cherry season, six months before. There was a little pocket attached to his stomach, and he had been carrying around 640 cherry pits all that time, and none of them had gotten into his appendix either. Whenever you find anything of this sort in the appendix it is because the appendix got stuck-

left its door open and they got in.

It is late now, so we will have the pictures next Monday night.

V--M 8-17'06

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HOW INCURABLES ARE CURED

A Stereopticon Lecture At the Sanitarium Parlor, Battle Creek, Mich., Thursday,
August 9, 1906, at 8:00 P. M.

By

J. H. Kellogg, M. D.

Now, we have a number of questions here tonight, but we will take the questions last, and we will have the pictures first, so these little boys and girls won't be disappointed. I will just answer one or two questions while the lights are being turned out.

Q. What is the proper diet and treatment for typhoid fever?

A. That is an exceedingly practical question--diet and treatment for typhoid fever. First of all the diet. The diet which is ordinarily prescribed for typhoid fever is milk. Milk punch, whiskey and milk is still the ordinary prescription in the United States army, and for a great many years it was the standard prescription everywhere in the English and American hospitals. When a man had typhoid fever or fever of any sort, the regulation diet was brandy and milk, and whiskey and milk, and the result was that about twenty to thirty per cent of patients died. In some epidemics of typhoid fever, as many as thirty-five or forty per cent of patients died, and there was a good reason why they died. Two things which kill people in typhoid fever are heart failure, and infection--toxines,--paralysis from toxins. The typhoid fever germs growing in the intestine produce poisons, and these poisons absorbed into the body intoxicate the body, produce paralysis, and ~~are~~ of the great functions of life. The heart is one of the most important of all the organs, because it supplied

blood to all the other organs; so it is really one of the great centers of life. Now, these poisons paralyze the heart. Alcohol is a poison, is particularly a heart poison; consequently alcohol is one of the very worst things possible for a man with typhoid fever, or with any other kind of fever for that matter, one of the worst possible ones. I had a letter from a doctor the other day who is secretary of a medical society which meets in the southern part of the United States annually, and I had a letter from him last year in which he asked me to prepare a paper and to write particularly about alcohol in order that the question might be discussed and the facts might be brought out of recent times, showing the evils wrought by the use of alcohol in fevers, and that they might be understood; so I wrote the paper last year. Two years ago I had a request of the same sort, and I wrote a paper. And this very day I got a letter from the doctor asking me for another paper on the same question,--~~to~~ write a paper to be read at a medical society in a large southern city this coming fall upon this very question. The medical profession are waking up to appreciate the enormous evil that is being done by the use of alcohol, particularly in the treatment of typhoid fever, and pneumonia, ~~in which~~ diseases in which the integrity of the heart, the maintenance of cardiac power are the things of greatest importance, of primary importance, in fact. Now, these poisons which paralyze the heart are produced by germs, and the germs grow best of all in milk or beeftea; and yet milk and beeftea are the things which are fed to fever patients more than anything else. Then one can readily see that milk and whiskey, milk and alcohol are the two worst possible things in typhoid fever--milk because it furnishes food to support the growth of germs, to encourage their growth; and alcohol because it is a poison itself, and is itself a heart poison. So alcohol and milk are two things to be discarded in typhoid fever, and not to be taken at all. If you are going to take milk in any form, it may

may be in the form of buttermilk or kumys, but in no other form. It is better not to take it at all. What shall we eat then? Hypocrites, the father of medicine, one of the great fathers of medicine, who wrote three centuries before Christ, one of the most eminent physicians who ever lived, one of the most sagacious of men,--he found out that milk was not good in typhoid fever, and he gave patients barley gruel. There is nothing better than barley gruel except fruit soup. You may take a combination of cherries, raspberries, and dried apples--dried apples are particularly good,--and throw in a few figs or something else, and boil them for a long time; then strain through a colander or cloth, and you have a delicious fruit soup. Raisins are particularly good to be added. So a combination of ordinary fruits, apples, and raisins, and cherries, and raspberries, then a very little cornstarch put in to give it a little consistency, to thicken it,--just a little, will make a very nice fruit soup, and an exceedingly excellent food for typhoid fever patients. Fruit juices of all kinds are particularly good. Grape juice is exceedingly good. You need not be afraid of your patients starving. Just see: an ounce of milk contains 21 food units, and an ounce of grape-juice has 24 food units. An ounce of apple-juice has 17 food units; so you see at once, that fruit juice has more nutrition or as much nutrition as milk. Skim milk has only 11 food units; buttermilk has 11 or 12 food units; so you see there is no danger whatever in giving the patient fruits for a diet in this disease. The patient may always take a little dry toast or a little fruit toast is a very excellent food. They may have all the oranges they want. There is nothing better than orange-juice for a patient with typhoid fever. The patient can live on orange-juice with a very little dry toast, all through the disease, with great advantage; or simply a little barley gruel. Corn flakes are good; granose is very good indeed. Now the treatment: The treatment is simple enough--cool water treatment to

keep the patient's temperature down within reasonable limits. Don't expect to get the temperature down below 100 or $100\frac{1}{2}^{\circ}$; that is low enough. We don't want the temperature to come down to normal until the patient becomes convalescent. If the patient's temperature came down to normal the first week, it might indicate the patient was very bad off, or very sick; or else, it was a very, very light attack. It is necessary that the patient should have a temperature of 100 to ~~$101\frac{1}{2}$~~ 101° , in order that the system shall be able to fight off the disease properly; in order that the germs may be killed. One of the best means of lowering the temperature is the long continued bath, a bath at 92° . The patient may be put into this bath at 92° and kept there indefinitely. Put some blankets under the patient, and the patient lies on the blankets in the bath, and the temperature will be certainly controlled. A bath at 88° to 90° will absolutely certainly bring the temperature down sufficiently. The wet sheet pack,--that is, to wrap the patient in a pack wrung out of water at ordinary pipe temperature, wringing the sheet dry, then wrap the sheet tight around the body, cover the patient with blankets wrapped clear around and tucked in tight around the shoulders; and when the sheet gets warm, in about six or eight minutes, take it off and put another one on; then take that off in nine or ten minutes and put another one on; and in about eleven or twelve minutes take that off and put on another; and go on in that way with six or eight or ten sheets, and you can just as certainly bring down the temperature as the sheets are put on,-- you can always control the temperature this way any place, provided the thing is done properly. Proper feeding, proper nursing, the wet sheet pack, or the prolonged bath will control fever, and will cure almost every single case. Eleven hundred cases of typhoid fever were treated by these methods with success in every single case; every single patient got well,--1100 suc-

cessful cases. Now, that is a good result, isn't it? That was done in the German hospitals; it was not done in this country, but could just as well be done in this country. The mortality will not be more than 3% when the patients are treated by the method I have suggested. With proper diet, and treatment with cold water, the wet sheet pack, or the prolonged bath, not more than three out of one hundred cases will die. If the treatment is applied from the very beginning, scarcely one will die. There is no reason why we should not save thousands of people. There are, I think, something like 73,000 people died of typhoid fever last year. Now of that 73,000 people, five out of every six of them could have been saved. Sixty thousand of those people might have been saved just as well as not if they had been fed rightly and had bath treatment instead of the old fashioned whiskey and milk treatment. Now, my friends, you can tell that just as widely as you have a mind to; you can tell everybody you want to that Dr. Kellogg said that here; you can publish it in the newspapers if you want to. I am prepared to back that up by solid statistics; nobody can meet or deny it. The time has come when the people ought to know that the great slaughter, the horrible slaughter that is going on year after year from acute diseases is entirely unnecessary. The mortality from pneumonia is about 25%, and in some epidemics it is 50%, and in some 75%; and in a report made by a doctor who gathered statistics for a paper read at the American Medical Association at Atlantic City a couple of years ago, one reporter reported that all his pneumonia patients had died; he reported 100% mortality. Another doctor reported three per cent mortality, and that doctor that reported three per cent mortality was Dr. Mays of Philadelphia, a regular practicing physician of Philadelphia who employs the water treatment. Dr. Mays had been employing water treatment, advocating it for the last fifteen or twenty years. He employs ice bags on the chest. You think that perfectly terrible? A lady told

me today that her brother, who is a physician, used cold water on the chest, and had not lost a single case of typhoid fever while he was doing it, but she said, "I told him I could not stand water, and if I had typhoid fever I would get another doctor." The old doctor had a terrible mortality in pneumonia before that time, but evidently now he saves all his cases. But this lady said, "Oh, I am so afraid of water. If he put cold water on my chest, I should send him off and get another doctor." Yes, and die! That is just what she would do. We must get over this hydrophobia. People are getting over it a little. We are finding out that water is our best friend, and if properly used it can save an enormous number of lives. 416,000 people died of pneumonia last year, and four fifths of them might have been saved. Four hundred thousand out of the 416,000 nearly might have been saved. Of typhoid fever and pneumonia patients together, there might have been saved more than 400,000 people last year, if the people just simply knew the right use of water, knew how to take proper care of the patient. This rational method of treatment which is so wonderfully successful in acute diseases, is almost the only remedy, practically the only remedy in chronic diseases.

The central idea of the natural method is the return to Nature. Now, that is not a new idea. It is an old one. When the human race was first launched upon its career here in this world, man was in a state of simplicity. Adam lived close to Nature, and I don't believe Adam had any trouble from indigestion. Certainly I don't believe he could have lived over 900 years if he had had indigestion. There was his son Seth, you remember, who lived over 900 years, and there was Methuselah who lived 969 years, wasn't it? Think of such a grand old age as that. Man was intended to live a thousand years, to live a millennium. I suppose he was really intended to live for ever. I don't know why he could

not live forever just as well as not if he lived right, but the trouble is he did not live right. Adam got to going off the track; and in transgressing the laws of life, he died in consequence; but he still had a good constitution, and it carried him on to almost a thousand years.

Now, our average length of life is only forty years. That is the average length of life in this country at the present time,--just a trifle more than forty years, and the whole thing is because we do not live as we ought to live. Now, about sixty years ago, pretty nearly sixty years ago, some people got hold of this idea of diet. There was Bronson Alcott, the Concord philosopher; and there was Emerson, one of the most eminent philosophical minds this country has ever produced; and there was Charles Dana, of the New York Sun; there was Mr. Curtiss, George William Curtiss, of the ~~New York~~ Harper's easy chair; you remember him--George William Curtiss. Somebody asked George William Curtiss where he got his education. He said, "I got it at Brook Farm." Hawthorne was another one. Margaret Fuller was another. A number of the brightest people of New England, 140 of them, went to school at Brook Farm, a colony established about sixty years ago in a little farm out near Concord. When I was down east a few weeks ago, attending a meeting of the American Medical Association, I left the meeting one afternoon on purpose to go out and look at this place. Those people are all gone now; there are none of them there. The buildings you see here, are none of them there; but the farm is there, and it was no small comfort to me to sit down under one of those grand old elms that still stands there, and think that I was sitting under the same tree under which Thoreau sat. I was on the same spot where Emerson once talked; and that ground seemed almost sacred to me, because those men were the first ones in this country to start the idea of returning to Nature, getting back to simplicity again, to simple ways of living and eating. They were not all vegetarians on the

Brook Farm, but they had a vegetarian table, and a large number of them were vegetarians, and the vegetarian idea grew. Sylvester Graham was there, the apostle of vegetarianism, at that time in New England, and he led a great many to adopt his ideas.

About twenty years after the Brook Farm failed, because they did not have a good business manager, a dozen people started in this town this enterprise, with the same thought--to return to Nature in methods of treatment, in methods of diet, in everything that pertains to human life so far as is consistent with present circumstances. We started in a two story farm house that burned up four years ago. Thirty-three years ago I became connected with this institution. I took charge of that farm house with twelve patients more than thirty years ago, and I have seen this institution from that beginning to what it is now, and in 100 other places these same principles are being held up. Everything we do in this institution is based on that return to nature idea; it is based on the study of nature to see what nature is trying to do; then to make an effort to co-operate with Nature instead of working against Nature--to co-operate with her. Galen, the famous old Scotch physician, once said, when some one was talking to him about the use of the word "Nature", in connection with disease, "Nature", said he, "I would drive nature out of the sick room as I would a squalling cat"; so it is quite evident that where Galen went, the undertaker ~~XXXXXXXXXX~~ also went pretty soon. Nature didn't go along with Galen, but the undertaker followed him.

Now, our idea here is to sit down humbly at the feet of Nature, and study what Nature is trying to do. What do we mean by Nature? When we talk about Nature, what do we mean? We mean, my friends, nothing more than that the same power which made us is the power which heals us. The same Power

that is working for us and that is with us in health, is the power that is working for us in disease, and ~~not~~ destructively, but constructively, conservatively, beneficently, for the purpose of saving, and not for the purpose of destroying. If when one is sick he fails in the struggle, it is only because his vital powers have been so wasted that there was not enough of him to save, not enough left of him to save. The fire department sometimes goes out and it pours water upon a building and puts out the fire; but when the fire is out, the building is nothing but a mass of ruins, simply embers which are burned out; so it is this very effort that is intended to save the body, sometimes the body hasn't the power to carry through successfully, fails in the attempt; so death is the result; but it is only the fault of the body, because that body has been so abused before by wrong habits that ~~its~~ vital powers have been wasted, and it is no wonder that there was not enough vitality left with which to rescue it, not enough left with which to maintain the functions of the body; they failed and collapsed in the very effort at saving it.

Here is a picture of the muscles. I want you to see now how this rational idea fits all the different things we are doing here. Here are the muscles of the body. These muscles are something more than machines to move us about. See what the muscles are, how beautifully they are arranged. Here is a muscle that holds the head back--the great trapezius muscle. When you throw the head back, it is because this muscle is contracted. It is also attached to the shoulder blade. It moves the arm that way. Some time ago a woman came here with a great cancer upon the chest, and I had to cut away the cancer that was so badly diseased, and had caused the tissues in that region to become diseased, and I had to cut away all the muscles, and some of this great muscle, the pectoralis muscle that moves the arm forward in this way, and had to cut that muscles all away, so there is no muscle left at all on this part of the

body; the arm was separated from the front of the body entirely. You would be very much surprised if you should see that lady now. I met her here the other day, and the wound is all healed, and I was very much surprised to see the woman putting her hand upon the head in this way, feeding herself as though that muscle were not gone at all. There is just a trifle of inconvenience; it is not so strong as before, but she is using the arm, and you would not imagine she could use it at all, and this muscle has been entirely cut away; but this muscle here has actually taken up the work of this great trapezius muscle; it is doing the work of the muscle that was removed.

This same principle applies in the body in various ways. Remove one kidney, and the other kidney takes up its work immediately. When the nerves are paralyzed, the nerves from the brain perhaps, an accident occurs, or a bullet wound perhaps, and paralyzes the nerves of one side of the body; if it is a young person, in a few months or years at most, the nerves of the opposite side of the body will have taken up the work and carry it on, so the power of the limb will be restored again. The body is making compensation of this sort continually through this wonderfully intelligent power that is working for us within us continually to preserve us, and to repair our injuries.

Now, these muscles have something to do besides mechanical work, as I said. The muscles are the seat of heat production. The body is a sort of furnace; the food we take is fuel, and this fuel is made in the muscles, or rather it is burned in the muscles. That is chiefly where it is burned, in the muscles and in the liver. They are the chief seat of heat production in the body; and about four fifths of what we eat is used as fuel. If we eat a pound, four fifths of that pound,--suppose a person eats twenty ounces; sixteen ounces of that twenty ounces the man eats is burned in the body, consumed by what is

called wet combustion. Dry combustion produces flame, but wet combustion goes on without flame; so you can see it, but you can feel the heat. That is the sort of combustion that is going on in a hot bed when the stable litter is thrown into the hot bed; in that bed there is moist combustion going on. The same thing takes place sometimes for farmers. Sometimes the farmer puts his hay away when it is not quite dry enough, and there is some moisture, and the hay takes fire and sets the barn afire, burns up the horses instead of feeding them. This sort of combustion is going on in the muscles all the while; heat is being formed there.

Suppose here is a man who has got diabetes. What is the trouble? That man takes in more fuel than he burns. Sugar which was intended to be burned in the body is carried off through the kidneys instead of being burned. What is the trouble? There is not enough of this combustion taking place. So it is necessary ~~difficult~~ then, to increase this combustion. How are you going to do it? Hot baths, cold baths, exercise. There are three things which do it. The application of electricity, the sinusoidal current will set the work going. If we have a man who is too weak to walk, we give him the sinusoidal current and make that man walk five miles in fifteen minutes, by setting his muscles to going, without getting off his bed. Apply it to an arm muscle, and we can make him saw wood when he hasn't a single stick of wood or a sawbuck. We can make him saw a whole cord or two of wood in an hour's time. Why? Because we can make those muscles contract a great deal faster than he can do it with his own will. Thirty times a second they can be made to contract. So you see how we apply the rational principles to make the muscles do something, to help the man get well. We make the muscles burn sugar up by exercising with electricity, by putting him in a cold bath, that through his nerves increases the heat producing process, increases his activity. The hot bath does the

same thing, because the hot bath makes the man sweat, and when he sweats, he cools off so fast the heat production must be increased. So there is the hot bath, the cold bath, voluntary exercise, and electricity. All those things can be brought to bear to cure diabetes. That is rational because it removes the cause of the difficulty. Suppose we give that man some medicine. It has to be a poison like opium, or antipyrin, or some other kind of poison which is a deadly poison, and it would relieve the case simply by paralyzing the vital processes. That is the only way it would give him any temporary relief, and quite naturally it would do him harm. It might control the symptoms a little while, but in the end the mischief will be increased.

I met a lady a day or two ago and she said, "Doctor, I want to get rid of fifty pounds of fat." "All right," I said, "you can get rid of it just as fast as you want to--two pounds a day if you want to." I said, "if you do exactly as I tell you, you can get rid of two pounds a day. You must walk." "How much?" "About twenty miles a day." "Oh, I can't walk so much as that." "Then you will have to be satisfied with less. You can not get rid of two pounds a day unless you do enough work to burn up that two pounds." There are several ways in which we can burn up that two pounds of fat. The hot bath will burn it up; the cold bath will burn it up; we can burn it up at the rate of two ounces in fifteen minutes if we make it cold enough; or in an electric light bath; and we can burn it up at the rate of two ounces in half an hour if the patient exercises fast enough; so we put the patient in the swimming bath, and there the patient has the exercise and the cold water both together, you see, and we double it, and we give the patient a hot bath until the cold water feels good, you see, so the patient goes in and has the hot bath to burn up two ounces, then he can go into the cold bath and burn up another ounce; and if in the cold bath he will work hard, and swim, he can burn up an extra ounce or two of

fat in the swimming pool; then he will feel just like taking exercise, and he will go off and take a walk of two or three miles and burn up another ounce. That will be repeated a couple of times a day, and in that way the adipose tissue, the fat will be reduced. At the same time the food supply will be cut off, ~~the~~ so the patient must live upon himself for a while. As I said to a man the other day, "You must gnaw your own bones. You need 2000 calories in order to live, to keep up your heat, to maintain your weight; now if you only take 1000 calories, you see, you will cut off a thousand calories. That thousand calories you will have to get out of yourself, so you will gnaw your own bones, so to speak. All these are measures we can bring into operation here. But the man who is too fat to exercise--we set the sinusoidal current to going, and we make his muscles contract, make him work while sitting still; and in that way the fat can be reduced. And we give the fruit diet in both these diseases. In diabetes we cut off the sugar and the starch; while in the fat patients, we cut off the fat and part of the starch; and then besides that, the patient takes the exercise, the hot bath, the cold bath, the sinusoidal current--those five things are all that the patient needs to give him the best possible chance for recovery. No medicine can do any possible good in addition. No medicine can do the least bit of good.

These muscles cover the framework of the body, but you see how useful the muscles are in the rational process of cure. In the physiologic method, the muscles are of the greatest value. But we could do nothing at all without the heart. The heart is the great central pump which circulates the blood. The blood is the healing power. That is a foundation principle in the physiologic method. And the blood heals, as Prof. Winternitz and other German physiologists so often put it,--the blood heals. That is the healing power. Cut the

blood off from a part, and that part will die. Let the blood stagnate in a part, and the part turns black and dies. Increase the circulation in the part, and its activity increases; so if a part is sick the thing we need is to increase the movement of blood through that part, make the blood better, and regulate the movement of blood through that part, and if we do that, the blood is certain to heal. The blood contains everything the body needs; it contains food to build up the weaker parts; it contains antidotes for poisons produced by germs, opsonins, we call them, or alexins as they are called. It contains germicidal substances which destroy germs; it contains opsonins, recently discovered substances which have the power to enable the white blood-cells to destroy germs, as we are going to show you in a moment, when we show you another picture here.

Here is the heart, the great living pump that keeps the blood moving throughout the body, and distributes to each part just the amount required. What a wonderful thing it is that that heart beats while we are asleep as well as while we are awake; and every time it beats, my friends, it is because there has been a supreme will superior to our will that commands the heart to beat. Every beat requires a command to make it beat. You say, "Oh, that is too wonderful; I can't believe that. I can not believe that God commands each heart-beat, that God controls each heartbeat." My friends, there is no other power that can make the heart beat but the Power that made it. You think I am not right about that? Let me ask you, when you see your home doctor, ask him to explain to you why the heart beats. Go to a medical college close to you and ask the professor of physiology to explain to you what makes the heart beat. Ask the wisest scientists you can find in the world that you know of, ask him to explain to you the heart beat. There is no explanation, absolutely no explanation. I sought for thirty years to find an explanation of it, and knew of physiologists who attempted it. I can not find any other. The text

books that medical students study in college, the textbooks written by Prof. Schaffer, for example, one of the most eminent physiologists in the world, professor at Edinburgh--we use that book in our classes across the road here; and in his book that professor frankly admits this thing is a mystery which human science can not explain only by referring it to this great primal force which is behind all the operations of Nature, and that is what keeps the heart beating, and we are dependent on this higher power for every heartbeat and all the functions of life.

This shows the network through which the blood circulates in single procession. The red cells and the white cells circulate all through the body. That is the way it looks when you look at it in the web of a frog's foot, through the microscope. Some evening next week we will show you that through the microscope, and you can see it. When you look at blood through the microscope, you do not see a whole lot of little red specks, but you see a great variety of interesting things. There are many different kinds of blood-cells, not simply one, but several kinds. There are two or three kinds of red cells, and half a dozen or more kinds of white cells. For instance, look at these. They are very different from those. Here are some others that look still different. Here are some that look very much like raspberries. Here are several other kinds. All of these are different kinds of blood-cells. Each one of these different kinds of blood-cells has its own work to do in the body. Here are some wonderfully interesting little blood-cells called the microphags. These microphags are after germs, and their business in the body is to catch germs, to destroy germs. They find the germs as they come in, and they pursue them, they hunt them up. They haven't any eyes, and they can't see; yet they pursue them and they find them. They seem to have a knowledge of their presence. They haven't any teeth, yet they chew them up and digest them; they haven't

any stomachs, yet they digest them, actually destroy them until they obliterate them and they disappear. Millions and millions of germs are being destroyed continually. If it were not for that fact, my friends, we could not live twenty-four hours. The whole skin is covered with germs which are working in continually, and as they get down into the deeper layers of the skin, they find these cells watching for them, a solid phalanx of these microphags waiting to capture them. With every breath we take in scores of germs. Every day we take in millions into our lungs. They are carried down into the lungs, and there they find the lung membranex which, if spread out, would cover a surface of two thousand square feet, a quarter of this room,--more than that--a space forty by fifty feet. That is the surface of the lining membranes of the lungs, that the lungs are covered all over with, and it is full of these living cells, and these living cells are watching for germs, and when they come in contact with them, they seize the germs at once, and destroy them. The whole alimentary canal is lined with them, and it is a continual fight they keep up with germs to keep them out. If the germs get into the blood, they are ready to capture them in the blood.

Now, there is another kind of white cells here. These large cells called the macrophags. Prof. Metchnikoff, the eminent successor of Prof. Pasteur in Pasteur's laboratory, in Paris, is the one who has discovered the function of these cells and described them so beautifully and graphically in some of his works. Prof. Metchnikoff found out these larger cells have a different and very interesting function. Suppose you should inject a little indigo into your blood, and a drop of blood should be taken out next day. The next day every one of these little white cells would be found with a little speck of indigo inside of it. I remember an experiment which interested me very much when I was a young physician; more than thirty years ago I made this very ex-

periment on a frog. I injected into the frog a little indigo one day, and the next day when I examined this blood, every one of the white cells had a little speck of indigo on the inside. It was a wonderfully interesting thing to me to see how those cells had captured the little specks of indigo and digested them. That is the duty of these cells. They do not catch living microbes, but they capture dead things, specks, fragments of tissue, rubbish of all sorts; they are the scavengers of the body; they go up and down the yards of the highways of the body, and the byways of the body, all the lanes and alleys and streets of the city--what we call the blood-vessels of this city in which we live,--they are searching all the while for rubbish; they are the garbage gatherers, the scavengers of the body.

Suppose you get typhoid fever or pneumonia, or anything that causes an inflammation, or an exudate. There is a thickening, perhaps, around the limb where you sprained it, and it gets all hard there. By and by it softens up. How does that exudate ever clear out so you can bend your limb again, or bend a knee that has been inflamed? It is because of these macrophags which swarm out into the blood-vessels, and get into the tissues, nibble ~~it~~ off, tear it down and carry it away; so they are extremely useful.

But, my friends, there is something more to that, something wonderfully interesting about that, and that is that these living cells which are so useful to the body as scavengers, sometimes under certain conditions, attack the body itself. Now, there are millions of them; in every little drop we examine there are five, or six, or seven, or eight, nine, or ten thousand. In every little drop as big as the head of a pin, there are seven, eight, nine or ten thousand of these cells, and in that there are four or five thousand of these macrophags. Think how many there are in ~~any~~ the ten pints of blood in your body, and every drop has four or five thousand of these cells in it.

Suppose they were all turned loose upon the body and began to devour the body. Think of what would happen. Down in Mexico they have a very efficient police force, but they are fierce looking men. When I first went down to Mexico, many years ago, I was almost alarmed when I came in contact with some of the policemen, such fierce looking men, and I didn't like the looks of them. I spoke to a friend of mine who had lived in Mexico for some time and asked him how it was they had such men. He said, "These men are splendid policemen; of course they are fierce looking men, but that is not to be wondered at. These men used to be guerillas, outlaws, brigands that lived in the mountains, and Diaz has brought them into the towns and made policemen of them. He made life miserable for these men, then offered them all good positions if they would come down to make policemen for the cities. Suppose they should suddenly turn loose upon the people of Mexico. It is simply that the power of the government is stronger than they; so they are kept in order; but suppose the government of the city of Mexico should sometime get so weak that these brigands could feel they could take possession of the city, that they were powerful enough to do it, they would do it quick. They would take possession of everything there. They would rob, burn, kill have a carnage of blood. They would take possession of things, assume the power. Now, that is exactly what these scavengers of the body are ready to do. When the body loses control, loses its power of proper government, when it is reduced, when it becomes weak, that is what these cells do. One time some years ago in passing across the plains in the western part of Nebraska, I saw a very pitiful sight. As I looked out the car window, going through one of the great cattle ranches, there I saw a poor cow that was nothing but skin and bones, and she had great sores upon her back, and was just tottering upon her last legs, as one would say, just about ready to surrender; too weak to eat; but she was just simply able to take a few

steps. Upon her back was a turkey buzzard, or a hawk, a bird of prey perched upon her back, picking her bones while she was still alive.

Now, my friends, that is exactly what the macrophags do when the body gets reduced, when, by the use of alcohol, tea, coffee, tobacco, wrong diet, of poisons of any sort which reduce the vitality of the body; for instance, that man whose face has become suddenly tawny; that woman who has got great brown circles around her eyes, has become emaciated, lost flesh; a person who has a dilated colon, inactive bowels, and in consequence of the retention of fowl matters in the body, these poisons taken into the body deteriorate, and these scavengers thrive upon those things until they become strong, healthy, vigorous, irresistible, and then, by and by, as the body gets weak, and the scavengers become abundant and strong, they turn upon the body itself, rush into the hair and carry away the coloring matter of the hair, and in two or three weeks the hair turns gray. When a man has typhoid fever and gets down weak from it, and the macrophags get the best of it ~~aktaghtkax~~ altogether. They swarm into his hair, steal away the coloring matter, carry it off; and that is why the hair becomes gray. This man has cultivated the macrophags by neglects of various sorts--alcohol, tobacco, whickey, tea and coffee, by meat eating, and other wrong, unnatural habits, and by sedentary life, by neglect to exercise, and the macrophags by and by get into the ~~walls~~ walls of his blood-vessels. They are right close by; the blood is passing right along through the blood-vessels, and they penetrate the walls of the blood-vessels, attack the walls and the blood-vessels become weak; the natural structures of the blood-vessels are consumed, they are made chalky; chalk takes the place of the natural structure; then you can begin to feel those vessels hard under the skin; and you say that man has arteriosclerosis. That is the cause of arteriosclerosis. By and by this man in a state of excitement gets angry, or something, gets

excited about his business, or something; gets overjoyed; takes exercise more than he ought, runs to catch a train or something, bursts a blood-vessel in his brain, falls down paralyzed on one side. Many a time I have encountered cases of this sort, my friends. I have predicted what was coming and seen it come more than once. A man came to us some years ago, and the very minute I felt of his arteries, I saw they were getting hard. He was forty-five years of age, but his arteries were 100. I said to him, "You say you are only 45? My friend, your time is short. Old Father Time is right at your heels with his sickle. He is ready to rope you. You have got to make lively steps to get away from him." "Well," he said, "Doctor, this may be so, but I feel all right. Now, Doctor, I have some urgent business at home; I must go home and attend to that, and when I get that fixed, I am coming back then and we will fix this thing up all right." I said, "My friend, I am sorry you have to go; you haven't a minute to lose; we ought to get right after this thing to try to soften up these arteries. This degeneration is coming on rapidly or you would not be in this condition at this early age." His face was getting wrinkled; his hair was turning gray. Within the last three months, the hair was turning gray rapidly. The macrophags were making inroads upon him. "Well, Doctor," He said, "I must go home. I live up in Dakota; but I will come back in two or three weeks and stay." He went away. In ten days, I got a letter from his wife, and she said, "My husband died yesterday. He stepped out into the yard to see about something and didn't come back. I stepped out there to see about him, and there he lay upon the ground. When I found him he was dead." What happened? The blood-vessel was ruptured in his brain. Such a great rupture occurred that it cut off all the little lines running out from the brain into the various parts of the body which kept the vital machinery in motion. So there he lay, and he never came back.

A gentleman came here some years ago, and I said to him, "My friend, your business is sedentary, and you must change your habits of life." He was a judge. I said, "You must take more exercise, stop smoking, stop eating meat; you must reform." "Well," he said, "Doctor, I believe I will." And he did to some degree. He only partially reformed. He came down and spent two or three months with us and got a good start. I said, "You are getting old too fast; arteriosclerosis is just beginning; it is time for you to change about." "Well, Doctor," he said, "I will make a change." He went home, and after a time he came back, and he said, "Doctor, I felt so well that after while I went back to my old ways, and I thought I would come back here and get a new start." He stayed a little while, and then against my protest, he went off. Last year I wrote him a letter, and I said, "Judge, you are due here. I am afraid you are taking too many chances." He wrote me back and said, "I am all right, Doctor, feeling better than I have for years before. I am all right, getting along tiptop, feeling so well I can eat beefsteak three times a day, take tea and coffee, and get along first rate. I am feeling tip top." A telegram came about six weeks ago saying, "The Judge is very ill, can you send a nurse." The nurse went and stayed with him and then brought him here. He was paralyzed completely on one side. When I saw him up in his room, he burst into tears, and said, "Oh, Doctor, you told me last winter I was due here, and I was, and I didn't come, and now I am here. Do what you can for me." It was too late. We could not do anything. It just made my heart bleed; I had to turn away, to excuse myself as quick as I could. Absolutely nothing could be done. We sent him home yesterday in an ambulance. If he lives three weeks, I will be surprised.

My friends, we can not trifle with this thing. I am not speaking so earnestly to you in order to alarm you. I don't know of any of you here who

in such imminent danger as was this man, but I want to tell you it is the evil day that comes when we are brought to judgment. The time we are brought to judgment is now; it is every day we are being judged, asked to give account of ourselves, of the deeds done in the body on this day; our account must be rendered up this day. We are suffering today for the sins of yesterday, and away back twenty years ago. The tobacco you smoked twenty years ago you thought didn't do you any harm. Your breathlessness today is due to the nicotine you imbibed twenty years ago. The tea and coffee you thought were not doing you any harm, now come home to you; you find it in these hard arteries, and high blood-pressure. It is wonderful what a kind Providence will do even when we have almost apparently sinned away our day of grace.

A lady arrived here a few weeks ago with a blood-pressure of 315. I was afraid she would be reported dead in the morning. 315--that is, a boiler that is made to be run at a pressure of 120 pounds, with the pressure run up to 315 pounds. One hundred pounds to 120 pounds,--not one hundred pounds, but 100 milligrams--that is the proper pressure--100 to 115 or 120; and here was this woman with 315. Suppose you put a heater in your house, and the man you bought it of said the boiler is good for 100 pounds. Then you find the janitor has neglected it, and you find the steam pressure has run up to 315 lbs. You would let that pressure get down as quick as ever you could. Think of this woman with a blood-pressure of 315; and I expected in the morning to find that woman was dead, or paralyzed, or had a stroke of apoplexy, or something. I am thankful to be able to tell you that the day before yesterday her doctor reported to me that that woman's blood-pressure is 235. That is 80 less than it was. I am hoping we can get that blood-pressure down to 160, and that will mean we add twenty years to that woman's life. But suppose she had gone right

on at home with tea and coffee, and beefsteak, and all the things she was doing that she thought was all right; the very things that had brought her into that condition. She would very likely have been dead by this time. A kind Providence got her here just in time to save her life. I hope many of you have come here in time to save your lives, to extend them. The thing is to keep these microphags active, killing off the germs, and to keep the macrophags active eating up rubbish; keeping the streets clean, keeping the kidneys' highway clear. That is the proper thing for them to work at, and not to get these ^{wonderful} ugly little creatures here working at things which they are not intended to do, destroying the body itself. If a man has got locomotor ataxia, it is because the macrophags are working on him, and gnawing him, eating him, and not doing the things they are intended to do. Here is a man with wutointoxication; he has got the tawny, dingy skin which means autointoxication--a dingy sclerotic that means his body is saturated with poisons. The woman that has got bands around her eyes, she has got autointoxication. The man who is thin and not too fat, if he is falling off in flesh, and has got a protruding abdomen here, a dilated colon, inactive bowels,--all that means autointoxiation. A bad breath, a coated tongue, foul teeth, rapidly decaying teeth,--all those things mean autointoxication, mean poisons generated within the body by poisoning from poisons generated in the body. Suppose a patient comes that way, and we say to that man, "Oh, well, now, then, you are kind of run down; you need some tonic; we will give you some strychnia." Suppose we give him strychnia. We make him think he is better when he is not. It is like the ostrich hiding his eyes in the sand. We say, "Oh, well, you have a sour stomach; we will give you some scraped beef; put you on a meat diet, and that will make you feel better"; and it does make him feel better, because with his acid stomach, he can easily digest the meat; and the meat neutralizes the acid, and he thinks he is getting

along all right; thinks it is just the thing he needs. It deceives him; there is stimulus in it, excitement in it, and it raises the blood-pressure a little more, and that makes him feel well. The higher the blood-pressure is, the better you feel. The more excited the brain is because the blood is being forced into the brain the better you feel, although you are not any better. What would that do? That would simply be hastening his dismal end? We would simply be hurrying him on to the final catastrophe. The patient says, "I have headache." All right, take a good strong cup of tea in the morning, and that will help it. Make the coffee a little stronger, use mocha, or something very strong to stimulate your nerves, a little more, and you will feel better. That is just the way you have been curing yourself of headache. It is an irrational method that makes you feel a little better, but by and by brings you to the condition where you have to be consigned to a penal institution like this, where you have to work,--to the workhouse where you have to work out your own salvation, and do penance for your wrongdoing at home.

Now, what is the right thing to do? What is the best thing to do? Here are these macrophages that are destroying poisons. They are encouraged by meat eating. The poisons of meat are the very things these macrophages feed upon, so the more you eat, the more they will thrive and flourish and multiply. These macrophages are to destroy germs in the blood. If you eat meat, that meat encourages the growth of germs in the colon, and from the colon they penetrate into the blood, get into the liver, get into the gall-bladder, and make gallstones. Whenever you have gallstones, you may know you have had germs in your blood; for that is the way the germs got into the gall-bladder--is through the liver, through the blood being absorbed from the intestines. They go elsewhere also, and as they multiply in this way, these little microphages in the blood are overwhelmed with the amount of work they have to do so they can no

longer defend the body. They can not keep germs from coming in from the skin, because there are so many germs coming in through the colon, and the consequence is germs upon the skin multiply and grow, and penetrate, get down beneath into the deeper layers, and then you have salt rheum, or eczema, or psoriasis, or acne, pimples on the face or shoulders; or if they get in deeper, you will have boils or abscesses. That is the way those things come; it is the only way in which they come. It is the way. Now, it goes on and by and by they develop in the intestines,--poisons develop there to such a degree that these germs become paralyzed, used up, exhausted, and they can no longer cope with the mischiefs that are in progress there, and the result is the colon becomes a hold of germs, enormous quantities of germs, develop; and then it is intestinal catarrh; then it is chronic colitis. Then there are great quantities of mucus come along with the bowel discharges; you have got intestinal catarrh, catarrh of the colon, or colitis, which is coming to be an exceedingly common disease. By and by the vital powers will be reduced to such a degree that tubercle germs get in, find a foothold, so the mischief still goes on.

Now, then, what is the proper thing to do? Cut off all these poisons; cut out the meats. Why? Because they feed germs, increase the quantity of germs. Over across the road in our laboratory, we have a very skilled man; two men there who have been sent away to the most learned and skilled men in the world to get instruction so that they might be made experts. Those men are studying; they study the bowel discharges, the feces, and they count the germs that are present. A case was reported to me yesterday in which there were 180 million germs in one eighth of a gram. In 1/32 part of an ounce of the bowel discharges there were 180 million germs, ~~frankly~~ every one of them producing deadly poisons, those poisons being absorbed, and it is no wonder that

poor patient is in a state of auto-intoxication to the last degree. Browning of the skin, complexion dingy so that that ~~woman's~~ woman's nearest relatives would not recognize her if they had not kept watch of the process as it went on. She is twenty-six: What is the cause of that condition? Tea, coffee, mustard, pepper, peppersauce, ginger, and all those things, and they must all be cut out because they are poisons. That is the way to get rid of poisons, because the liver has been overworked in its efforts to destroy the poisons; the kidneys are overworked in their efforts to eliminate the poisons; they have all they can do to cope with the poisons produced by these horrible germs. The next examination made, I believe will not show more than ten million germs. By and by we will get it down to five million germs, and by and by we will get it down to less than that. Then we will feel that that woman is merely getting on safe ground. So we will eliminate the poisons, lighten the work of the liver and the kidneys, cut off all the supplies, and do not take any germs in. That is the reason we cut off the cheese; that is why we sterilize milk, because ~~in~~ unsterilized milk is swarming with germs; as many as fifteen million germs in fifteen drops of milk,--billions of them to the pint of milk, billions of germs. When they are taken in that form into the alimentary canal, there they grow and multiply and they are the very kind of germs found in the colon, the barnyard germ, the manure germ as they are sometimes called. We will build up the body powers by sunshine, by cold baths, by the electric light, by exercise, by various means which promote physical health, raise the vitality, or improve the quality of the blood; by that means, we will stop this awful process of destruction which is going on.

Now, we will see how the blood current travels. Here is the current, the red cells running through the center. They carry oxygen from the lungs

down to the tissues, and carry carbonic acid gas back to the lungs. Here you see the little white cells that are going along the walls of the vessels. Here you see these white cells here going through the wall. What for? They came along, and they discovered these germs were off there in the tissues. How did they discover it? A divine intelligence informed them. They have no eyes; they are without noses; they have no organs of sense, yet when there are some germs that have gotten into the tissues, immediately these white cells, the microphags, begin to swarm into the vessels close by them, and they penetrate the vessel, make a little gimlet, bore a hole through the wall and creep through. There you see one is going through; and they move right straight toward the germs. They do not go away off here and go feeling around and by and by succeed in finding them; but they go right straight toward the germ immediately, seize it, swallow it, digest it, and destroy it; so the man's life is saved. Now, if you have boils, why is it? It is because the microphags were not able to fight, were not able to kill the germs. Why don't they do it? Because they were so busy with germs absorbed from the colon. That is the reason they could not take care of the germs that came in back of your neck, on the end of your hands. They were so busy taking care of germs, they were exhausted, hadn't the power to fight. Now the thing that is best for these germs is to make them hungry. If they are hungry, they rapidly become voracious to find these ~~microphags~~ germs. The microphags become efficient and active, and the way to make them so is to make them hungry for germs. How can you do that? By taking pains to eat such food as will not encourage the production of germs in the colon and alimentary canal. Then there will be very few germs taken in. Then they will be always ready to seize the germ as quickly as they can find it; so the body will be protected.

Here are some of these germs grown on a little plate of gelatin, some germs taken from the colon, planted with gelatin, and they grow, and every one of these little spots represents a germ. They grow, increase in size, so they can be seen with the naked eye after while. At first there was only one, but now there are millions and millions of them. Every single one of these white spots is a colony of germs, and there are millions and millions there. They are diluted, spread out, and the surface is counted. This is a case of la grippe, showing the germs which produce la grippe. In this case, the sputum is cast out, and it dries up, and is carried about in the dust; then other people inhale it and they get la grippe. If your body is not prepared to fight off germs, you become a victim to it, but if your body has the power to resist and fight off the germs, if the blood-cells are active, they can eat the germs up, and then you are safe. Here are the germs which produce the plague or the black death. These little black specks are the germs that produce the plague. You do not need to have the plague if your body is strong enough to resist it. But if you have not been living up to all the light you have, but are low down, and have been eating meat,--a lady said to me today, "I eat all the meat I can get; eat meat three times a day at least,--all I can get. My complexion is getting bad, and I wonder what is the reason." It is the poisons formed by the germs in her colon and absorbed into the blood, deposited under the skin,--that is what makes that miserable brown color she wants so much to get rid of. The skin is dirty, and it is a kind of dirt that is more than skin deep.

This shows one of those macrophags going up into the hair and stealing away the hair pigment. These black spots are the hair pigment that give the hair its color. It looks like a big devil fish, climbing up into the hair,

and you see these macrophags have swallowed a whole lot of this pigment already. We can examine the hair through a microscope and see them going on. They steal the pigment out of the hair, and then it goes down into the body again to do some mischief somewhere else.

3 These are chromophags here. But I must let you go. I am going on to tell you next time some more of the story of how we fight off these invading enemies of ours that get into these bodies of ours, and how we do it by rational means, so that we will understand there is a philosophy back of everything that is being done in this place.

One thing that is very important for the sick man is to have faith. Some people have faith in mineral springs. As long as they have faith they get good out of it. A lady said of a certain doctor's patent medicine, she knew it was good, for she had been taking it for the last twenty years, and she expected to keep right on taking it, so that was proof it was good. That is proof it was not good. If it had been worth anything, it would have cured her long ago. My friends, we are trying to cure you here; we do not want ever to see you again. We want you to get well so that you will never have occasion to come again. If you have to keep coming back here every year, it is evident you have not lived up to the light you have got; you have not done what you ought to be doing. Perhaps you say, "I want to take a vacation anyhow, and I like to take it at Battle Creek." All right, we are glad to have you come any way, but we don't want you to come back with the same old things you came here to be cured of, because you can be cured, and you should aim to get just as well as you can get; climb up just as high as you can get. When a man finds a gold mine, he works in it, digs in it, is never satisfied until he has got to the bottom and gets all the gold there is in it. This is a gold mine, my

friends; not of actual gold, but of something that is a great deal better than gold; a diamond mine, if you please. What will a man give for his life? The Bible says, "All that a man hath will he give for his life", but how much will he give for his health? The average man will only give just as little as he can. He will give a good, big price to get a fine horse, but to get fine health, he will pay just as little as he can. He will make any kind of sacrifice for his business, but he is not willing to make very much of a sacrifice for his health, any more than he thinks he is absolutely obliged to. We ought to be a little more generous about that. The most important thing the average business man is obliged to give for his health is time. Time is harder to give than money, because time is worth more than money. What the average business man pays in this Sanitarium is a very small thing compared with what his time is worth. He does not have to pay much more here than he would pay if he stopped at a good hotel. He would pay out as much at a good hotel as he does here, and he would have his big cigars, and the cigars he would give away to his friends would probably take more money than he has spent here; but here he is getting health; and while you are here, work for it; put your whole soul into it; do every last thing you can find to do for your health. Learn how to live right; get your doctor to instruct you day by day in everything you can think of that pertains to your daily life, so that when you go home, you will not go tapering down again, just going down hill steadily until you are right where you were when you came here; but instead of that you will keep climbing up. The average man can do that. Very few of you here but what can keep going, keep right on, can even accelerate it so that at the end of a few months you will find yourselves better than you anticipated, and much better than you are now. You don't feel a bit better today, perhaps, than when you came. When you go away, you may not feel better, or not very much better than when

you came, but if you keep on doing all that you can for yourself, certainly, unless your case is organic, you have got some absolutely hopeless malady, you can be just sure that three months from now you will feel the good results of what is being done for you now, far more than you do now; and in six months you will appreciate it a great deal more than you do now, and you will keep right on improving. I met a friend of a lady today wandsaid, "Howx is Mrs. So-and-so?" "Oh, she is wonderfully better. She didn't think she was very much better when she left here, but she is now feeling splendidly, and she is wonderfully improved." The thing is cumulative, like the growth of a tree, like the growth of a splendid palm; it takes time for it to grow and develop, but as you sow the seeds of health, why those seeds will germinate and grow and develop and keep right on bearing fruit after you go home. That is the reason why we have these lectures to educate you. You don't want to keep coming back here to be cured, and we want you to stay cured and send back your sick neighbors. We want you to be such splendid specimens of the Battle Creek Sanitarium system, and what it will do, and has done for you, that when you go home, you will be a walking, living, example. That is the reason you are here today.

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ABSTRACT OF TALK BY DR. J.H. KELLOGG TO JUNIOR MEDICAL STUDENTS

September 19, 1906.

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WHAT IS THE NATURAL PRINCIPLE OF HEALING?

The sick man is different from the well man only in this, that the vital powers are working under embarrassments which they do not have in a state of health. Let us take the stomach, for instance. A man takes food into his stomach,--is there any change in the stomach? for instance, in the blood vessels of the stomach? How about the glands of the stomach? A man takes food into his stomach. There is a change in his stomach. The activity of the glands is increased. There is an increased production of acid, perhaps a new production of acid, if there is none before. There is an increased production of mucus. The blood vessels are dilated, and the stomach is smaller. The stomach is then congested. Of course this is a physiological congestion. This is true every time one eats.

Is there any anatomical change which takes place in the glands as the result of this process going on in the stomach during digestion? Yes, they become swollen at the beginning of the digestive process. But after digestion is going on, is there any anatomical change in the glands? Yes. The cells are shrunk and the granules contained in the cells have disappeared. There is a change in the appearance of the mucous membrane.

When Dr. Beaumont looked into the empty stomach of Alexis St. Martin he noted the difference in the color of the mucous membrane when the stomach was empty and after digestion was in progress. This is the same difference

as between a clear eye and an eye which has been weeping. It is the functional activity which has made the eye red, but it is physiologic. The stomach after three or four hours' digestion is in the same condition as the eye which has been weeping. The mucous membrane is enlarged, the blood vessels are dilated, there is an increased production of mucus. The acid and pepsin glands have become active, and as the result they have become shrunken. The stomach which has been working four or five hours is a different stomach than one which has not been active.

Does not the stomach need to be cured? Does anything need to happen to the stomach? You see the process of cure is required then in the ordinary state of health. The ordinary processes of the body require a reparative process.

Suppose a man after having eaten a meal does not wait until the stomach has been restored,--acquires the habit of eating thus, eating between meals, etc., what would be the result after a while? The man who has eaten a meal and his stomach has become exhausted, waits two or three hours, or over night, and his stomach is restored. Suppose instead of waiting, he eats, giving the stomach no opportunity for restoration, what will be the result by and by? We find by actual observation what happens. --The stomach responds to the stimulation of new food as long as it can, and keeps forming acid, until by and by the stomach makes too much acid, and is either congested-- a condition of hyperchlorhydria, or in an advanced state of gastrosuccorhea. Certainly we would call that a pathological condition. How does it come about? -- It is simply an abnormal application of food, too frequent stimulation and overstimulation of the stomach, so that the natural process has become exhausted, and we now call it disease. What is required for the restoration of this man whose stomach has become exhausted is nothing but what is required after each meal in a normal state.

Take the case of a muscle, for instance. A man works or runs until his muscles are completely exhausted. Is a cure needed? What is

required? Glycogen has been used up. There has been actual laceration of the little muscle fibrils. That is why the muscles are sore after vigorous exercise. The muscles are saturated with the fatigue products which have been produced. These fatigue products are the same thing as urari, with the action of which you are all familiar. Physiologists make great use of urari in paralyzing animals for their experimental work. What must be done, then, for these muscles? There must be processes of restoration. Poisons must be carried off. Glycogen must be stored up. The torn fibers must be repaired. There are some other things to be done, two, as, for instance, the washing out of the sarcolactic acid, etc. The muscle that has been tired by work, then needs restorative processes just as much as the paralyzed muscle. If you go to the point of overstraining the muscle, it is mechanically strained, lacerated and injured, and it must be restored. A paralyzed muscle is only an exaggeration of the condition found in a tired muscle. Is there any new principle required in the treatment of this condition?

So we see now that there is no specific principle of cure. There is a natural principle of cure, but it is not specific. That is, it is not especially for the purpose of cure. The curative forces of the body are not especially designed for the cure of the body, but they are simply those forces which naturally conserve the body and maintain it in health. Dietl, an eminent German physician, a pupil of Rokitansky, writing so long ago as 1845, made this remark: "Nature alone can cure; this is the highest law of practical medicine, and the one to which we must adhere. . . . Nature creates and maintains; she must therefore be able to cure." Now he said --Nature. Does the Christian physiologist say Nature? Do they recognize such a force as Nature? Is there an active force in the universe which may be properly designated as Nature? If you recognize nature as a force, you have a power apart from God which can create. Can there be more than one original Creator? The power that creates, the power that maintains, is also the power that cures.

It is all the same process,--the process of creation, the process of maintaining and the process of cure, are all one process.

The difference between the natural method of dealing with disease and the ordinary method is as great as the difference between hades and heaven; one helps a man to recover, the other sinks him deeper and deeper into the pit of disease. One works in harmony with the powers which are creating and preserving the man, the other works against them. The narcotic which paralyzes the man's pain paralyzes not only the sensory nerves, but the nerves of consciousness, the nerves of sensation, and it paralyzes also the nerves which control the making of bile, the making of gastric juice, the separation of urea. All the functions of the body are brought under the paralyzing influence of that toxic drug, and how can the man recover? When he recovers it is evidence that the body is able to deal not only with the disease, but with the poisons which have been introduced. One difficulty with doctors who fall into the practice of drugging is that they don't know the right way. They have not at their command the principles which can help them out. They get into trouble and they take the easy way. They hide the thing from their patient's sight and trust to nature, as they say, to effect a cure.

LECTURE BY DR. C. C. CREEGAN

~~Tabernacle~~

Battle Creek, Michigan

Wednesday, September 19, 1906.

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Song -- "Let the Lower Lights be Burning.

Prayer -- Rev. W.S. Potter.

Dr. J.H. Kellogg: The hour is already a little late. We had a reception and social gathering at the Sanitarium, which has made a little delay. We are very much favored this evening, - Providentially favored I believe, in having with us the Rev. Dr. Creegan, the Secretary of the American Board of Missionaries for Foreign Missions -- one of the most active and one of the most progressive of all missionary boards, a board which has accomplished wonders, one may say, in the field of missions. Dr. Creegan I am sure will tell us something about the work of that board, so I will not anticipate what he is about to say. Dr. Creegan is just about to start on a trip around the world, visiting the missions of the world, and only has two weeks left; but he has kindly consented to give us three days of that precious time -- while it is full of busy preparation, he has given us three days of his time in order that we might hear from him tonight. I am sure we will all listen attentively and profitably.

Dr. C.C. Creegan: Mr. Chairman: Since this is an interdenominational gathering tonight, as I understand it, it would seem to me to be in better form for the work in which I am especially connected, but to take a wider range. This afternoon I tried to say a word in behalf of medical missions, but now I shall take an entirely different turn, and draw some lessons for your profit, I hope, and mine, from our missionary heroes and heroines.

When we go to the pier, as some of us do every now and then, to see friends sail for India, China, Japan, Africa, or the islands of the sea, perhaps the thought is especially of two or three little children who are left behind to be brought up in this country, -the parents going forth to face all the perils of a land like Turkey, with the little ones in the homeland, and our feeling is one of pity. Possibly we have a feeling that we ought to do something for the cause to support such men and women, and give of our pennies and our dimes and our dollars, or possibly larger sums. But perhaps it has not very often occurred to us that we might sit for a little time at the feet of these missionary heroes and heroines and learn something to help us in our own church work; and I propose tonight to gather up a few lessons from these noble men and women of which the world is not worthy.

The first lesson I want to learn with you is a lesson of faith. It is perfectly safe to say that every clergyman here tonight, or, for that matter, every layman who is in the habit of speaking in public, dwells upon the subject of faith perhaps quite as often as any theme for his text. It lies at the very foundation of our Christian characters, therefore it lies at the foundation of our church work. Without it our church work can not be a success. Without it none of us can be successful Christians. Now, to be frank with you, I do not know any place, outside of the New Testament Scriptures, where we can go to receive a better expression of what faith is in its simplicity and power than to sit for a little time at the feet of

these missionary heroes and heroines. I shall only have time to mention two or three, and in mentioning these I will mention the familiar examples. We might mention a hundred if there were time. It is really safe to say that no man who goes forth with a worthy ambition to carry the gospel to the cannibals of the South Sea Islands, or to the people living in the heart of China, or in the heart of the "dark continent," goes forth without faith, -- faith being at the very corner stone of his Christian life and character.

The first one I shall mention tonight is the pioneer missionary from this country, whose name has become a household word in all our homes. It is that of Adoniram Judson. You all know the general outline of the story of his life, and I shall not dwell upon that, but perhaps you do not all know that when this young man -- as brilliant a scholar as he was, a speaker of power -- started off to far-off India, expecting to spend his life there, finding in the providence of God his chief work afterwards in Burmah, and when he sailed he had in his hand a call from Park Street Church, Boston, to become its pastor -- one of the most flourishing churches in New England, -- this young man had turned his back upon all that and all that that meant. It appealed, of course, to his ambition, and his friends gathered about him and urged him to stay in the homeland, and told him ^{what} he would become in all probability if he would accept that call. He turned his back upon all this, and with his young wife by his side flung his life out there on the firing line, finding himself by and by in Burmah, not, perhaps as he had anticipated, with thousands and tens of thousands hanging upon his word, eager to receive the gospel message which he longed to preach to them, but it was not very long until he found himself behind the prison bars, weighed down with heavy chains; and, as we are told, he would have starved to death in all probability if his young wife had not sold her jewels to keep her young husband from starvation. There in the dim light of the prison he was trying to translate

the Word of God, and whenever he would hear a footfall, supposing perhaps some enemy was approaching, he would destroy his manuscript, or would put it away in his pillow of straw, and when the stranger had left take up his task again. And when he looked for the first time into the face of his firstborn child peering through the prison bars, and his young wife brings the infant and he looks into the face of his firstborn daughter -- This is the scene I would try to picture to you: Not yet a convert, weighed down for twenty-two long months with chains, facing starvation, no particular promise that he would ever have permission to leave that prison. He received about this time a letter from a friend in Boston who said, "Well, Judson, what are the prospects?" I have pictured that scene as best I could. Suppose you place yourself there in imagination. What answer would you give to a letter of that kind -- What are the prospects? -- The prospects of dying in that prison from starvation, the prospect of ever completing the translation of the Word of God, the prospect of ever baptizing a single soul in Burmah! What does he say in answer to that letter? He says, "If you would ask for the prospects, they are as bright as the promises of almighty God." That had the true ring. That is simple faith. And it was not so very long until in the providence of God those prison bars opened, and the young and promising missionary came forth, came forth to preach, came forth to teach, came forth to complete his translation of the Bible. And when you visit Burmah -- perhaps some of you will one of these days, to learn that the Baptists have today among the living (and a great many have died, gone to their reward) fifty thousand souls, members of that mission founded by Judson, the pioneer missionary, you will see what faith meant behind those prison bars.

But I must give you another. Everybody here is familiar with the story of Robert Moffet. I should not speak of him, but perhaps you do not know that his heart would have fainted, he would have given up his affair in South Africa, if it had not been for that brave heroine, Mary Moffet, who

toiled for more than fifty years by his side. After they had been there eight long years, meeting those savages day by day and yet not seeing a glimmer of light, though he, like Judson, was trying to give them the Word of God, hoping that he might someday be able to complete his translation, Mary Moffet received a letter, just as Judson did, from a friend up in Scotland, saying, "Mary, what present would be acceptable to you?" I wonder if in imagination you can picture their situation there surrounded by men and women as black as ebony, -- savages; not one of them had asked for Christian baptism, no indication that a Christian church would be built up in that community. Mary Moffet received this letter, asking What present will be acceptable to you and your husband? The ladies here present could imagine perhaps a dozen things she might with propriety have asked for. What did she ask for? She said, "If you want to send us a present, let it be a communion service. It will be needed." Communion services are not needed unless there are converts; but Mary Moffet's faith saw the converts were coming by and by, and that they would need a communion service if they observed the communion as she and her husband had been accustomed to doing in Scotland. So she sent on the letter. Months passed away before the answer came back in some form. In the meantime the Lord heard the prayer of those heroic souls, and one hundred and twenty of those men and women who, prior to the gospel message which they had learned from these missionaries, had been savages, came and asked for Christian baptism; and the day was fixed when they were to be baptized and received into the Christian church, and the very first church of that kind. Saturday night came around prior to that Sunday that was fixed upon. A stranger drove up, tossed off a box, and when strong, friendly hands opened it they found it contained a communion service. Months before Mary Moffet had asked for it, and it came just precisely when it was needed. Perhaps some of my friends in Wall Street would say, "You can not run business in Wall Street in that way." I want to tell you that whenever you lose

sight of commercial faith, which we ordinarily call trust, we are going to have a black Friday in New York that is going to be felt all over this country. Men in business life exercise a great deal more faith than they dream of. Mary Moffet's faith brought the communion service just when it was most needed.

Shall I give you still one more? There are some Methodists here tonight, no doubt, and there is one name that has become a household word in all their homes, it is the name of Dr. Butler. It was my privilege a little while ago to bring greetings to the World's Mission Board of the American Continent, the American Board, to our Methodist brethren, as they celebrated the jubilee of the opening up of that mission work in India by that man of faith, Dr. Butler. His venerable wife sat there on the platform, so feeble she could only speak a few words before the meeting closed. I hope in the course of a few weeks to have the privilege of seeing a few results of that work in India, where there are perhaps fifty or sixty thousand members, Methodist men, -- one hundred and fifty thousand indeed; I do not quite recall the figures just now. Dr. Butler stood out there solitary and alone in the early fifties. The Sepoy Rebellion came. He stood there with his musket in his hand defending his own life and the lives of his wife and little ones. Everything seemed to be snuffed out, as you snuffed out your candle last night. A sneering man would say, perhaps, "What a waste of money to send Butler and his wife there, to throw away their lives out in India." He didn't believe it. He was a man of God, and a man of faith. And there today are tens of thousands of souls that have been brought into the Kingdom -- one of the most remarkable missionary movements of all modern times, and you can trace it back to that man of God and that noble heroine by his side, Mrs. Taylor, who still lives to tell the story. This is what I mean by faith.

Now one more. In my college days in Oberlin a young man, a little older than myself, felt called of God to the Micronesian islands. We had heard a little about them -- little dots out there by the equator. He said he had heard the call, and he was going, with his young wife. When a group of us gathered about him to say good-by -- some of us had been reading up a little because a friend of ours was going out there under that burning tropical sun, and we found out he would not get a mail from the homeland but once a year, when the little mission ship "The Morning Star" touched him. That is, if she had good luck and made her voyage successfully. We told him what we had heard. He looked down upon us, for he was taller than his brethren, and said, "Yes, I know what you are saying means dreary isolation, it may mean to me early death; but I have heard the voice of my Master saying Go, and I am leaning on his word and promise 'Lo, I am with you all the days.'" Rev. Logan sailed; waited eighteen months for his first mail. Day after day they would look out over the horizon and in their imagination would see a sail yonder. With eager hearts they would watch, only to see that it would fade out and was only imagination, until at last, at the end of eighteen months, the little mission ship came, bringing the news of the death of mother and other loved ones to those lonely missionaries out on these isolated islands. Eighteen years pass by. In the meantime he makes a translation of a good part of the New Testament. He creates for them a new language, for they had no written language. He teaches these people the elements of education, especially the young people, gathers them in from the neighboring islands, builds a little chapel and a medical dispensary, founded what might be in time a flourishing mission, then by strange providence he was taken away. He came to the closing hour of his life out there on that lonely island, no white person there, only his beloved wife, and as she looked into the face of her dying husband he looked up into her face, and he said, "Mary, I am going now to my rest, to my reward. I want you when I have

passed to go back when the Morning Star touches and stir up some of the young people in America to come out and take up the work which I must now lay down. When she came back she told the story, and she said, "When my husband asked that of me my heart was breaking, and I felt that terrible loneliness creeping upon me as I saw my husband dying, and I said, Robert, how can I do it, when you and I have suffered--" but he didn't let her finish the statement. He said, "Mary, don't speak about the trials and hardships. It is worth all and more than all it has cost." Robert Logan closed his eyes, went to his reward. If he had been here last Sunday (maybe he was in his spirit's presence) he would have looked down upon the eight thousand of those simple children of those South Sea Islands finding their way to fifty-four little churches, filling them to the very doors. If he could have looked down last Monday he would have seen probably attending school something over fifty thousand children and young people. That man of faith saw that it was worth all, and more than all that it cost, though he had to lay down his life in comparative youth.

Now let me pass from that heading to the second one. The second lesson that I want to learn with you tonight is the lesson of religious enthusiasm. I can not speak for any other denomination save my own, but I know that my denomination does not need colleges and universities, it does not need theological schools; -- we have got all we know what to do with. What we need above all things else is what my grandfather used to call "Zeal." Nobody in New York now uses that term except the Salvation Army, but I mean precisely what my grandfather meant when he talked about zeal -- that kind of religious enthusiasm that stirs a man to the very depths of his being.

I went down a little while ago to see some of our missionaries sail on one of the finest ships that leaves New York. The day came when the ship was to leave. The bell rang, visitors had to leave the ship, the gang-plank had been pulled in, but the ship remained as quiet as a tombstone for half an

hour perhaps. No one seemed to understand why it didn't move. Presently word was given, the ship engineer touched a certain motor, turned on the steam, and in a little while the magnificent "Grey Hound" was moving down the harbor as gracefully as a swan would swim on yonder pond. It was steam applied to the machinery that made it a thing of life. Before that the machinery seemed perfect enough, but it was a matter of death. That is what we want in our churches. We have machinery until there is no end to it. What we need now is something that will move the wheels. What we want is the kind of religious enthusiasm which will make us willing to sacrifice, which will make us willing to take up burdens, which will make us willing if God calls to go to the very ends of the earth at the call of our Master.

Now I don't know any place outside of the Commandments where one can learn what religious enthusiasm at its best means so well as by studying the lives of some of these missionary heroes and heroines. Most of you recall that when the Pilgrims came over here, the Puritans, there was a peculiar man among them whom they could not understand at the time. His name was John Elliott. He was peculiar in this respect. He preferred to preach to the red brethren of his, out in the forests several miles from where the gilded dome of the State House in Boston stands, rather than to the cultured people of Boston. This man of many tongues preferred to go out and preach to Indians in the forests -- they could not understand it. But he kept on doing it for fifty long years, and he made a translation of the whole Bible into the tongue of his Indian brethren, and he built up a dozen or more religious communities among the Indians. And it happened after one hundred years had passed by that some one thought it worth while to write the story of John Elliott and put it in book form. A pious young man down in Connecticut read that book, and as he read of that apostle to the Indians, John Elliott, he felt the missionary fires burning on the altars of his own heart, and he

said "If it please God, I will go to Yale, get an education, and I will go as John Elliott did and preach to the Indians;" and you know the story of David Brainard. He went, and he preached as perhaps no other man has ever preached on the American continent to his red brethren. Then tuberculosis overtook him, and he found himself in the closing days of his life in the home of the greatest American scholar, Jonathan Edwards, who was then writing his great classic on "The Will." When he saw this pious young man, saw how he was meeting death, he turned away from his classing on "The Will," turned away from the words that fell from his lips, jotted them down, and published a book after the death of David Brainard. Pretty soon a copy of that book fell into the hands of Henry Martin, and when he read the story he felt the missionary fire burning on the altar of his heart, and he said, "If it please God, when I have finished my studies I will go forth to preach to the same heathen people, as David Brainard preached to the Indians." He found his way to India, and gave the people the Bible in their own tongue. When he had almost completed the same task there he died, as David Brainard had died. Many of his old-time friends said he had thrown his life away. A few years ago a young friend of mine was in the University and picked up the story of Henry Martin and read it, and he felt the missionary fires burning on the throne of his heart as he thought of this fine scholar giving his life the work of preaching and teaching those people of India. His name was Horace Tracy Pitkin. He asked my Board if he might go to China. We sent him out there to work. He toiled for four years and a half, until the Boxers came with their awful swords and took his life. When he saw they were coming, and that probably his last hour was approaching, he hurriedly wrote a letter to his wife, who was in this country with their infant child, their only child, and in this hurried letter which he put in the hands of one of the natives, hoping it might reach her, which it did,

he said, "Tell my boy Horace that when he grows up and receives the proper training that it is the request of his dying father that he come out here and take up the work which I must now lay down." Is not that heroic? Isn't that religious enthusiasm at best? John Elliott firing David Brainard, sending him to the Indians as a missionary, David Brainard firing Henry Martin, sending him to translate the Word of God into the language of two great nations, Henry Martin firing my young friend, Horace Tracy Pitkin to go forth and die like a hero, as he was, in China. And after his death Robert Speer thought it worth while to turn aside for a little time and write the story of Horace Tracy Pitkin, which is being read by those college and university students of the Yale University; thought it worth while to erect a monument in one of their fine buildings and enveiling it in memory of this noble hero who died in China. That is what I mean by religious enthusiasm, and I doubt if there is any missionary in China but knows just what it means. If I had time, and it would seem appropriate, I would like to tell of the growth of the China Inland Mission, and how that man Hudson Taylor exemplified religious enthusiasm, as well as in men of modern times; but the gentleman who is to speak after me belongs to that mission, and has had a large and rich experience in China, and he is the one to speak on that theme.

I pass now to my last lesson that I want you to learn with me tonight. We have only time for one more. It is that if we sit for a little time at the feet of these missionary heroes and heroines it will stir up within our own breasts the heroic. I occasionally visit the city in this country where they claim to have more culture to the square inch than in any other place under the stars and stripes, and I hear men of very great culture there at the present time. The great heroes that you and I have honored, they would not go with us to Washington, D.C. and uncover their heads as you and I have done as they look upon the statue, the great monument erected in memory of the one who was "First in war, first in peace, and first in the

hearts of his countrymen;" they would not uncover their heads while they pass under that arch on the banks of the Hudson in New York City over which are carved the words "Let us have Peace"--the greatest words that were ever spoken by that great military captain, General Grant. Now the same spirit you and I have oftentimes when we think of these men who laid the foundations of our Republic and who saved it a generation ago, the same spirit we find in these men who are equally heroic and who are holding up the banner of Christ in central China and the Islands of the Sea.

I have time to mention only two or three heroes in this connection. I shall never forget my acquaintance with John G. Paton, that grand old missionary to the New Hebrides. When he first came to this country some of the friends sent me to him with the request that I should make some appointment with him, which I was happy to do. In my interview with him in my office the old man, his long flowing beard as white as snow and his long hair, reminded me of the picture of John the Beloved Disciple in his old age hanging on the walls of the Vatican at Rome, and he told the story of his first experience in the New Hebrides. Twenty-two months only had passed and his wife and child had been taken away. He was obliged to bury them with his own hands. And as this old man told me the story great tears rolled down his cheeks, and he said, "Believe me when I say that if it had not been I was leaning on the promise of my Master, 'Lo, I am with you,' my heart strings would have broken and I would have given up in despair." But the old man didn't give up in despair. This old hero kept on among those cannibals until he had baptized eighteen thousand souls. Isn't life worth living when within one single lifetime one can bring a multitude into the kingdom of God?

Another thing. A little ago a book fell from the press that I want the young men who hear me tonight to read. It is the life of James Chalmers. And who is James Chalmers? He was the friend of Robert Louis Stephenson, the brilliant literary critic. Robert Louis Stephenson was dying from

consumption, as you know, and went abroad to the South Sea Islands hoping that at least he might prolong his life. He went with a sneer on his lips for missionaries. He felt very much as Sidney Smith did when Carey went out to India -- What can a consecrated gospel do? that was his feeling. But by and by, in the providence of God, he was brought in the presence of a giant in form, towering away up above him,--James Chalmers, who at that time had been a missionary for thirty-three years among the cannibals of the South Sea Islands; and from the moment that this emaciated literary critic, with the sneer upon his lips for missionaries and for missions, from the moment that he came into the presence of this great giant he was captured. A friendship sprang up between them that was like the friendship between David and Jonathan, a friendship that nothing could quench until death separated them. After they met and had had a few talks James Chalmers had to deliver an address, telling the thrilling story of his experiences among the cannibals, and Robert Louis ~~Stephenson~~ Stephenson was asked to preside. Telling the story to his mother in a letter a day or two afterwards, he said, "Mother, I have had the honor of my life, in presiding a night or two ago when the great missionary Chalmers told the thrilling experience of his life among the cannibals." Then he went on to describe this missionary, and he says, "Mother, believe me, he is as big as a meeting house." I don't know exactly what meeting house he had in mind, but if any of you ever saw the late Phillips ~~Brooks~~ Brooks of Boston, a man that towered up above his fellows as Saul towered above the average man,--Phillips Brooks, you know, had an intellect bigger than his body, and he had a heart bigger than his intellect. James Chalmers was a duplicate of the late Phillips Brooks,--a man of giant form, a mighty man with a heart big enough to take in the whole cannibal world. And there he had been for thirty-three long years teaching among these cannibals. And then Robert Louis Stephenson, after he was captured by this heroic missionary, became a transformed man. Then it was that he wrote

these verses which seem to be inspired, and we hang them up in our rooms, and perhaps at night before we say our "Now I Lay Me Down to Sleep" offer one of these prayers written by Robert Louis Stephenson after he met James Chalmers,--not before he met him. If there is any young man here tonight who wants a book like a novel, and one that is true from the first sentence to the last, let him read the story of that man, James Chalmers. And then that touching closing chapter since the death of Robert Louis Stephenson, his dearest friend, of the great missionary going to the island where he was unknown, and was killed by those very cannibals to whom he dedicated his life.

But I must stop with just one more, and one only.

We have been talking about the medical missions this afternoon. Some of you do not know, perhaps, that the greatest missionary of modern times was a medical missionary -- David Livingston. You may not know that he was the only convert in the Scotch Kirk. They had burned a great deal of oil and had a great many meetings, but the only convert was this lad from the mill, and the elders shook their heads, and they thought it had not paid. That lad was David Livingston, the man who found his way into the very heart of the African continent, the man who had thirty-nine fevers, we are told, first and last, the man who was found by Stanley, who could not understand him, but caught something of his spirit, enough of it so that when he came back to England he begged the missionary boards that they would send forth missionaries to Uganda, and you remember they did, and Uganda has been transformed in the meantime. A friend of mine has recently visited the very spot where David Livingston died, and quite a number of natives still remember him, and wherever he met them they spoke of him as a grand and good man.

Wherever Livingston went he was known to be a Christian man, and a medical missionary. And after he passed away -- you remember he died on his knees with a prayer for the dark continent on his lips,-- and when he died his

faithful black servants buried his heart under the spreading tree in the heart of the dark continent, for he had given his heart to Africa, then, having learned something of medical science from their great teacher, they embalmed his body, carried his bones in solemn procession eighteen hundred miles through the forests and by the lakes, and rested not until they had reverently placed them on the British Man of War. All honor to the captain of that British Man of War for asking two of those black men to act as body guard and accompany the remains of the great missionary to Westminster Abbey, where in the presence of royalty his bones were placed away to rest until the morning of the resurrection. I stood there one day trying to spell out in the dim light of the Abbey that name David Livingston, and as I was trying to make it out I heard a group of men pushing their guide past where thirty-seven kings and queens were buried and magnificent monuments had been erected, past where a thousand warriors and poets rest and will rest until the morning of the resurrection, coming as quickly as they could to the place where I had stood but a little time before their coming, and they began to spell out the name, which they pronounced Dāvid Lōvingston; and more than one of them had red cheeks as they looked for that name, looked upon the simple slab that marked the resting place of the greatest missionary of modern times, a medical missionary, a consecrated man, who was willing to bury himself in the dark continent in order that he might, if it pleased God, lift up those people that they might see the Father.

Life is worth living if ~~xxx~~ a man can imitate these men and these women. A few only of the names have been mentioned tonight, but there are hundreds of them, there are thousands of them. And, thank God, there are young people in our schools today receiving training who, if I am not mistaken, are of the same spirit, and when God speaks the word, and He seems to be speaking it now to some of their hearts, they will respond as heroes and heroines of the past have responded. They will go forth as others have

gone forth to carry the gospel banner to those benighted races and places. May God help us in the homeland to stand back of these heroes and heroines, not only with our prayers and sympathy, but with increasing gifts, and hastening the day when all these nations and places shall bow before Christ and crown him a King and Lord.

Dr. J.H. Kellogg: We are sorry Dr. Creegan has to leave us now and take the train. As I told you, he has come at a great sacrifice and has spent this day with us, and we feel under very great obligations to him for what he has done for us, for the inspiring words we have heard tonight and for the inspiring words we heard at the Medical College in the address he gave to the medical students and nurses this afternoon.

Now we are to have a treat still further tonight in listening to Dr. Keller, who is going to give us an illustrated talk with the stereoptican.

Dr. Frank Keller: After this remarkable vision we have had tonight of missionary heroes all over the great world-wide field of missions it seems rather a drop to come down to one single land and look at a single work; yet, as we remember that great map of China that was hanging before us last night, and in looking at the map on the screen again tonight, we will see, I think, a little more plainly than we did last night the real size of that great land, and probably realize it a little more.

This heavy line marks the seaport of China. On this map we have China divided into a large number of squares, and in each one of these squares a map of England drawn on the same scale as this map of China is drawn on, and these maps of England do not begin to fill up the squares. It would take almost two maps of England to fill up each of these squares. We find more than twenty Englands in this land of China. Then coming down from the whole land of China to that single province of which I spoke last night, you can compare this map of England with the map of that province of Hunan, and you see that Hunan alone is larger than England. Twenty Englands, you remember, in all China, and here we have Hunan, just one of the eighteen provinces of China, larger than England itself.

Now I want to show you a little group of young men whom it was my great privilege to meet at Northfield in July. I had a little talk with them and they came and had a visit with me. They are Chinese students, young men who have come from that great Empire of China and are scattered about here in the various colleges of our land -- Yale, Harvard, Amherst, Columbia, and some of the other various institutions. These young men here I will point out, because I think you are to have Dr. Beebe here in a few days, and one of these is a young man who studied with Dr. Beebe in Nanking, China, and he is here now in one of our theological schools in one of the Eastern cities studying to become a minister and go back to his own people and preach the gospel there, and I know you must be interested as you look at

the faces of these bright young men.

Here is a Chinese drawing a picture representing two roads -- the road to life and the road to death. I present this simply as an interesting little incident regarding these people.

Here is a little chart, and as we keep our minds on that map of China we will glance at this chart and see how that work has been going on. "World Mission Progress -- Gain in communicants since 1800 in the Foreign Field." This chart shows at a glance a comparison in the number of communicants in 1800, 1850, 1880, 1892, and 1905. At the bottom of the chart we have these words: "While the work of missionaries is far from being accomplished, Christianity is so securely planted in Japan, China, Korea, India, and some of the other nations of Asia, as well as in other parts of the world, that were the missionaries obliged to withdraw, Christianity would live and spread as a self-propagating force." --John R. Mott. Now that is a blessed thing isn't it? That is a glorious thing to realize as having transpired since 1800. Yet, dear friends, we will see on another chart a little later in the evening what I hope will save us from a feeling of self-satisfaction, and save us from resting on our oars.

Here is a picture of one of the men who have made possible that statement of Mr. Mott's that we just read, --a convert from heathenism, a man who was once a Buddhist priest, but has been converted, and is now in North-west China preaching the gospel. And Oh, dear friends, there are many more like him in the many cities of China, in the thousand odd cities of China that I told you of last night ~~which~~ who as yet have had no opportunity to hear of Jesus because there are no missionaries. Think again of those more than a thousand cities that yet remain in China unevangelized.

Here is a Chinese house, and here are a couple of Chinese standing in the door. This is a typical Chinese house ~~as~~ as we find them in the South of China.

Here is a group of Chinese children. They have very odd ways of cutting their hair. They make fancy designs in the hair, and later let the hair grow long to form the cues.

Here is a very interesting thing -- not Paul preaching to the jailer, but the jailer preaching in the prison to his prisoners. This is a jailer who heard the gospel from one of our missionaries, and believed it, and he has daily worship among his prisoners. Think of that, dear friends. We do have chaplains in our jails in this country, but how many Christian jailers have we in this enlightened Christian land who are so enthusiastic for Jesus Christ that they bring their prisoners out, some of them bound with chains, and day after day tell them of the Savior? Oh just think what it means to those prisoners in their daily treatment; as we think of that jailer who washed the wounds of Paul and Silas as soon as he was converted, how must this jailer treat these prisoners whom he is trying to teach day by day of the Lord Jesus Christ.

The late Hudson Taylor, also a medical missionary, the man of whom it was my privilege to speak to you last night, the beloved founder of the China Inland Mission, born in 1832, died with his head resting in my hands the 3rd of June, 1905, in the city of Chang-sha; the man of whom, just after his death, Dr. Chauncy Goodrich, who is a friend of the speaker who just preceded me, in writing of him said, "My father, my father! The chariots of Israel and the horsemen thereof!" and other missionaries gave a glorious testimony to him., Those who were here last evening heard me say that on the 25th day of June, 1865, Mr. Taylor, after years of experience in China, and after months and months of God's dealing with him in the matter of faith, at last yielded himself to God as the leader of a new organization which he felt must be founded on faith lines, that would receive any man who was willing to go out on faith and whom the Holy Spirit had prepared for a work,

and send him forth to China irrespective of his denomination, irrespective of his country; and so the China Inland Mission has grown. We have missionaries not from the countries of Europe only --Russia, Scandinavia, Germany, England, Scotland, Ireland, Switzerland, Italy, and France alone, but also from Australia, from Canada, from the United States; and over twenty different denominations of Christians, or ordained ministers and lay workers--ever twenty different denominations working in happy harmony together.

And I told you that when God brought Mr. Taylor around to where he could fully yield himself to God as the leader of that new organization and that mission that was just to go out by faith,--that is, no church backing it, no church holding itself responsible for its support, and just looking to God day by day for the supply of its needs, he wrote on the margin of his Bible "Prayed for twenty-four willing skillful laborers June 25, 1865," and there is the facsimile of his writing just at the top of the page. You can see the writing there but you can not read it. This is a facsimile of that Bible on which he wrote. On the opposite page is the Hebrew. Mr. Taylor studied the Bible in the original tongues as well as being a medical missionary.

This picture in the center is the late Mrs. Taylor who went with Mr. Taylor during his several years' illness to Switzerland, and was taken from him about six months before God gave him that wonderful strength to go out to China and have the desire of his heart in seeing opened the province of Hunan. The other faces in this picture are faces of missionaries who passed away in one single year.

Here is a most interesting group--Mr. Taylor, Dr. John, and Dr. Martin; the three oldest missionaries to China at the time this picture was taken; that is, the three men who had spent the longest number of years in China, in all having spent fifty years in China.

This picture was taken as Mr. Taylor passed through Han-kow, just before he came to Chang-sha, about four days before he passed away.

Here we have a picture of the group I told you about last evening, at the reception Saturday afternoon on the lawn at the mission house in Chang-sha. Here is Mr. Taylor in the center of the group. The picture was taken about 5 o'clock in the afternoon, and at half past eight Mr. Taylor passed into the presence of the King. You see the other missionaries who were gathered here. I might point to Dr. Howard Taylor, Dr. Taylor's son, Mrs. Dr. Taylor, the wife of Howard Taylor, formerly Geraldine Guinness, the writer of the "Far East," a story of the China Inland Mission, and "Pastor Hsi," books which many of you have read. Here is the lady who afterward became the wife of Dr. Guinness. Mrs. Keller is sitting here, and I am standing over there.

This is the residence part of our mission compound, and these others are missionaries who are gathered in from the city. As I told you last evening, there ~~are~~^{were} thirty missionaries there, seven societies gathered there to welcome Mr. Taylor, from the Province of Hunan, China. You remember Mr. Taylor had said, "If only I could see Hu-nan opened, I would feel my life work was done." Verily God's Word is true -- "Delight thyself in Jehovah, and he will give thee the desires of thy heart."

Now, dear friends, I have a very beautiful little story to tell you. This is the funeral scene. Here is the general director of the China Inland Mission appointed by Mr. Taylor four years before his death. Here is the coffin. After Mr. Taylor's death Dr. Howard Taylor called a couple of our most trusty evangelists and described to them just what kind of a coffin he would like to have. That is the regular Chinese coffin, as you will see, and a remarkably beautiful one. The end of it here is magnificently carved, and the whole coffin is beautifully polished. These young men went out, went to about fifteen or twenty different shops, I think, before they found

a coffin that just suited them. Then they brought it back. In the meantime they talked with some other members of the church, and when they brought the coffin back to Howard Taylor, he said to them, "Well, how much is it?" and they said, "Please don't ask us. The Chang-sha Christians desire to offer this last tribute to him who loved us so that he gave his life for this land." Oh, dearly beloved, love begets love, and Mr. Taler did not love the Chinese in vain. And so these Chinese Christians, the most of them men and women who five years before had never even heard of Jesus Christ, who knew nothing of love as we know love, in this little time had so learned the message of love that when our beloved leader passed away they wanted to make this little offering; and Dr. Taylor accepted it.

Just glance a moment at that picture. You see Mrs. Keller and myself in our Chinese dress, as we wear it in China, and as all the members of our mission wear it. That picture was taken just as we were leaving China, and Mrs. Keller had been very ill at the time, so we show you this second picture which shows us at a time somewhat earlier in our experience there. And this little boy is the son of one of our most beloved evangelists--Evangelist Li; and he is a most dear little fellow. I would like to tell you all about that little boy for twenty minutes.

Here is another picture of Mrs. Keller and her class in English. Possibly some of you may hear a little account of it tomorrow at Mrs. Keller's meeting at the Sanitarium. This is the wife of a Chinese official, and it was through her that the class was really started. That is a Christian girl there. This is Mrs. Li, the mother of the little boy you just saw. Here is another Christian young woman, a woman who has become a Christian since the class was started, although she was an inquirer at the time. Here is a Manchu girl, a girl of high class. Mrs. Keller may be able to tell the ladies about her tomorrow.

Here is a family that there is a story connected with. This is evangelist Yang, his mother, and his little boy and girl. I mentioned last

night our going down by steamer from Han-kow to Chang-sha, going down on Saturday and reaching Chang-sha Saturday noon, and I ~~will~~ just mentioned incidentally that by the advice of a gentleman we thought we could trust that we did an unusual thing in calling on the Chinese officials when we reached the city. On this steamer going down two men met us. One of these men was a man of official rank, the other of the student rank. They seemed to take a great interest in us. God had evidently raised them up on this journey to be our friends. This man of official rank was the one who advised us to call on the officials. The man of the student class said to us, "When you get to Chang-sha your dialect will be a little different from the dialect there, and you ought to have a local teacher. I have a friend who will be just the man for you. I would like to introduce him to you." We said "All right, we would be pleased to see him." The man came about two weeks after we got there, and he was introduced to us, and he was this man Yang. We wanted a teacher very badly, but the only circumstances under which he would engage himself to us were that we would not compel him to attend any of our religious services. He was willing to come and teach us Chinese, and to get our good money and everything else he could get from us, but he was not going to hear the gospel. We said "All right, we are not hiring anybody to hear the gospel. We didn't come here for that, but we want you to teach us. We will engage you as our teacher to study the language with us. You don't need to come to any of the meetings." Mr. Yang didn't know what he was in for. He had to teach Chinese out of the New Testament. We wanted to study the New Testament so as to get the New Testament idiom. So he worked with us day after day teaching my colleague and me the Chinese language as we found it in the New Testament. So the Word of God began to sink into his heart. More than that, he knew this man Lu whom I told you about last night, -- this man who came to us and had been ^{an} awful drunkard, an opium wretch, but who was saved by the grace of God. He had known that man, known

what a scoundrel he had been, and he saw the transformation in that man's life, and these two things, together with our prayers, were too much for Mr. Yang, and he yielded his heart to the Lord Jesus Christ. For some time he had been talking with Mr. Lu, and he came to me one day and said, "I would like to know if a thing like this would be possible. Would it be possible to hold a religious service in an ordinary Chinese house?" I said, "Certainly. Why not? That is just what we delight in in the homeland, in America and England, -- in cottage prayer meetings and cottage evangelic meetings. These are just fine. Why do you ask?" He said, "It is like this. My mother is not a Christian. My father is dead. I am under no responsibility for him. It is too late. But my mother is still alive, and she is pretty near the end of her days. And Oh I can not bear to think of my mother not being saved before she passes out into eternity; but Oh she won't listen to me. She says she brought me into the world, and how can I teach her anything. I ought to learn from her. And she won't come here to the chapel, and Oh my heart does so long that she might be saved. So Mr. Lu and I talked things over, and we arranged things something like this." -- Mr. Lu's mother had by her son's teaching and by her own reading of the Word -- for she was one of the few women in China who can read-- had of herself begun to believe in Jesus Christ; so Mr. Yang said, "Mr. Lu and I have made a plan like this, that if it would be possible for you to do such a thing"--

The Chinese are great people for custom; you can not do anything but what is established by custom; you can not branch out into new lines. I have heard of Christian denominations, have even heard of something of that kind since I have been here in Battle Creek -- a few men can not branch out into new lines, but must stick in the old ruts. But this is not always so. So the Chinese feel that way very strongly, and these young men were afraid to hold a gospel service in a place that was not consecrated. They were afraid that it would not be possible. But he said "If you can do it, out

plan is this. We will have the first meeting at my house, and Mr. Lu's mother is coming over to call on my mother that day, and inasmuch as Mr. Lu's mother wants to hear the preaching of the Bible my mother will have to hear it too, because she can not neglect Mrs. Lu, she has got to entertain her, and so my mother will hear the gospel once. Next week we plan to have a meeting at Mr. Lu's house, because Mrs. Lu's mother came to my house to a meeting, according to Chinese etiquette, my mother will have to go to Mrs. Lu's house, and so my mother will have a chance to hear the gospel twice."

We had these two meetings, and still Mr. Yang was not satisfied. We have two daily meetings at our chapel. He said to us, "Now I know you are very busy, but wouldn't it be possible, after you have had your morning meeting here, to come over to my house and repeat it there?" Of course we were glad to.

So we went over and called on Mr. Yang's mother. But the neighbors heard the gospel also. I will stop right here. Of course Mrs. Yang was converted. Of course God honored such faith. But I won't stop quite yet, because I want to tell you one other little thing about it. The sixtieth birthday among the Chinese is a very important day, very much like our twenty-first birthday, only on that day boys pass from boyhood to manhood, and the sixtieth birthday, both men and women in China, pass from vigorous manhood and womanhood into calm and quiet old age. And they invite in their friends, and it is a great festal day. But on Mrs. Yang's sixtieth birthday, that dear lady of one of the highest casts in China, one of Mrs. Keller's warmest and most beloved friends in any country,--a dear motherly old soul, on her sixtieth birthday was baptized into the name of the Father, and of the Son, and of the Holy Ghost. Then she invited in not a lot of heathen friends, but a few of her newly found Christian friends, to a simple little banquet in His name.

Pray for them, dear friends, pray for that young evangelist, and pray for many more like him.

Last evening I didn't fully explain while a little while after we got to Chang-sha, in 1901, and when the province was ~~opened~~ once opened, many other missionaries began to flock in. God had foreseen that, as He foresees everything. These missions were represented by young missionaries who had little or no experience. They needed helpers, and needed them at once, so in a remarkable way God called in with us at the very beginning a number of young men of the student class. These men were marvelously moved upon by the Holy Spirit. They were allowed to study, and I at once formed a training class and gave them daily training in the study of God's Word, and worked with them many hours every day. Here is a little group of them. So it has been our privilege from that little young work so newly established, it has been our privilege to let go out from that little church to other missions, to other cities, twenty workers,--evangelists, Christian school teachers, and Bible women. Every one of these men you see here is now serving as an evangelist, and some of them God has marvelously blessed.

This is Mr. Li, the father of the little boy. And there is your humble servant who speaks to you. This is Mr. and Mrs. Sha and their family. Those who heard me this afternoon will pardon me for telling the story of this family. You see before you three boys belonging to this Christian man and woman. The father and mother were not Christians when I went to China. They are among our strongest workers today, and God has greatly blessed their services. You can see the joy in the face both of the father and the mother, and those sweet boys. But the Chinese can not bear girls. They feel awful distressed when a girl is born into the family; feel it is a dead weight; often kill their girls, drown them, or get rid of them in some other way when they are born. But this family, after they began to know Christ, began to pray to God that he would send them a little girl. After I got home a few months ago I had a letter from Mr. Sha, and he told me what a coward he had been, how he had dishonored God by lack of faith, and how God had

given him the victory, and asked us to pray for him. And I just want to tell you the situation tonight. He said the thing that caused him such agony of heart as the time was coming on for his wife to be confined was that on his same street, in the city of Chang-sha, within one single week, three women had died in labor, one of them after seven days of fruitless labor -- three women on a single street. And do you wonder that his heart was filled with anguish as he thought of the confinement of his own wife about to occur, and no doctor to help, -- and not only that city, dear friends, but in over a thousand cities in that great empire of China, no Western skill to offer any help to suffering women and children, to say nothing of suffering men. So their hearts were filled with agony until two days before the event, when suddenly they realized that God was able, and they knelt and asked Him to forgive them for their cowardice and their fears, and they put the whole thing in God's hands, and God filled their hearts with joy and rejoicing. God gave them the victory two days before, so he could write, and afterwards he told me of God's wonderful goodness. Here you see Mrs. Sha with the little girl that was born to them after only one hour of labor, and without any unfortunate circumstances connected with it. That picture was taken when the little one was about a month old, and they sent it to us that we might rejoice with them.

Here, two, is a most interesting young man and his son. I have already talked longer than I intended to, but I think I must tell you about him. He was a young Chinese official, and this is his little son. Notice them quite intently, because I will tell you briefly that this man's father was an official and he connived to save my life at the riot at Cha-ling-Jo when I passed through, when I lay for a whole day up in the loft, under a pile of rubbish, with pales and baskets piled about me, within plain hearing of the men who were tearing down my mission house and carrying off all the things.

In settling after the riot I told them I had not come for any of their money, that I gave up every claim against them, although the Governor of the Province insisted on their paying me, but I knew afterward I had made a mistake, and I knew he would see the mistake sometime, and I wanted to prove to him that we had gone out there on an errand of love. And I said I did not care for any recompense at all. I got their confidence and saw God's blessing in it. And later this man's wife was in a case of serious illness. The native midwives had given her up, and I was called in, and a nice little girl was born to her, whom you will see later, and it was the family of this official I referred to above. So when the Boxer troubles came on this man, almost at the peril of his own life and the life of his family, saved my life,--watched carefully over me, one might almost say like a mother. And after the death of his father he moved down to Chang-sha. And, dear friends, just before I came away from China this little boy who was in our school -- they had so put their trust in us that they were willing to send their boy to our school to be trained in our school -- and over a year before I came away from China that little fellow asked for baptism.

These are the two widows of that young official you ~~fix~~ just saw. Mrs. Keller is with them. They call very frequently on Mrs. Keller, and she goes to their house. That is the little girl that was born, that I told you about. Here is a picture of our boy's school at ^{Chefoo} ~~Shanfan~~. There is a picture of the boys diving into the sea. This is a boys' school for the children of missionaries. One might think that a man that was trusting in God --- it is singular how people get such ideas into their heads, isn't it? but you know people don't think. And people have often said, I have often known people coming back from China saying the China Inland Missionaries were starving out there, and that it was perfectly wicked to treat anybody so. When the first China Inland Missionary^{ies} went out to China the papers said it was a batch of lunatics let loose. They might better be in the lunatic

asylum than to have been allowed to go to China. Yet, dear friends, this is the only mission in a foreign field that has a school for the children of its missionaries, and at Chefoo, up in the northern part of China, God has provided three magnificent schools. This building is made entirely of brick - a splendid building, and Christian men and women who have degrees ~~of~~ in pedagogy, who could get big salaries in England and America, are willing to go out to China and educate the children of missionaries in the China Inland Mission, expecting no salary at all but month by month what God sends in, and are giving their lives to help these boys and girls of our missionaries so they can be educated up to sixteen years of age without any expense to their parents. They also have a preparatory school for little ones, a boys' school and a girls' school. These schools are so good that many missionaries of other societies are glad to fill up any vacant space in our schools, and are only too glad to send their children to our school and pay their expenses, so as to have them in China near to them.

But, dear friends, the silver and the gold are His, and God is faithful. Just before we saw the map of China we heard from this speaker who preceded me about some missionary heroes. But, dear friends, on this chart that we saw, showing the progress of Christian missions, in spite of these missionary heroes and their work, the condition of the world is still such as you see it,--Protestants one hundred and sixty-six million, Roman Catholics considerably more, then the Eastern, the Greek Church, and the Mohammedans two hundred and sixteen million, and half of the world still in utter heathen darkness. Oh do let this chart sink into your hearts tonight, dear friends, and remember that blank space. We might draw a line down through the center, and about half of that blank space representing the population of China still in heathendom. This shows you the comparative parishes of the missionary in the foreign field and the minister at home.

May God burn it into the hearts of more than one. This shows how Americans spend their money. That little square represents seven million five hundred thousand dollars,-- the amount given for foreign missions in 1904 in the United States. That is the little square here at the top. The second space of two squares shows that we in this country alone spend for chewing gum twice as much as for the evangelization of the millions in heathendom. Dear friends, isn't it a shame. Just before I came from my home in Fort Plain, a few days ago, they were having a Street Fair in a little town of three thousand people. The country people came in and spent four and five hundred dollars simply in throwing confetti into people's faces. There is a little Baptist church in that village with a debt of fifteen hundred dollars on it, and they can not raise it. The poor minister there has been struggling and struggling to try to raise that debt. He has raised a good deal. It was a debt of ten thousand dollars, and he has got it wiped out down to fourteen hundred dollars. Yet, you know, those people who could not give a cent to help clear that church from its debt threw confetti to the amount of about a thousand dollars. It does not seem possible, and many of them Christians, too. Then, passing down this chart, for confectionery one hundred and seventy-eight million dollars. For church work at home two hundred and fifty million dollars. We can not help being thankful that we do spend more for church work at home than for chewing gum and candy. Jewelry and plate seven hundred million dollars. Tobacco seven hundred and fifty million dollars. One hundred times more than we spend on foreign missions we spend on tobacco. And for liquod we spend one billion, two hundred and forty-three million dollars. Oh I wish that this chart with its figures might be engraved on every heart, and that we might pray about it tonight, and ask ourselves what we are going to do, how we are going to spend our money for Him who gave up glory and left everything for us.

Now we have the last chart before us before I show you one other

little thing, the evangelization of the world in this generation. Is it possible that can be done? As we remember the thousand cities of China still without a missionary, as we remember that round chart we just saw with its fifty millions still in heathendom, as we think that now nineteen hundred years have passed away since Jesus Christ told us to go into the world and preach the gospel to every creature, is it possible that the motto of the Student's Volunteer Movement -- The Evangelization of the World in this Generation, can be carried out? Let us look at the figures for a moment. Seventeen thousand missionaries in the whole foreign field -- China, India, the Islands of the Sea, Africa, and all foreign countries. Fifty thousand are required to evangelize the world. These are conservative figures which have been carefully weighed and carefully examined. They are not fanatical. You can figure them out for yourselves, that only fifty thousand men are required to evangelize the world in this generation. There were a million men engaged in the Russo-Japanese War. That is twice as many as would be necessary for the evangelization of the world. A million, two hundred thousand American, British, and German College graduates of a generation -- one twenty-fourth of them would evangelize the world. Dear Christian friends, what do you think of that -- one twenty-fourth of the college graduates of a generation would easily evangelize the world in a generation. What shall we do to make it possible? Is one twenty-fourth too much to ask to carry out the departing command of Him whose we are, and by whom we live, and whom we should all serve?

Now look on the other side, ~~and~~ We will surely admit that there are men enough. How about the money to support these fifty thousand men? Twenty million dollars is the present income of the foreign mission societies of the world. Eight hundred million dollars is devoted to the army and navy expenditures of the United States, Great Britain, and Germany.

A billion dollars or more was the cost to Great Britain of the South African War. Seven hundred and ninety six million dollars is the annual net increase in wealth of the Protestant church members of the United States, over and above all expenditures. Twenty-five billion the total wealth of the Protestant church members of the United States. And we ask just money enough to support these fifty thousand for ~~the~~ ^a generation. Surely there is money enough, -- not in Christendom, but just here in the Christian churches of the United States to carry out this work of the gospel. There are men enough, there is money enough. Is there power enough today for this work? "And Jesus came and spake unto them saying, All power is given unto me in heaven and in earth. Go ye, therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost; teaching them to observe all things whatsoever I have commanded you, and lo I am with you alway, even unto the end of the age." Isn't this sentence true? He can do it for you. There are men enough, there is money enough, there is power enough, because "all power in heaven and earth" has been given to Him who commanded it; and with power enough we can do it if we will.

Dear friends, we can not tonight say what the churches of America are going to do about it. But you and I can say what you and I can do about it. Oh let us before God tonight decide what we are going to do to evangelize the heathen of the world in this generation. The fact that this generation is the first to which the wide world has been laid open is itself convincing evidence that the time has come at last for the church of Christ to undertake to prosecute a campaign of evangelization on a scale literally world-wide in its sweep.

Just as we were coming away from China our Christians said to us that they would like to give us some little remembrance. ~~They~~ They knew

we made it a practice never to accept any presents, I can not now give you the reason why, but they said they would very much like to get a present for us but they were afraid we would not take it if they bought it, and they asked if they could not give us some memento. I said, "If you want to give me something, prepare some little texts on a scroll, some texts that God has made specially dear to your hearts, and send them as your message to the Christians at home." So the night before we came away these dear people brought to us this beautiful little scroll. It is all hand embroidered on satis, and the words are -- Yang wau ya Zu ; "Looking unto Jesus." Here is a vine and the branches, and the grapes on the vine, as in the fifteenth chapter of John: "I am the Vine and ye are the branches." And that, dear friends, is the message that little four year old church in China sends to you the Christians of America.

I know you will rejoice with me when I tell you that the last Sunday morning I was with them, as we gathered for our noon service, after I had been out in prayer for a parting message to them, not knowing at all what text they had chosen for this scroll,- the text at my parting talk ~~xxx~~ to them at that farewell noon service, just before I left them, on that Sunday morning was -- Yang wau ya Zu -- Looking unto Jesus. Oh how their faces brightened up when I told them that was my parting message to them. I understood it two days later when they gave us this beautiful scroll, and sent it as their loving gift and parting message to you. Oh, dear friends, may I beg of you, in the light of that precious message from these Chinese Christians, "Looking unto Jesus," may I beg of you to think of that land of China that you have seen tonight, bigger than twenty Englands, and will you think of those more than a thousand cities without a single missionary? Will you think of that province of Hu-nan, one of the provinces alone with a quarter of the

population of the United States, where God has permitted us to work, and has yet only a little handful of workers there, with all their people, and Oh will you think of the black upper half of that circle, and will you think of the possibilities and realize what we can do if we will, and then will you decide what you are going to do, with your eyes fixed upon Jesus Christ?

Dr. J.H. Kellogg: I am sure our hearts are very much touched by what we have heard tonight. I do not know of a word that can be added, I am sure, that will add to the impression that has been made. I hope at least having these men here is going to be the means of lifting us all into a sphere of greater missionary activity, and we are going straight on from this moment forward to do more for the Master than we have heretofore. For myself, I have earnestly sought to consecrate myself to the Lord more completely and fully than I have ever done in my life before, and I hope my future life will ^{so} show my earnestness and zeal in the Master's work that it will prove that I have learned lessons which will be of help to me.

I do not know that we need to spend more time tonight. There are several from whom we had hoped to hear tonight, but it is a little late,-- Rev. Maveety, who is with us, who is a member of the great Missionary Committee of the Methodist Church; Dr. Carter from ~~England~~ India, a missionary from the Church of England, a Scotch Presbyterian -- both of these might speak to us. Dr. Carter will speak to us at the Sanitarium later, and will give us an illustrated lecture on missionary work in India. Rev. Maveety we have with us in the city. Mrs. Keller will speak in the parlor at the Sanitarium at 3 o'clock in the afternoon tomorrow. She will give an address on Chinese customs.

Dr. Frank Keller: Mrs. Keller will wear the official Chinese dress tomorrow afternoon. She will also have some wooden models illustrating the Chinese life. These beautiful pictures we have had the privilege of looking at tonight are the result of the very kind suggestion of Dr. Kellogg in the first place to gather them together from books and photographs, and to Mr. DeVault's faithful work, who has spent all day on them. They are all as slides that have been prepared, and most beautifully prepared by Mr. DeVault, working hard all day to do it, and we certainly feel we owe Dr. Kellogg, Mr. DeVault and others a debt of gratitude for their kindness in preparing these slides for us.

Benediction by Elder Jones.

v--m Nov. 2 '06.

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CHINESE DRESS AND CUSTOMS

A Lecture at the Sanitarium Parlor, Battle Creek, Michigan,

September 20, 1906. 3:00 P.M.

By Mrs. Frank A. Keller.

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I have put on this dress this afternoon for a special purpose and hoping through this that I may draw your feelings for the Chinese in a new way, and that you may think of the Chinese women -- the great number of Chinese women, and may pray for them as you have not prayed; that you may think of them as you have never thought of them before; that our hearts may be all drawn out to them today in deep sympathy, and that we may be led in some way to help the spread of the gospel in that land.

Before I left China I had a great desire to have a dress such as I have on now to bring home to America and show to the friends here. We in China, in our mission, the China Inland Mission, always wear the Chinese dress, but we do not wear such gay clothes as this. Our clothes are much more simple, ordinarily wearing a black skirt and something much simpler for the upper garments. But we have so many women in Hu-nan -- a province almost in the center of China -- who come to our place dressed very much as I am this afternoon, and so many people in America hardly realize that the Chinese have so many pretty things and are such nice people that I thought I would like to have one of these dresses to bring home.

Dr. Keller's patients presented us with enough silk to make these garments

that you see. Our usual custom is not to accept presents. We have found for various reasons it is better not to. But this one was absolutely forced on us and we could not possibly refuse it, and I felt very glad, two, for it. I would not have felt quite at liberty to spend the amount of money a suit like this would cost myself, but God in his kindness provided this suit for me to bring home and show the friends here.

Now before I go any farther I am going to explain a little about it. As you see, just at present it is an official garment. But if I should take off these beads, and if this embroidery should be removed from this coat -- embroidery in the front and the back, it would no longer be an official garment. It is simply these that show that the person who wears this garment is of official rank. Even this piece of embroidery can be used if the bird is not on it. You notice in the center here is a bird, and this shows that the person who wears the garment with this embroidery is of official rank; and this is one of the fourth official rank, because this bird has four feathers in its tail. The highest official rank has just one feather in its tail, and the lowest has nine feathers. This only has four. This little round place here you see, made of red corals, represents the sun, and the bird is represented as looking at the sun. The same is on the back of the garment. These beads are not the very best. The very best ones cost as much as \$500, but these are simply imitation, made of good ebony. The best ones are made of real jet and of a very precious kind of wood. These are just carved out of wood. The good ones are made of coral, and the stones at the back are precious stones, and very expensive ones.

When these ladies come to see us dressed up like this we know that they come to make a formal call. This outside coat is only a garment that is worn on special occasions. They do not wear it all the time. If they are going to make a formal call, or if they are going to a feast or wedding, or anything of that sort, they put on this outside garment; and this one that

I have is a spring and autumn coat. You see it is lined with blue silk. The summer garments are not lined, and they are made of perforated silk. This one that I show you now is a garment of Dr. Keller's, made of perforated open-work silk; and the summer garments are made of that kind of silk, only in this dark brown shade. The embroidery is all done by hand. The garment is all made by hand, as they don't use machines in the interior of China at least. They use machines in some parts for making stockings and underclothing, but not for outside garments.

When a lady comes to visit me dressed like this, after she has made her bow I invite her to take a seat,--not just any seat, or the most comfortable seat in the room, as you would do here, but invite her to a seat nearer me, because in Chinese guest-rooms the Chinese chairs are so arranged that one seat is at the head of the room, and that is called the highest seat, and of course I invite my guest to come to the highest seat, the seat of honor. She, of course, very politely refuses. The Chinese are very polite. I think perhaps they are even more polite than the Americans. They are exceedingly polite. And she says "Oh, no, no!" She goes to the seat that is the lowest seat in the room, and right beside the door--the farthest away from the seat of honor. And I say "Oh no, come sit up higher." "Oh, no, I am not worthy to sit up higher. This is all right, this is just the same." But I say, "Oh no, I could not think of it." And so by constant pressing I finally get her up to the seat of honor. Then we have tea brought in, tea made not in the same way that we have it here, but just a few tea leaves put into the bottom of a cup and boiling water poured on top, and a cover put on top to keep the steam in, and let it stand for a few minutes. They drink tea that way. In Hu-nan they have the peculiar custom of eating the leaves after taking the tea. They never put cream and sugar into the tea as we do sometimes here.

After I have invited her to have a cup of tea then, if she is a lady I have not met before, I ask her her honorable name. She says "My honorable name is" so and so. If she is an old lady I ask her what her exalted age is? She says she has grown up as an "idiot" for so many years. I ask her about her honorable family, her beautiful house, and all the questions I can think of, because it is very polite to ask questions in China, and she in her turn asks questions about us. After we have asked these questions and she has had her tea and feels a little bit at home, I will say to her, "Will you not take off your outside garment?" and one of her servants -- she always has a couple of servants with her -- one of them will take off her beads, undo her coat for her and take it off; and I will proceed to do the same, and then as I remove the coat you have the dress--the coat and skirt that is worn everywhere. This is the shape of dress that we always wear. It never varies in shape. They don't have one style in the spring and another in the autumn. The only difference there ever is in the style is in the width of the sleeve. Some of them are 2 ft. or 2 3/4 ft. wide. Some of the gowns are a little bit longer or shorter. This is an extra long one. The collar is sometimes made a little bit higher or lower, larger or smaller, according to the style. But the styles do not change as they do here, and they can wear a dress like this for seven or eight years if the material will last that long without feeling at all strange.

I will just speak about this dress a little bit. This braid is made of satin cut on the bias. They put a thin paste over it, cut it into strips, turn under the edges, and sew it on. It is very beautifully done. This illustrates the beautiful work they are able to do. They make these garments very very cheaply indeed. Then there is a skirt. As I stated before, I always wear a black skirt, but it is made in the same style as this. And you notice on the sides it is pleated. There are one hundred pleats on each side. And this skirt likewise is worn for special occasions.

The women wear large loose trousers made of silk, cotton, or wool goods, but the skirt is always put on when they are going to call, or on any special occasion. It is always more polite to call on a person wearing a skirt. The skirt is all embroidered, and the work on this skirt really means a great deal of labor. They pleat the silk all up first, then draw the pattern they want to embroider on it, then they unpleat it, embroider it on, then afterwards they pleat it up again and make the skirt. So you see it means a great deal of work. The reason for that is that they do not want these pleats to be caught down in the embroidery, but want them to go open down to the bottom. This is all hand work. Most all their embroidery has a meaning.

Then comes the under garment, which they wear next their bodies. It is made of white linen beautifully embroidered with black silk, on both sides exactly alike, and it is beautifully done. Sometimes girls five or six years old are starting to do this work, and the little girls improve very fast. They do a great deal of this embroidery, although a great many men do the embroidery too. In different parts of China it varies. In some parts it is done by men; in other parts by women. In some places men make all the clothes. In other places the women make all the clothes. In the North of China we could not get a man to make our clothes. When we went down to Hu-nan we could not get a woman to make them. Women make them much cheaper, but not nearly so nice.

This is the hat we wear, not all the time, but just in the winter time. In summer we have no need of hats in China, because it is very warm, and besides it is not the custom of the country to wear hats. But these hats are worn from about the beginning of October to the end of March. I do not think they are very beautiful, but they are very comfortable in winter.

This is the kind of handkerchief they use. They do not use white ones like ours, and they do not use handkerchiefs there as we do. They are

more for ornament than anything else. You see it is all embroidered. Bells indicate that this is a bride's handkerchief. Ordinarily there are no bells. They wear their handkerchiefs fastened to their rings. When they go to call they always have a pretty handkerchief hanging from their rings or their bracelets. They are very very fond of jewelry. They have it in their hair, in their ears, around their necks. Their bracelets are very numerous and very beautiful, and they have many many rings. Then they have one ornament, made of silver or gold, that we never use, and that is a finger-nail protector. You know many of the high-class ladies have very long finger-nails, and they have finger-nail protectors made of silver or gold. They are not very beautiful, but they are very fine. When we go out we always hear a great many remarks, and if we haven't long finger nails we hear remarks like this: "Just look at her hands. She must have worked awful hard in her life. Look at those short finger nails." They cannot understand why we have short finger nails.

This is a part of a bride's adornment. It is worn on the outside of the garment hanging from a button. It answers two or three purposes. She puts sachet powder in there, needles in there, and uses it for a looking glass to see if she has the powder and paint on evenly, for they do powder and paint a great deal in China. But when a bride wears this it is for a special purpose. The Chinese people dread evil spirits hovering around all the time, so they must have something with them to keep these evil spirits from doing them harm; so the Chinese bride wears a looking glass. The idea is that the evil spirit comes in the door and it sees its likeness in this glass, and immediately it runs away and leaves them all. So that has a very special purpose.

I might just mention in this connection that I have here one of their bed ornaments. Their beds are fixed up very prettily, like our old-fashioned four-posted bedsteads, and beautifully carved, with curtains around

them and a great many trimmings. The side of our bed would be the front of their bed, and this would be hung on the front, so when a lady is going to be married she has one of these made. These are Chinese characters, and they are made and hung on the bed in the hope that they will drive away the evil spirits. This bed ornament belongs to a Christian, to Mrs. Li. When she was married, not believing in evil spirits as the heathen do, she wanted to have this ornament made different, so the other part is just the same, but these characters she had altered. She chose a verse out of the Bible, and I think it is a very appropriate verse-- "Now abideth faith, hope, and love," and then this large character in the center--"The greatest of these is love." I think that is a very beautiful text to start in married life with.

Here is a little knife they use to rub the powder and paint on with.

They do not wear shoes as we do. Most of the women have bound feet. This is so all over China. There are some parts of China where they do not bind their feet, but ordinarily speaking the women of China bind their feet. Some people have said to me since I came home to America, "Why I thought that there was an edict passed, and the Chinese didn't bind their feet any more." Well, it is so, the edict is passed, but it is also true that the Chinese still bind their feet. I think probably that nine hundred and ninety-nine out of every thousand bind their feet still. These are the little shoes worn by them, and that is a pair worn by a high class woman. You see it is a very small shoe, about three and a half inches long, I think,-- that is all that shoe would measure from the heel to the toe. Here is a pair that have been worn, a pair that was given to me by a woman who came to work for me. She used to come to do sewing, and she is a woman about half a head taller than I am, and considerably stouter. I told her I was going away, and asked her if she had an old pair of shoes she would give me, because I

told her some people in America didn't believe that these small shoes are worn. These are worn by the common working women. I am going to tell you a little bit how they bind their feet. When the little girls who have their feet bound are about five years old their mothers begin. They have to let them grow until that age, sometimes until seven or eight years old, because if they did not they would not have any strength at all in their feet. They begin by binding the toes back one by one, like that, pressing right back, binding them until the toes seem to begin to grow into the other part of the foot. They keep on until the toes are bent back nearly to the heel, so the heel and the toes are bound almost together. Every few months they have a new pair of shoes made, and every time the shoes are made a little smaller until when they are women they have feet small enough for these shoes. So many people have asked me if the Chinese suffer. They do. The girls suffer intensely. From the time they begin to bind their feet until they are fifteen or sixteen years old they suffer intensely. I know of one woman who became a Christian and she didn't want to bind her little girl's feet, and the little girl really cried because she could not have her feet bound. "Why," she said, "if I have great big feet when I grow up I will have to marry a poor Christian. I can not have a rich Christian." So with the hope of getting a rich man they would suffer all this pain. I think it is very sad to see how they hobble around. A very high-class woman with very tiny feet, many of them have to hold on to things as they go through the rooms. They can not support themselves on their stumps, for they are nothing but stumps.

This is a child's winter hood or bonnet. There is a small hat. These are the Hu-nan bed trimmings. This kind is used in any province of China. In speaking of China I am really speaking of Hu-nan, because customs vary so in different parts of China, and while in a certain sense my remarks are general, still they are more or less confined to Hu-nan. This bed

ornament is made in the Province of Ngan-huei. Their beds really look very pretty when they are fixed up. This is all done stitch by stitch on coarse canvass. They do not have feather pillows like ours. These are ends of their pillows. The Chinese do not consider feather pillows comfortable. This is a pillow-sham they put on in the daytime. This is a piece of embroidery which is laid across the front of the bed, which would be the side of our bed. We put one at each end. These smaller ones are hung on the side. This is a quilt, and is loaned to us by a lady in the house here. It is just a bed spread. They do not spread them out over the bed as we do. They fold them up, lay them on the side, so that the embroidery is all that really shows. Here is a Chinese razor. Here is a baby's bib. Here is a spectacle case, which is hung usually from a button. They have many kinds of spectacle cases.

Here is a man's money bag. It is worn inside the coat tied around here with a cord. Here is a cover for a looking glass. They cover up the looking glasses. Here is one of their vases made of beautifully carved wood. Here is a box of sandal wood, very beautifully carved. One of the ladies in the Sanitarium loaned these things to me.

I do not think you could guess the name of this thing unless some of you had seen it before. This is my calling card case. One of these cards will last me all the time I am in China. The older it looks the better, because that shows how many calls I have made. This is the card Dr. Keller uses. He has one of these large ones, a more polite card, and every time he makes a call he has one of these smaller business cards left behind. The ladies only just take their one card. They hand it in to the servant, and then it is given her again when she returns home. This is just my name written in Chinese, just three characters-- "Keller, original Tilley." Tilley was my maiden name. That is what they write on the native cards.

This is a piece of their sackcloth. The Chinese in mourning wear white, and this is the material their clothes are made of.

I have some little models here, and I thought I would tell you a little about the beginning of our life in China and how we began our work. I went out in 1897, landing in Shanghai, along the coast. I suppose that is the principal port of China. Arriving there I was taken to the mission home in one of the jin-rik-shas. This is a little model of a jin-rik-sha. The wheels have been broken off. I dare say many of you have seen them. The Chinamen roll this along the streets. But they are not in use in interior China, because the streets in the interior are so uneven and rough, it would be very hard work. The streets in many of the interior cities are very narrow, so they do not use these in the interior. After I arrived in ~~Shanghai~~ Shanghai I went up to the mission home in one of these jin-rik-shas, and after a while I was told it was time for me to go down and look after my Chinese clothes. We in the China Inland Mission always wear the Chinese dress. We find it a very great advantage in getting near to the people in the interior. We do not think it is as important now as we used to years ago, and it is not as important in the coast cities, because of course the Chinese there get acquainted with our clothes and our manner of life; but in the interior it is a great help to wear the Chinese dress. They understand it better. They do not quite understand the English dress. They think the American dress, especially the ladies dress, is very unbecoming, very immodest, and they do not understand why we wear buttons here where it is fastened up, why the sleeves are so small, why the skirts are made in that way. So those who wear the English dress have to answer a good many questions. The Chinese, as I said before, ask many questions. The first thing they want to know is "Where is the dress fastened up? Why have you got the buttons on here? Why do you wear that kind of sleeve? How is this embroidery made?" and all sorts of questions. We do not get

very much opportunity to tell them about the gospel because there are so many questions to answer about the dress; at least it takes a long time before we can get to tell them about the gospel, so we are very glad to wear the Chinese dress for that reason. Then besides, of course, it is easier to buy, Instead of having to send home to America, or to send to the coast cities for our American dress, we can get these Chinese dresses made in the cities where we are. Just buy a piece of material, and the taylor comes in, looks at you, sees about what size you ought to have made, makes them for you, and the next time you have them made, if they are not quite right you can have them altered a little bit. But we usually just give him one of our old dresses or gowns, and he is able to make them from that. So it is a great saving. So after being a day or two in Shanghai I went down town to buy my shoes with one of the other missionaries. In Shanghai they have stores where they make these large shoes. Ordinarily they would not have them in China, but in Shanghai they have them. So we bought a pair of shoes and a hat. And the taylor had made some clothes for us before we got there. Then the next day I went away by steamer to Yang-chow, to our mission. In our mission we have a training home for missionaries. The Chinese customs are so different from ours that it is very nice for the new missionaries that they can go to such a place, where they can learn a little of the Chinese customs and a little of the Chinese language, and also learn how to eat Chinese food.

Here is a little model of the way they eat their food. They have these square tables in the South of China. You don't see them in the North; at least in the North they are much smaller. They eat with chop sticks. They have four or five different bowls, and the foods are placed in the middle of the table. They dip up a little rice, a little maize, some more rice, a little cabbage, a little more rice, possibly some beans or curry, a little more rice,--different kinds of food, and everybody dips out of the several dishes, but each person ~~xx~~ has a separate bowl of rice. They do

not use tablecloths, do not have knives and forks, but they do have spoons. So when we go to the training home we learn how to eat, how to use chop sticks, learn all about the customs of the people, and then learn the Chinese language. This is the way I learned that. The teacher comes. Each person has a separate teacher. The teacher sits on one side of the table, and I sit on the other. We both have books alike -- the Chinese and English. And he says a character and I say it after him. He will say the character over, and I will say the character over after him, and so just keep on repeating. He does not understand any English, and I do not understand any Chinese, and it is by repeating after him constantly that one comes to understand the tones of the language; and we study between our lessons with the teacher. After I had been in the training home a few weeks I went up to a station in the North of China, and there the first work that I did, about three months after I had been there,-- of course I had spent nearly all my time in the study of the language, giving the whole day, from morning to night to the study of the language, and then at the end of about three months I had a class of very small children. I laughed when the lady missionary asked me to take that class. I thought it was very foolish to ask a person who did not understand any Chinese to take a class of children. But I found out that it was a great help to me. I would learn a hymn, or verse of Scripture, learn a prayer, and then teach it to those children, and of course it helped me a great deal, because if I said any characters in the wrong tone they would all the time tell me how to say them. They would say "But you must say it that way," or "You must say it this way;" and so while I was trying to teach the children they were teaching me. A little later I had a class of older children, then of women, and after I had been in China about a year, although I did not know the language thoroughly -- of course it takes really two years to get a good working knowledge of the language,

still I was able to understand considerable, and I was able to go out with a Bible woman. These Bible women seem to understand us so well. Even though we make many blunders at the beginning, they help to explain. We would go to a village and the women would gather around me. I would begin to tell them the gospel, and they would not understand very well perhaps, then the Bible woman would repeat after me all that I had said. After I had finished she would repeat it,--tell them the gospel, and in that way one gradually adds to his vocabulary.

I am just going to tell you of the way we work among these women. Of course after we have learned the language, first of all we have the guest-room work. We have a room set apart especially for the women guests and another one for the men guests, and they can come at any time of day, from 8 o'clock in the morning until 6 o'clock at night, and they do come. Every day there are women in the guest room. Of course they do not come to hear the gospel. They come out of curiosity, they come to see what we look like, how we speak the Chinese language, they come to see our homes, to see those tables that we have, the white tablecloth, the knives and the forks; they come to see our bedrooms, because they hear we have white spreads on our beds, and that is so queer to them; and many other things. They come, of course, out of curiosity, and Oh, dear friends, what a wonderful opportunity we have, because, although they come out of curiosity, after their curiosity is somewhat satisfied and they have seen all they want to, then we have a chance to tell them the gospel.

After the guest room work we have classes among the women,-- Monday for Christians, Tuesday for inquirers, and Friday for heathen; and God has richly blessed these classes. We have also had a class for teaching English to the Chinese women. One day there was a very high-class lady came to see me, a lady dressed in beautiful garments, and she said to me after I had become acquainted with her, "Mrs. Keller, I want to learn English."

Won't you teach me English?" "Why," I said, "I haven't time to teach English." "Oh," she said, "I do want to learn English. I met an English lady once on a steamer and she was so interesting and I enjoyed meeting her so much, I want to learn the language." I said, "I do not think I have time to teach the English language, but I will think about it." So after a few days' prayer I thought perhaps it would be a splendid thing to teach her English in order that she might know it. By the way, I omitted to say that I asked her why she would not come to the meetings, because the gospel was of much more importance to her than to learn English. She said, "My husband is an official, and he would not have me come here, because men come to the meetings, and besides he would not have me come to a gospel hall at all." "Well," I said, "if he will not let you come to the meetings, may be he will not let you come to learn English." She said "That is quite different. He is so anxious to have me learn English he would be willing to have me come for the sake of the English." So after two or three days of prayer and thought I decided I would teach her English. We started the class. One of the views ~~six~~ at the meeting last night was of that class, and this woman came first, then another; and then others heard of our teaching English and wanted to come, and in all there were five or six in that class. Of course I did not teach them English alone. The very first thing I did was to put Chinese Bibles into their hands and tell them that we were going to study the English Bible for a time, so they must read the Chinese Bible first, so when they came to the English Bible they would understand it better. And they took these Bibles home, read them, and asked many questions; and one of those women has become an inquirer since then. The others have been very much interested, but they have not come out definitely for the Lord. That was one of the other classes I had.

Besides these classes we had wonderful opportunities for speaking to them on Sunday. We had our regular services, of course, on Sunday.

The Chinese are not like the Americans. They always have lots of time, and the women come sometimes a couple of hours before the services and they will stay there waiting and talking, and of course we do personal work among them. After the service they are never in a hurry to go, and they stay for two or three hours or more, so they sometimes spend nearly the whole day there, and we have wonderful opportunities in that way of telling them the gospel. Then besides these opportunities we are able to do house to house visitation among them, to go and visit them in their own homes, and it is very easy in China to get into the homes of people. I used to just start out on the street with a Bible woman, and the little children would see me on the street, and they would say, "Where are you going to?" I would say, "I am going anywhere. I am just going out to preach the gospel. If any person will invite me into their home I will be glad to go." The children will say, "Will you come to our home?" I say "Yes, if your mother wants me." Then they will run home and say "Mother, I have invited the foreign lady to come in. Get some tea ready quick!" and they no sooner say that than the door would be opened, and I would be received so gladly, so willingly. They make tea, and very often spread cakes for me, and in that way I get into their homes, and then of course we are able to tell them the gospel. Then we not only do house to house visitation in the large city of Yang-chow, but outside in the villages. There are many villages around Yang-chow,-- small places. We go perhaps sometimes a week, sometimes a month, and just live in Chinese inns and eat Chinese food, and just live among them, going around and preaching the gospel. And Oh, dear friends, it was no trouble to get an audience. We would just go into the inn and perhaps before we had time to get anything to eat there would be a large crowd of women there -- of course in an outside room. Most of the Chinese women live in more or less seclusion. We always used to go into an inner room, and we would be there but a very short time and the room would be packed full of

these women, and they would be eager with questions. Oh what wonderful opportunities we have in China for telling them the gospel!

Then, of course, there is our hospital work, and the dispensary work, and different branches of work that I can not speak of now. But Oh God does give us wonderful opportunities.

Now I just want to speak to you for a few minutes on the great need among those people. I suppose you all know that there are four hundred million people in China,--four hundred million. How many of these are woman -- the women many of them suffering greatly? But Oh the greatest need that they have, the greatest need that the Chinese have, is a knowledge of Jesus. Oh I think it is so sad to see those women bowing down to idols, worshiping those idols,--sometimes only pieces of paper with just an image of the idol printed on. Then they have idols hung up in their homes. They bow down to those idols, idols made of wood and stone, and many of them made of paper,--bow down to them and worship them, because why? Because they have no knowledge of the Lord. And think of the needs there, dear friends, the great needs and the great opportunities; and Oh, dear friends, the great joy of ~~kw~~ working there, two,--such great joy to go among a number of women who have never heard the gospel and tell them all about it. I never knew joy equal to it. My heart has just been filled with happiness while I was thinking of the great privilege I had of being a witness for Jesus there. Oh, dear friends, as you see these things today, and you see the hands back of them all that made these things, that have done this beautiful embroidery, will you not think of the hearts and souls of those Chinese women, those millions there without Christ. Oh let us think of them, and let us pray for them. What can we do for them? We can go, some of us, perhaps. Perhaps God has that planned for some life here today. Perhaps there are some here today whom God might call to foreign fields. But we can not all go, and what can we do? We can all pray. Every one of us can

pray for the work in China, and we can as really work for China through prayer as we can by going and working there. I wonder how many of us ever worked an hour for China by prayer. How many of us have worked for India an hour by prayer? How many of us have worked for Africa by praying for Africa. Oh let us think of that. God has laid this upon us as Christians that we ought to pray for these people. Then we can send the gospel, can we not? Let us think of these people as we never thought of them before, and let us work for them and pray for them as we never have before. May God help every one of us. I hope what I have said will call out some prayer for China.

v--m 11-20'06

LIFE--WHAT IS IT?

A Lecture Delivered by Dr. J. H. Kellogg, at the Sanitarium
Parlor, Sept. 22, 1906. 0

The question of life is one of the most interesting of all questions. The ancients studied it, discussed it, philosophized about it and believed certain things concerning it. Pliny, the old Roman philosopher, that lived about a hundred years after Christ believed that life is something that sprang into being spontaneously and gave a recipe for making mice. He said you gather together a quantity of old rags and mix in with it bits of meat and cheese, and leave these in a corner by themselves, and after a time you will find mice in the midst of them. He claimed that these mice were generated spontaneously from the rags, meat, and cheese. He also gave a recipe for making frogs. He imagined that these sprang into being without creative power, without any life before them to originate them.

This idea has not been confined entirely to the ancients. It has come down to very modern times. I well remember when a student, of reading discussions by Dr. Bastian, of England, on this subject. He was a very eminent teacher, and held to this doctrine. Others have also held to this idea. Only when Prof. Pasteur, the eminent chemist, proved the absolute impossibility of such a thing, was the theory surrendered by Bastian and other scientists.

All along during the past twenty five years men have been coming forward saying that life was a thing, that came spontaneously into being; that all living things originated in this way. Prof. Bastian mixed together a solution in water, of phosphated, nitrites, and other chemical substances, put it away in his glass tubes, and

at the end of a certain time he found that they contained living forms. "It must be," he said, "that they there. How else could they have gotten there, if they did not originate there?" The old Romans heard it thunder and said that it was Jupiter talking. If it was not Jupiter talking, what was it? Since they did not know, of course it must be Jupiter. Many people reason in about this same way. They hear a noise on the window. What is that? Don't know. It must be spirits and they proceed at once to get frightened about it.

Some time ago when I was coming down Manchester Street about eleven o'clock at night, I saw a ghost, a real ghost, and it was the only ghost I ever saw. I saw the transparent form of a woman standing right before me in the middle of the road. There were the arms, shoulders, neck, head, and outline of the face--yes, it was a real ghost, so real that if I had been as I was in my boy-hood days, I should surely have run from it, for I always had a great fear of ghosts, and I never went out after dark, but my knees shook, and cold chills ran down my back. But what about the ghost? Well I stopped and investigated it, and when I examined it a little more closely, I found that it was a cloud of vapor rising from the sewer, and the evening being cold caused it to condense, and the electric light shown upon it in such a way that it appeared to me to be in the form of a ghost. I suppose if I had not found the explanation I might have believed that I had seen what people call a ghost, the spirit of some body returning to communicate with friends, or to do something.

I might have reasoned, If that isn't a ghost, what is it? Of course it is a ghost, and that settles it. Many people reason in just this way in regard to the origin of life.

Now, if these people, who have these ideas of life, would just study into the question a little deeper, study the Bible and have faith in what it says, they would save an immense amount of trouble. The Bible tells where life originated and what life is. If we can not believe the Bible, I do not know what we can believe. The Bible is the great winnowed truth of all the ages. It has so impressed itself upon the lives of men that they have allowed everything else to become subservient to it. It has so impressed itself upon the hearts of men, that they have allowed it to be the guide of their lives, and rather than surrender their faith in it, have preferred to be confined to dungeons, tortured in all inhuman ways, and have given up their lives at the stake.

Now let me read. Genesis 2:7; "And the Lord God formed man of the dust of the ground and breathed into his nostrils the breath of life, and man became a living soul." That is where life came from. Further in the book of Moses the statement is made to the children of Israel, "He is thy life." God breathed into man the breath of life. That is what the operation of making a life is called--breathing into man the breath of life; and then Moses said of the living man "He is thy life." That is the motto of this institution. You will notice these words on the windows above the Palm Garden. Christ said "I am the way, the truth, and the life." Christ was life, and we know it because he was able to make life.

There must be some origin of life. Scientists have searched high and low for it; have delved into the secret

chambers of nature for it; have examined the strata of the earth even the little meteoric fragments that fall to the earth from the heavens--all in vain have they searched for the origin of life, and after all these scientific men are conceding the fact that science can not account for life; that there is no chemical formula by which life can be created; there is no means known by which life can be originated, except from some previous existing life. Without life, no life, is the corollary that scientists have to admit at the present time.

As far as man is concerned the Bible gives us the only rational account of this creation. Now, Haeckel advanced the theory that life came to this planet in this way: a shock of electricity went through the earth, and this induced a portentous cataclysm of atoms; that is, the shock caused an arrangement of atoms, and that one of these arrangements happened to be so fortunate that it developed into a living form, and the first thing was jelly, protoplasm; and this protoplasm began to evolve and differentiate, and put out little protuberances which became fins and legs, and the one that had the legs led up to the land, and those that had fins lived in the water. Some had wings and became birds and remained on the earth, and others became reptiles, and out of some of these reptiles or birds came monkeys and from monkeys came man. Not long ago, I heard of a man who claimed that it was demonstrated beyond the possibility of a doubt that this theory was true, from the fact that a certain lawyer up in Wisconsin, was going back to the monkey state. He was beginning to have the face of a monkey, and hair was growing on him like a monkey and he acted like a monkey. It is not an unheard of thing that man should degenerate into a monkey but

there is no evidence to warrant us in believing that man ever came from a monkey. For between the highest animal and lowest man, there is an immense chasm, that has never been bridged.

When we come to read the account of the origin of man we will see that he was a distinct creation by himself. We read that in the beginning God created the heavens and the earth, and on different days we are told that he made different things. One day it was light, then he gathered the waters together under the heaven so that the dry land appeared, then grass and herbs yielding seed; the fruit tree yielding fruit after his kind. Then the lights were set in the firmament of the heavens to divide the day from the night. Then on the fifth day the waters brought forth abundantly all creatures that moved in it, and the fowls that fly above the earth. Then on the sixth day living creatures after this kind, cattle and creeping things, beasts of the earth were created, and last of all God said "Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the fowls of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him; male and female created he them."

So you see that the making of man was a different act from the making of the other animals. Man was made to be governor over all the earth. He did not start at the bottom, as a bit of protoplasm, and develop up through all these various stages to the position he now occupies--no, he started at the top; he was started as an image of God, a commander of all the earth, the king of the world. He was made out of the dust of the earth and the breath of life was breathed in him; in

other words, God made man and then put himself into him. Let us illustrate this. Here is a man who fashions a beautiful piece of sculpture, perhaps of himself. You can know something of the character of that man by his work. Here you see a delicately fashioned, perfectly formed, and perfect representation of an ideal personage. Now suppose that this man had the power to go still farther and put himself into that model, so that the arms would move, the knees would bend, the face would give expression, and actually have the power to move and execute the will to do things--actually become alive, what a wonderful thing that would be. But that is just what God did when he made man. He made him out of clay. He was not a real man yet, simply dust, after which he put Himself into him, breathed into him the breath of life. He became the life of that man, the energizing power, the force, the most splendid creation that God ever made. That is the picture that the Bible gives of the origin of man, that is what Moses believed that is what the ancients believed about it, and that is what the people who were nearest back to the beginning of things believed.

The question is sometimes asked, How tall was Adam? I don't know, but we do know that he was much taller than the people of today are. We have evidence of this in the skeletons that have been exhumed. But we have still better proof than that.

Once when I was out in Colorado a few years ago, I happened to be stopping over from one train to another at Pueblo, and they were having a state fair there at the time, and so during the interim I thought I would visit it and see the exhibitions of fruits--to see what the earth of that section

of country had produced. There I saw one exhibit that interested me greatly, an exhibit of apples. There were green apples, striped apples, purple apples, red apples, white apples, sour apples, sweet apples, russet apples--many, many kinds of apples--twenty-six different varieties. I was told that all these apples had originated from one barrel of greenings that were shipped out to Colorado twenty years before. The seeds from these greening apples had produced these different varieties of fruits. Now, can something come out of nothing? Surely not. That circumstance showed me something that I had never seen or appreciated before, that in every apple seed is the germ of all the apples that will ever come from it thereafter; that in the original apple tree, the first one that ever grew, was everything that has ever come out of all the apples that have ever grown since that time.

The very same thing is true of man. What kind of man the first man was, can be known by looking over the history of humanity and see what has been produced. Do you want to know the great faculties that were possessed by the first man, just sum up all the faculties that have been exhibited by all the men that have ever lived, and this will tell you what was in the original man. We have a lady in the Sanitarium now whose husband is a College President, who told me about one of his students who was a wonderful mathematician. If you say to this boy, multiply 525,486 by 689345, he would write the figures almost as soon as the numbers were given him. Then say to him, extract the square root of the product, or the cube root and he will write it on the blackboard just as soon as he can get the figures down. I asked him how it was done, and he did not know, and the boy himself cannot tell.

No one in the classes do it the same way he does, but he always gets it right. Adam did not have to study Arithmetic, did not have to study these sciences to know the relation of things, because he had that master mind that knew things.

I met a man a couple of hours ago as I was coming across the campus, and he was smoking. "Doctor, he said, "I will tell you what I want---I want a master mind--my mind is not equal to my business. I want a mind that will enable me to master my business. I see things all about me that indicate master minds at work--great manufacturing establishments, great institutions of various kinds, I want a mind that will enable me to do that sort of things." "Well, I said, the first thing you will have to do will be to dispense with that cigar, for a man can not have a master mind when he smokes, for tobacco paralyzes your mind." That has been the trouble with humanity through all the ages from Adam down to the present time-- men have been wandering away from the right path. God told man in the beginning what to eat. And God said, behold I have given you every herb bearing seed, which is upon the face of all the earth, and every tree in which is the fruit of the tree yielding seed; to you it shall be for meat." "Meat" means bill of fare. Did God say, "I have given you every beast of the field that you might slay and eat?" No Sir, he gave no such thing. The original "meat" was fruits, and seeds and grains, and it should be his "meat" still. When a man eats an ox, he is only eating grass and grains second hand. A hog eats grain, and the man eats the hog, eating his original diet second hand after being rolled around in the mud and filth for six months. Man, instead of eating what God provided for him, has turned about and, as the old

Greek Hypocrites said, "devoured his guests." In the beginning God made this animals to be associates of man, to be fed at the table of His bounty, and now man turns away from God and from the luscious fruits and nourishing grains, and proceeds to eat what? His fellow beings.(fellow creatures,) God never intended that men should be eaters of eaters, but eaters of eatables, and because man has so degenerated it is only once in a great while that anything like the original faculties that man possessed flash out through humanity.

As I was saying about mathematics, so occasionally we see a great musician. Take Blind Tom, for instance, he could play anything, he was a musical genius. He could hear a most difficult musical composition executed on the piano, and even though he never heard it before, could sit right down and play it exactly as played by the performer. There was a musical genius away back somewhere before Blind Tom. His ability came as the result of heredity, so away back in Adam was the summary of all the musical geniuses that ever lived.

This can be shown in another way. Here is a willow tree. I cut off its Branches and put them into the ground, and they grow up into another tree. In a certain sense it is the same tree, a part of it extended. So I go on cutting off twigs until I have a great forest--all part of this tree. God made the first willow tree, and from that one all willow trees came. In the first acorn was the germ of all the mighty oak forests that have ever since grown upon the earth--all from the first tree that bore the first acorn. So looking it biologically, there is but one man living in the world, we are all parts of Adam, buds off the original parent stem, and this great law of heredity is a natural thing, because a child is his father,

the fatherlives in the child. And when we recognize this we will see how it is that the sins of the fathers are visited upon the children of the third and fourth generation. "Whatsoever a man soweth that shall he also reap". So, recognizing this fact, it must be true that there is nothing in humanity but what was in the original man, and therefore we see that instead of ascending, man has descended, and as we look about us and see the depravity in the world, the congenital defects and deformities, the evidence of degeneracy, we are startled; and indeed, the eyes of the world are seeing them, and thinking men are alarmed at what they knew will be the sure end of it all. Recently there was appointed in England a committee to visit the schools and note the condition of the children attending there, and they found that practically every one of them had some defect or other--bad eyes, round-shouldered, hollow chests, rickets, scrofula and many other diseases. In one school where thirty-four young women were examined, but one was without serious defect.

In the olden times man lived to be a thousand years, now the average length of life is only forty years under the most favorable conditions. In Mexico the average length of life is only seventeen years. You see the average Mexican dies when he is only a boy or girl. That is a terrible thing--all the consequence of degeneracy. At the rate we are going on, there is nothing but extinction before the human race. This decline is greatly on the increase. Insanity has increased three hundred per cent in the last fifty years. Other chronic maladies are increasing at the same rate. There is five times as much Bright's disease to-day as there was fifty years ago. The United States census shows that all the common chronic maladies are increasing with tremendous rapidity. We can not look forward to more than two and a half centuries before the race will be extinct. At the rate we are going 265 years will see us all lunatics. I figured this out once, and it is easily demonstrated. If the increase goes on in the same way as it has in the past fifty years, fifty years hence the per cent will be nine times as much as now; another fifty years will make it twenty-seven percent; another fifty years, eighty-one per cent, and we can only get as far as 265 years until the race will be one hundred per cent, and that means all.

Well, now, this is a serious matter. This degeneracy has been going on ever since man turned against the instruction given by the Creator and began to live the wrong way, and he has been going down ever since.

When God made man, he put his life into him, and then gave

him rules by which he should live. "The soul that sinneth, it shall die." The race that sins must die just as certainly as the individual. For if the individuals die, the race will have to; and when the individuals turn away from normal conditions of life, they start in the road that leads down to death, and there is no escape from it.

The thing that we must be most interested in, is, how can we escape this awful condition that is ahead of the race? That is the reason why this institution is here, to call the attention of men and women to the fact that we have wandered away from the true path, and when we return to nature, we do not return to savagery, though in some respects they are more nearly accord with the original plan-- that is they are living under natural conditions rather than artificial, and it was the natural conditions that man was placed under in the beginning. Returning to the original conditions simply means to recognize that God is the life, the ruler, our creator and preserver, the one who maintains the life that he has created, and that he is also the healer.

In the 4th chapter of Deuteronomy, I read:

"Now therefore harken, O Israel, unto the statutes, and unto the judgements which I teach you for them, that ye may live, and go in and possess the land which the Lord God of your fathers giveth you. Behold I have taught you statutes and judgements, even as the Lord my God commanded me, that ye should so do in the land whither ye go to possess it.

Keep therefore and do them; for this is your wisdom and your understanding in the sight of the nations which shall hear all the statutes and say, Surely this great nation is a wise and understanding people."

What a wonderful thing that is. The precept is, obey and live; disobey, and die. It must be that way--it can not be otherwise, for the laws of health which God has established are not arbitrary, but great principles that are essential and necessary. When one turns away from them he suffers the consequence.

The race after the flood began to turn away from the face of the law of diet that God gave to man; began to eat the flesh of animals and disease came in and multiplied. Noah lived nearly a thousand years. His sons did not live to be so old as he, and in a few centuries the average length of life was brought down to one hundred and twenty years, than later to the three score and ten, when we come down to our day the length of life is only about forty years. Why is this? all because of disobedience. Sin is the transgression of law, physical as well as moral.

This wonderful life that is within us is divine life. God made man and put himself in him. There are some wonderful facts that demonstrate this. The creative process is going

on every minute. God could not make man and then go off and leave him. The popular notion that after man was created and the machinery set in motion, God left him to take care of himself is all wrong. God made man a living machine, but he did not send him out as one would a flying machine into space with no guide. Think of it a moment. What would man do if he was obliged to take care of himself? A flying machine set going into space would doubtless go straight ahead, possibly in a circle, governed by the currents of air, but it could not regulate itself, and sooner or later would fall to the earth a wreck. With man it is the same thing. Think of our being able to adjust ourselves to the climatic changes of heat and cold, yet our bodies do adjust themselves to these changes, and that involuntarily. There is a fire burning in our bodies, a furnace, and when the temperature is low, the fire burns more briskly; when the temperature is high it goes down. We are out in the harvest field on a hot day., We are exercising; heat is generated in our bodies. What could we do by voluntary effort. But what does happen? In the first place the heat production is diminished. The skin becomes full of blood so that the heat can escape from the body through perspiration. When we are lying asleep, the amount of moisture evaporated from the surface of the body is only half an ounce an hour

but the man in the harvest field often has so much as three pints of water an hour pour out of the skin an hour, fifty ounces, a hundred times as ordinarily escapes. Does the man himself have anything to do with that? Of making himself perspire freely or scantily? Not at all. I am getting cold, suppose I will say I am going to shut up the pores of the skin and turn on a little fire to keep me warm--would it happen? Ah, no. But these changes do go on night and day, whether we are asleep or whether awake, and the equalization of the temperature of our body is most delicately adjusted, and nature knows just when to make all the adjustments to regulate the temperature of the body so as to avoid discomfort.

Not long since a lady said to me, "I know that God does not have any care for me". She thought she had been abandoned by him, that she had committed an unpardonable sin. She said to me, "I know you believe in God, do you think that he cares for me, that he knows what I am doing, and really cares for me personally. I said to her, "Certainly I know it." "O doctor" she said, if I could only really know that for myself I would be the happiest woman in the world." I said to her, Let me feel your pulse. Your heart is beating." "Of course it is beating" she said. You say of course. Then I suppose you have something to do with it. Wont you make your heart beat a little faster while I count your pulse. It does not beat a bit faster than it did. Why dont you hurry it up a little." " I can not make my heart beat faster" she said. "Then make it beat slower," I said. The count does not reveal that it beats any different than before. Of course I can not regulate my heart's beat. "Look here, I said, move your arm. Strike the table with your fist. How does that happen? You send a message to the brain

and the heart acts . There is an intelligence that desires something to be done, a will that commands and an arm that executes.

The heart is a muscle just like the biceps with nerves. It is a hollow muscle so that when it beats, it works like a pump and forces its blood on in a current. Every blow of your hand requires a command behind it, but this is not so with the heart, for its action is involuntary--it beats whether we will it to do so or not. Nevertheless, it does not beat without a command behind it, an intelligence that regulates the flow of blood. But that intelligence is not ourselves--and that is the infinite. Think of it! The muscles use blood. Our heart beats faster when we go up stairs. The brain needs blood to enable it to think--it can not think without blood. Without a blood supply one would become unconscious in a few seconds. When the blood is brought back to the brain of an unconscious person then consciousness is regained. This energy in a normal person is given just when and where it is needed.

What is true of the blood is just as true of digestion. The same unseen intelligence directs that. Digestion is a most wonderful process--how is it that food can be taken into the stomach and by the juices that are secreted it can be transformed into blood and made to build up the waste of the body. One of the most eminent physicians of Russia has published a purely scientific work on the subject and so impressed was the man that he said that the process of digestion is so marvellous that it is beyond all human comprehension, and must be controlled by some superhuman power--I do not

say supernatural, for it is but the working of God in man.

Here is a little bag of flesh, soft, delicate, you can crush it between your fingers. The food is taken into the receptacle, secreted juices pour out. Note the influence of this intensely acid juice. A piece of flesh--it may be a whole animal-- people sometimes swallow into their stomach a live animal. That gastric juice will digest all its contents and all its parts and dispose of it in a very short time. And the most wonderful thing about it is this, that while this juice has the power of digesting all this, it does not digest the stomach in which it is poured. Tell me why this is. Tell me why the stomach itself is preserved. You have all heard of Prof. Harper. He had a cancer of the intestines, and the last week before he died it was necessary to make an opening through his body into his intestines, and the consequence was that some of the contents of the intestines flowed out upon the abdomen, and the abdomen was eaten up. He was obliged to be bandaged up with leather bands while lecturing to his students. It was like a red hot coal laid upon him. Nothing could relieve it. Week after week he worked on with these corrosive fluids eating the skin, and then he died. His physical forces could not endure the strain. So you see what these fluids will do, and the only reason in the world why the stomach is not devoured is because it is miraculously preserved. No chemist or physiologist in the world can explain it to you why the stomach does not digest itself. They can tell you this and that and the other thing about it, but they cannot tell you the reason why.

Now take the blood. The body contains 30,000,000,000, blood cells, and these blood cells are all like men and women

like any other living, independent creatures; they are young, grow old and die the same as other living beings. A blood cell lives six weeks. The coloring matter of the blood is used to tint the hair, the pigment of the skin, etc. Eight millions of these cells die every second of our lives. When these die, there must be others created to take their place, or they would soon disappear. Is there here such a thing as spontaneous generation. The same power that made man in the first place had to stay right by that man and keep right on creating 8,000,000 blood cells every second. The other processes of the body require the same creative power for their maintenance as for their making. This is a great truth that I never got hold of for forty years of my life until twelve or fifteen years ago, and it came to me almost by accident, and not accident either, but from actual facts as they revealed themselves, for though I have a large library, I get very little time to read books beyond what I must read in order to keep up with the times. But this is a great truth, that God is just as necessary to the man who lives now as he was for the first man. That man never had any period of existence when he was able to get along without God. Paul says "In him we live and move and have our being; that is a ~~fact~~^{XXXXXXXX} ~~physical~~ fact and it is a scientific fact that could not be better expressed. Paul was talking to the Athenians, and as I visited that place a few years ago and stood there on the hillside, I could imagine that grand old apostle talking to those people, and as I thought of it, that next came back to me more forcibly than it ever did before--"In him we live and move and have our being." How it must have thrilled the souls of those

people to know that in God they moved around; that their very existence was from God, yet nothing could be simpler, nothing could be plainer.

It was along this line that I talked to the lady before referred to, and when she grasped the thought, tears filled her eyes, and she said, "This is too good to be true--too good to believe--that God is really looking after me, that he is keeping my heart beating." A few weeks afterward I received a message that this lady wanted to see me, and when she came, she told me something of her experience after that interview. She said that when she looked out of her window and saw the stars, I just kneeled down and said, "O Lord, help me to believe that you are interested in me as you are in holding all those worlds in space". And as she looked out upon the trees and beautiful flowers and grass, her heart went up to God and she really grasped the thought of his infinite care and then a flood of light burst into her soul, and for the first time in ten years she prayed.

The difficulty is that we think we are so small that God does not take any notice of us, whereas the facts are we could not get along without him for a single second and live. We are God's handiwork.

I have explained to you how by the law of heredity the traits of character, the individuality is transmitted from the father to the son and right on down through, so that when you look into the face of the son you see the

same being as the father. He is a bud off that tree that has simply grown in another place. In the Gospel you read about the genealogy of Christ, lineage being traced right back through all the generations back to God through Adam, so you see that what Paul said to those Athenians is literally true, that we are the offspring of God. For what is true of Christ, is also true of every man that lives. We have God's life in our bodies, God's blood in our veins. That does not make us God. That is where a great deal of false reasoning comes in. Many believe that because this is so, therefore we are little gods. A certain preacher (recently in New York) made this very statement in a sermon. We are made in the image of God, but we are not God. We are the sons of God, but we are not Gods. There is but one God. We are dependent upon God, and that is the reason why we live in God. In God we live and have our being, because it is God's life, it is He himself who is in us. As Moses said, "He is thy life." God is our life.

I never felt this so forcibly as I did once in a mission room in Chicago. I will go back a little. Thirteen years ago we went down to Chicago and started a mission where the gospel of life might be taught, and where we could use cleanliness as a means of lifting men to godliness. When we were about to start, I walked with a mission worker and he said, "Oh, there will be no good in that--we sont ever do that--get a man converted, and he will clean up." I said, "Is not cleanliness next to godliness?" "Yes, he said, "but you get him converted and the other will come afterward." I had an idea that cleanliness applied both to the inside and the outside; that if we made a man clean, and got his

blood clean and his head clear and his nerves steady, that would be a door to his heart, and so the man could be kept clean afterwards. So we started the mission on this basis and it has been run ever since. I went down there every Sunday for seven years, and then Dr. Paulsen took up the work and is down there now, and if ever you go through Chicago and have the time I want you to stop off and see that mission. It is one of the most wonderful places you ever saw, more interesting than any theatre you ever attended. At the time I began to tell you of, it was a cold October night. I a man stood talking to 700 men while they were eating soup--we gave them a bowl of nice bean soup and bread for a penny--and while I was standing near a man came toward me and wanted to know if I would give him a bowl of soup. He was a hard looking fellow, blotched face, red nose, besotted eyes, clothes that were not fit for the ragbag, his coatsleeve torn up all its length--altogether he presented a degraded, horrible picture. I wish I had it so I could show it to you. "Yes," I said to him, and putting my hand in my pocket took out a cent and paid the bill. "Thank you, doctor." After a time he came back and said he wanted to talk with me. "I believe in God--God has answered my prayers I prayed to-day for the first time. I have been a wicked man all my life. But I got down and prayed and said, "O God, if you will give me something to eat I will not steal. He has answered my prayer." Job says that the young ravens cry to God for their food, and He hears them, and he will hear the faintest cry that comes from the heart of a penitent man.

This man , as I afterwards learned, was regarded as the worst man in all Chicago. Half his time was spent in prison. He was not to blame for it. His father was the keeper of a salon, and he was born over a salon, and from the time he was a little baby he drank beer. He never went to school, he ran the streets--that was all his education.

Well, from that moment that man was a changed man, and three years afterward I stood in his mission where he was preaching the Gospel, and there were men standing up there, dozens of them, telling how they had changed their lives, how they had been converted, and then he got up and said, "That bowl of soup saved my soul." I think it was a good investment--don't you think so? Only a bowl of soup, but yet it was God's answer to prayer.

Among other people that arose and testified was one in the back of the room, who said in a clear, ringing voice, "Friends, I am the son of a king." I looked at him and saw that it was a poor black boy. His clothes were ragged, but his face was beaming with ecstatic joy, and such a shout of triumph as there was, I don't think I ever heard the like before--- "I am the son of a king." It had only been but a little while two or three weeks since this mighty truth had dawned upon him, that he was the son of a king, and it made a man of him. As I looked into his face I was so much impressed, and afterwards I brought him here, and for a long time he worked faithfully in our laundry, week after week and year after year, as faithfully and as loyally as ever any one could toil, and the thing that made a man of him was the fact that he discovered that he was the son of a king.

That is just as true of every one of us, as it was of this poor fellow. We are all God's sons? We may be prodical sons, have wandered away; we may be transgressing all the commands of God; suffering in violation of these commands; but we are nevertheless sons of God, and it is time that we thought about it. In him we live and move and have our being, and when we turn our faces toward him, and claim that we are relatives of of him we can be sure that God will not turn a deaf ear to us, because he is a friend that sticketh closer than a brother, and will do every thing for us that is possible to be done.

So there is a great hope in this fact; and I am presenting it to you this afternoon, not that there is in it an explanation of anything that is unexplainable, but to show you that there is in it a great fundamental truth that makes everything clear, and removes much doubt and mysticism that exist in many minds.

The origin of life is life. Life is God at work---God expressing himself through living forms; and we can depend upon it, when God has made us and taken care of us all these years, he is still willing to do for us anything that we want him to do that would be for our good.

I said to this lady who came to my office, if God were done with you, and had no more care for you, you would be blotted out of existance, for when God removes himself from a man, separates from himself from him, then man becomes dust again, for a human being is simply dust animated by a divine life; and when that life is removed there is nothing but the dust left. The only hope we have is to turn our faces toward our Maker saying, we will no longer work against him but will work with him and let him control us. Then we may be assured that he will hear our faintest cry, and answer our prayers.

COURSE IN PHYSIOLOGIC THERAPEUTICS

Juniors

September 25, 1906.

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Is there any exception to the principle that disease is beneficent, that disease is simply the body struggling with certain offensive agents, making the very best it can of the circumstances which exist? Can you find any exception to that?

Suppose we take the case of an infection,--a dirty sliver, or a clean sliver, for that matter, passing through the infected skin, becomes covered up beneath the skin. The first thing that happens is a reddening. The toxins produced by the germs cause a dilatation of the blood vessels through the vaso-motor centers. Of course there is also a mechanical irritation. The blood vessels are dilated in order to slow the blood current. The white cells, you know, slip along the walls of the vessels, clinging and creeping, while the red cells take the middle of the stream. When the current is slowed the white cells cling to the wall and accumulate opposite the locality in which the intruding agents are found, then by diapedesis these leucocytes get outside the walls and capture the germs and destroy them.

The symptoms of inflammation are heat, pain, redness, and swelling. The pain, heat, and redness doubtless go along with the dilatation of the blood vessels. The heat is due to an excess of blood and the pain to the distension of the vessels pressing on the nerves. The swelling is due to a pouring out into the tissues and the accumulation there of blood serum or

blood plasma. This is to dilute the toxins and carry them away, because these toxins are paralyzing agents which paralyze the tissues. The bacteria form toxins which kill the living tissues, and these dead tissues furnish food for the bacteria. The serum dilutes the toxins and lessens their effects. Then the diluted toxin is carried away through the lymphatics. The serum facilitates the decrease of the leucocytes, so that they have a larger field in which to work.

Then, two, there are germicidal bodies in the serum. There are also opsonins. An opsonin is a substance in blood which is necessary to enable the leucocytes to destroy bacteria -- to give them an appetite for bacteria. Really, it is a condiment, if you please, to give the leucocytes an appetite. If the opsonins are entirely removed from the blood (and this can be done) the leucocytes then pay no attention whatever to the bacteria. But if a little fresh blood serum be added, then the leucocytes will take the bacteria and consume them. The serum must go with the leucocytes carrying the opsonins.

Further than that, the serum contains material known as alexins, or germicidal bodies by which the bacteria are directly killed. It also contains anti-toxins which neutralize the effect of toxins.

So here are three distinct bodies ~~substances~~ in the circulation which are helpful:

1. Opsonins, which enable the leucocytes to destroy bacteria
2. Germicidal bodies, which directly destroy the bacteria
3. Anti-toxins, which neutralize the toxins formed by the bacteria.

These three bodies were formerly classed together before the distinction was known under the general name of alexins.

The serum also has a coagulative property which coagulates fibrin. The fibrin coagulates in threads, which form little bridges of fibrin threads. Upon these bridges the leucocytes creep out, and thus are much facilitated in their work of reconstruction.

Take any morbid process you choose, when you come to study the minute details of it you will find that there is an intelligent beneficent power in the body. The process is a beneficent one. The subtle power which causes the leucocytes to go to the place in the tissues where there is infection, which causes the leucocytes to stop, pause, and cling to the wall just opposite the bacteria or toxins, which causes it to go thru the wall, just as one would pull a pocket handkerchief through a ring, and go straight to the bacteria, without having any eyes to see, and no leading string, is called chemiotaxis; but can anybody say that this wonderful process is automatic? In studying the body we constantly realize that we are in the presence of a power that is beyond us, in the presence of the creative power. You may call it what you please. It is this same power, ^{with} which we are cooperating when we are engaged in the rational treatment of disease. When we do irrational things for our patients we are contending against this power, against God; and the Christian physician can not do otherwise than cooperate with the beneficent Intelligence which resides within the body.

Query: If God is present here now in the body, how can it be that he permits disease?

Answer: The real question is not whether God is present here permitting disease, but why he permits disease at all whether he is here or not. If he is responsible, it makes no difference whether he is here or whether he is not here. It is all the same thing. It is just as wrong for me to put a child where he will fall into the river, and sit there and watch him fall, as it is for me to put him where I know he will fall into the river

and then go off and leave him. The real answer to the question is this. God is bound by the law of consistency. Above all beings in the universe God is the most restricted, because he is bound by his own perfections. The destruction of the wicked man is the kindest thing that could happen to him. The thing that happens to him is the best thing that can happen to him. There is a law in the universe growing out of the nature of things -- "Whatsoever a man soweth, that shall he also reap." There is no getting away from that. God himself does not protect a man from the slough. The only way for a sick man to get well is to sow seeds of health. "Cease to do evil, and learn to do well."

Let us take the case that we were discussing the other day. A man takes strychnin. He feels strong when he is not strong. Suppose a man in pain, due to a sliver in his hand, takes morphin to kill the pain. He does not feel the pain any longer, but the cause is still there. The man feels better when he is not better. Such a move is not cooperating with God, but is going contrary to God. It is an attempt to enable a man to escape reaping what he has sown, an attempt to make a man well without sowing for health. A man who has not sown for health must reap disease. The application of natural remedies is sowing for health. And the whole thing for us in studying disease is to see what God is trying to do for our patient. We can find no solid foundation for our method of therapeutics until we recognize that all healing is divine healing.

What is law? -- Not power, not force, not a person, but simply the statement of an ^{observed} ~~absolute~~ order of phenomena. The law of gravitation can do nothing, but gravitation can do something. The law of life can do nothing, but life itself can do something. Life is power; life is the power. God did not create power, God is power; and the power is simply the expression of himself. Life is simply the ~~maximization~~ expression of divine force, and energy, and power in certain ways and certain forms, but

there is only one power behind it all. Scientists have come down now to recognize the fact that there is only one kind of matter. All matter is ~~the~~ simply the original matter manifested in different ways.

Think this over, and I don't think you will see anything contrary to true religion in this idea of recognizing God at work here. The only question that can come up is, How is God present? We know he is here. We need not discuss how he is here. We do not know. We can not fathom infinity. We must dismiss it entirely and not try to fathom God. The only thing for us to do is to recognize the fact that he is, and that "in him we live, and move, and have our being."

JHK

JTC m 9-27'06