

Question Box Lecture, Monday, January 18, 1915 at 8:00 P. M.

By

J. H. Kellogg, M. D.

Q. Do you approve of exercise immediately after eating?

A. It depends upon what the exercise is and the condition.

A person in ordinary health can take moderate exercise after eating with advantage. The effect of exercise is to accelerate the movement of food from the stomach into the intestine and along the alimentary canal.

It does not hinder the secretion of gastric juice. That is a very important

thing to know. Recent observations have shown that even the most violent

exercise does not hinder the appropriation of food. One hundred years ago

a physiologist took two dogs, fed them all they wanted to eat of beefsteak.

Then he took one dog out fox hunting and the dog run at the top of his speed

for three or four hours while the other dog went to sleep behind the stove.

He came back, killed both dogs and found the dog that had been hunting still

had the breakfast in his stomach while the other dog had digested his break-

fast. Based upon this single experiment the statement has been published

as an established fact that violent exercise hinders digestion but Prof.

Zuntz of Berlin and a number of other investigators have, within the last five

or six years, made a restudy of the subject and they have found that men

engaged in violent exertion as in a three days' continuous bicycle race or a

week of continuous walking or bicycle riding with only short intervals of

rest appropriate food just as well as other people do, that the violent

exercise in other words does not interfere with the digestion and assimilation

of food. I think it is possible that exercise might be carried to such an

extreme as to hinder digestion but it is clearly established that ordinary

exercise does not hinder digestion and even quite hard work does not. It is

clearly known that, at the present time, exercise does not hinder the secretion of gastric juice but that it does actually increase the activity of the stomach in emptying itself of its contents so that is one advantage of exercise. On the other hand, it is well known that persons who suffer from pain in the stomach and heaviness and general distress after eating suffer much less if they lie down and keep perfectly still after meals. Persons who have painful digestion should remain quiet for half an hour to an hour after eating. The addition of a hot bag over the stomach is also beneficial in these cases.

Q. Do you approve of the constant use of distilled water for drinking purposes?

A. No.

Q. Do strong mineral waters have a bad affect upon the kidneys and have they any part in causing arteriosclerosis?

A. A few years ago, I think it must have been the liquor dealers who were behind the movement, that idea was in the newspapers and kept traveling about for several months that distilled water is very dangerous and poisonous, and this was based upon a common laboratory experiment. If a drop of blood is put upon a piece of glass, a slide, and then a drop of water is allowed to mix with it, the blood cells will dissolve in the distilled water and the reason why they ~~absorb~~ <sup>dissolve</sup> is because they absorb the distilled water, swell up and burst, whereas, if there is about one part of salt to one hundredth-parts of water or six or seven parts of salt to a thousand parts of water, this change does not take place. There is no injury to the blood cells. Based upon this idea somebody set afloat the notion that distilled water is dangerous and poisonous and that it will cause the cells of the body to swell up and burst, that it will destroy the blood cells and so is very, very dangerous indeed. As a matter of fact, when one takes distilled water into the stomach it is not distilled water that gets into the blood. The water is absorbed into the blood but along with the water is taken various saline

substances from the alimentary canal. Besides that, the blood itself contains from seven to nine parts of salt in a thousand parts of water or of blood so when the water is absorbed drop by drop and mingled with all the rest of the blood, you can readily see that it is utterly impossible that distilled water should ever come in contact with the blood at all. It is impossible that distilled water drunk should ever do anybody any harm. On the other hand, mineral waters, especially the laxative mineral waters, are quite harmful because they irritate the alimentary canal. They contain saline substances and alkaline substances which neutralize the gastric juice when taken freely at meals and at other times. Through their laxative effect they cause congestion of the intestinal mucous membrane and produce chronic intestinal catarrh which is a very common malady. Congestion of the mucous membrane lowers the vital resistance of the cells of the membrane which lines the alimentary canal and so they are less able to resist the attacks of bacteria or germs which obtain a foothold and thus we have colitis and catarrh of the intestine produced. It is now generally conceived by specialists in disorders of the stomach and intestine that the habitual use of mineral waters is a very prolific source of gastric intestinal catarrh and of indigestion. Those mineral waters which are said to contain iron have also another disadvantage. Iron is a mineral substance which, when taken into the body, is captured and retained by the liver, if taken in in considerable quantity, and if a person drinks a large amount of these iron waters, the liver by and by gets overtaxed with these metal substances which it absorbs into itself. However, there are certain mineral waters that are entirely harmless. The so-called lithia waters are absolutely harmless. However, they are absolutely negative. They have no particular effect upon the kidneys. People who drink lithia water in order to cure gout or in order to renal calculi or in order to dissolve stones in the kidneys, bladder or in any other part, are laboring under a very great misapprehension. The supposition was that these waters contain lithia which, when it comes

in contact with the uric acid of the body, would increase its solubility and so would cause it to leave the body. As a matter of fact, however, the effect is the very opposite. Lithia forms with uric acid insoluble compounds and so lessens the solubility of the uric acid. If it had any effect at all it would be to increase the trouble rather than to diminish it. I remember sometime ago a gentleman called upon us representing, I think it was, the Buffalo Lithia Water Company. This gentleman came to us to interest us in Buffalo Lithia Water. I said, "How much lithia does your water contain"? He said, "Here is the analysis." I figured it up and discovered very soon how much it contained. I said to him, "Do you know how much lithia is required for a dose"? "No", he said, "I don't know exactly." I said, "According to my authorities a dose of lithia would be about twenty grains three times a day. Now do you know how much lithia your water contains"? He said, "Well, there is the analysis." I said, "I have looked over the analysis and find that one barrel of lithia water contains just twenty grains so a person would need to take one barrel of your lithia water three times a day in order to get a dose of lithia." Well, he thought that I was not a very promising customer and so he left me alone. This is true of lithia waters in general for lithia is rather a rare substance and is found in water in only a very small amount and if anybody wanted to get any benefit from lithia and they never in the world can get it from drinking any lithia water that is known. No lithia water contains lithia enough to give you a medicinal dose unless you drink half a barrel of it.

Q. Why should one wait for two hours after dinner before taking a nap?

A. I suppose it is difficult when one feels drowsy to say to himself now I must keep sticking pins into myself for two hours so that I won't fall asleep and so fail to digest my dinner. As a matter of fact, there is no very great danger in falling asleep and taking a little nap after dinner but really it is not the best plan to sleep <sup>all of the rest of the</sup> ~~and there is no~~ <sup>reason for it.</sup> When one goes to sleep the stomach and

body slows down. There are several operations upon foods in the stomach. The stomach contracts upon the food to mix and knead it and then pass it along into the small intestine as it becomes liquified. Besides this action, however, there is another action upon the stomach. The diaphragm you know lies up over the stomach rising up like a dome into the chest. The stomach lies right underneath the diaphragm. Ever time you take a breath the diaphragm shortens as it comes down. Of course, it presses upon the stomach by aid of the abdominal muscles in front so with every breath the stomach is kneaded gently by the diaphragm. When you take a deep breath the stomach gets a good hearty squeeze, you see. Now this is quite necessary to facilitate the work of the stomach because this kneading movement of the diaphragm helps to push along the food in the stomach, helps to move it along down into the small intestine, helps to facilitate the work of the stomach. Now when one goes to sleep breathing is slowed. The movements of the diaphragm are very gentle and very feeble. We do not breathe deeply as when we are talking and actively moving about so the food remains in the stomach a longer time. For instance, when the food passes out of the stomach in three and a half or four hours, <sup>normally</sup> when a person is sleeping the movement of the stomach would be so much slower that the food would remain there five or six or seven hours and when the food remains too long a time in the stomach, the stomach is over-stimulated producing an excess of hydrochloric acid, which being in contact with the stomach in excessive amount, and ~~continuing~~ <sup>for</sup> too long a time, the stomach is irritated and this is the reason why, when you get up in the morning after eating a hearty supper at night, you have that all gone feeling in the stomach and can hardly wait for breakfast. Your/stomach is sort of tired inside because it has had the food there too long and has been exposed to the irritating contact ~~with~~ <sup>of</sup> this gastric juice for too long a time. For an experiment some time go without your supper and the next morning you will be surprised to find that all gone feeling is all gone. There is no all gone feeling there. The goneness is gone and notwithstanding you did not take any

supper. That is a very interesting observation because it shows this all gone feeling is due to irritation, to the chronic congestion and to weariness of the stomach rather than to lack of food. I remember sometime ago a gentleman was telling me about his experience when that all gone feeling came on. He suffered ~~it~~ from it very often and I explained to him that it was because when the walls of the stomach were irritated they came together and the falling together of these irritated/<sup>gastric</sup>walls made that feeling of distress or irritation. He said, "O, I see. The trouble is the walls in my stomach get together. I will take care to see that they never get together again" and I had lots of trouble on that account. He was a travelling man, travelled about the country, and every little while I would get a letter saying, "Capt. so and so told me that you said it was dangerous for the walls of the stomach to get together." He carried along something in his pocket on which to nibble and he was nibbling all the time and he told people that Dr. Kellogg warned him never to allow the walls of his stomach to get together. When the stomach is overworked in this way <sup>it</sup> ~~and~~ gets into this irritated condition so that when it does get empty, then there is a sensation of rawness. Dr. Cannon has shown that hunger is due to the contracting of the stomach upon itself. That is why we have pangs of hunger, one is hungry only at intervals. You get a pang and then it passes off and you forget it. Then you say, "I am getting awfully hungry" and you shortly forget it. It passes off and perhaps in two or three minutes you have another pang. If you wait awhile it will finally disappear. Dr. Cannon proved that. He trained <sup>SW</sup> a man to follow a little rubber balloon by practicing on it for five or six weeks. After getting it down into the man's stomach he had it blown up so that the stomach was inflated. The inflated bag was connected with an instrument in another room and he had this man take his watch in hand and note ~~notify~~ exactly the time when he felt these hunger pangs and the men in the other room were watching and every time <sup>the subject felt a hunger pang</sup>

the bag in the stomach contracted and moved a little and moved an instrument in the other room which made a mark. In that way he was able to verify the facts that hunger pangs were absolutely synchronous with contractions of the stomach. If these hunger pangs are painful and accompanied by this goneness that people talk about, it is because the stomach is sore, contracting upon itself just like when the eyes are sore and inflamed and the movements of the eyelids will produce an unpleasant irritating sensation in the eye.

Q. What is the harm of feather beds?

A. I suppose it would be possible for feather beds to be made entirely wholesome. In the first place the feathers are likely to have fragments of their former owners adhering to them. In other words, a great deal of animal matter may be tucked in as well as feathers. It is possible the feathers may be purified so thoroughly that this will not be true but it is pretty likely to be true. This animal matter is very likely to undergo decomposition. A bit of absorbed moisture from the body and the only thing necessary to produce decomposition is moisture and warmth and the presence of germs which are always on hand. These two elements and warmth will always produce decomposition so the feather bed is likely to have a musty odor of staleness. That means decomposition, the growth of bacteria, germs in the bed. Another thing is that the old feather bed is likely to be a sort of heirloom passed down from one generation to another. I have known people to brag of the fact that they were sleeping on the same feather bed on which their grandfathers were born or something of that kind and seemed to feel very proud of it. Such a bed is likely to have accumulated a great deal of ~~the~~ besides the family history.

Q. Isn't it time profitably spent for one to take a daily nap?

A. That is an excellent plan. In warm countries like Mexico and Porto Rico and, in fact, in nearly all tropical countries, it is the

fashion for people to take a midday nap. In Mexico City, for example, and Guadalajara, where I have often been, I find it absolutely impossible to do business between one and three o'clock in the afternoon. You call at a house, ring the bell and the servant will tell you the master or the lady is not at home. Sometimes he is just as likely to tell you he is taking his siesta and cannot be disturbed. The banks and business houses are all closed and at the very time of day when we are most busy here you will find in warm tropical countries nothing at all doing. Everybody is having a nice quiet time at home and I think it is really a very good plan, especially for neurasthenics, to rest in the middle of the day but it is better to take rest before dinner than after dinner. The before dinner nap will                      your energies and prepare you for the midday meal so that it will be digested much more thoroughly and easily than if it is taken in the body when tired and fatigued. Then if one takes a nap afterwards the digestion is likely to be still more interfered with. One can digest while he sleeps but he cannot sleep well when he digests. That is another thing to be taken into consideration. Many people wake up after a nap after a meal and feel so dull and stupid they can hardly think at all. It seems to be a disturbed condition sometimes, a muddled state of the brain and I think it is quite possible that one reason for that is the absorption of poisons and toxins which take place after eating. After eating and while food is in the alimentary canal the blood vessels are dilated and absorption of food takes place with great rapidity, also the absorption of poisons. The action of the kidneys is much slowed during sleep because the action of the heart is lessened. Consequently, these poisons are early dealt with by the liver and kidneys and they are likely to accumulate and one will very naturally feel dull and stupid as the result of the accumulation of toxins. Some of these toxins are so virulent that even a very small amount of them will produce very unpleasant effects. Many people are living in a state of so nearly



complete saturation of these poisons that it only takes just a little more to bring about a condition of complete stupefaction. You can almost recognize such people. When you see people with brown spots on their hands tawny complexions, bleared eyes, coated tongues and an awful bad breath, such people are simply poisoned. They are saturated with these common poisons, and the wonder is that they keep alive at all. It only takes a small medicinal dose to produce a state of any active intoxication. You haven't any idea how many people are intoxicated and don't know it. I suppose we have at least a couple of thousand of intoxicated people come here every year but I should say more than that, probably three or four thousand. I met a lady in my office not very long ago, examined her for the first time and I said, "I see what the difficulty is" and she said, "well, what is it Doctor?" I said, "I see you are suffering from auto-intoxication." She said, "you are entirely mistaken, you are entirely mistaken Doctor. I have not had a drop since night before last." This lady was not going to admit that she was intoxicated at the present time at any rate. She said, "I do admit I usually take a toddy at night but last night I was here and couldn't get any. I said to her, "Madam, your intoxication is a great deal worse than whiskey intoxication or alcohol intoxication. It is colon intoxication. It is germ intoxication, ptomaines and toxins and those horrible poisons." That is one reason why so many people suffer from Bright's disease, hardening of the arteries, and failure of the heart. These chronic troubles of all sorts are increasing at an enormously rapid rate. In 30 years the mortality from these chronic disorders due to chronic toxemia have more than doubled. Just think of it. Thirty years ago about one-fourth of all the people in the United States who died, died of chronic diseases. Today half of all the people who die, die of chronic disease, just half of them. This is including diseases of the heart and blood vessels or Bright's disease and arteriosclerosis and other chronic maladies associated with the

elimination and circulation. One half of all the people who die, die of these chronic maladies which are due for the most part to intestinal auto-intoxication so this is a matter of very, very great importance.

Q. What would you recommend a person to do who invariably awakens after four o'clock in the morning and is invariably unable to return to sleep again?

A. I would recommend him to go to bed at eight o'clock in the evening to get in his eight hours' sleep before four o'clock in the morning. If nature is bound to wake him up at four o'clock, he must take time by the forelock to get his sleep in before that time. If he doesn't want to do that, but wakes up at four o'clock in the morning and wants to sleep some more, he can draw a tubful of water at a temperature of about 100° and then get into the water and let in a little cold water at 94° and finishing up there. That is the place to sleep if you want to be sure to sleep. There is nothing like a bathtub for a good sound sleep. You can sleep twice as fast in a bathtub as you can in bed, perhaps three times as fast. There is no joke about it at all. That is just what I do myself. If I go home at night and find myself so wide awake at two or three o'clock in the morning that I can't go to sleep and ought to go to sleep, I get into a bathtub and go to sleep there. I take some work to the bath with me and pretty soon I will find that my papers have had a bath too, have dipped down into the water and after the third dip I generally think it is about time for me to go to bed. I can't keep awake any longer and I will just roll into bed. I get out of the bath, roll up in a turkish sheet, roll into bed and in about five minutes I am in dreamland as happy as can be. Some of you think that is too easy but is the simplest remedy that has ever been discovered for insomnia and the surest remedy. It is so sure that it/never fails if you are per-  
absolutely  
except  
severing with it. I don't believe it ever will fail unless in cases of  
nervous  
persons kept awake by some extreme pain. If there is nothing but irritability

to keep you awake, you can depend upon it that neutral bath will put you to sleep if you persevere long enough. You may have to stay in the bath four or five hours the first time before you get to sleep but just stick it out, so to speak, and the bath will finally end you up in dreamland. I don't suppose at the present time there is a single insane asylum of any size in the whole United States where the neutral bath is not relied upon as a means of putting patients to sleep who are perhaps brought there in a state of acute mania so wild that it takes several nurses to take care of them. A case of this sort put into a neutral bath in fifteen or twenty minutes is usually perfectly quiet and calm and in an hour or two goes off to sleep. I heard of one patient kept in the bath for twelve hours before she got to sleep but finally she got to sleep and had no more trouble. Down at the Kankakee insane asylum a few days ago, when I was visiting the place, the superintendent said to me, "Doctor Kellogg, I want to tell you an interesting story. The young man you sent down here to teach us massage last year, we didn't know how much he knew until about time for him to go home." I had had a letter from this young man saying he would like to have someone sent down there to teach massage to their nurses so I sent down a young man who had been my secretary for some time and had a good thorough course in massage, hydrotherapy, etc. He had recently graduated in medicine and was engaged to be married; had told me the day before that he expected to be married in a week or two and that he would like to be off for about two weeks for a little vacation so you know I was wicked enough to suggest to that young man that he should spend his honeymoon at this lunatic asylum so he talked ~~to~~ with the young lady about it and she agreed to it so I said to him, "Now Doctor, when you get down there, remember that the people in that insane asylum need something <sup>else</sup> a great deal worse than they do massage. They cannot do much with massage in curing lunatics but they ought to know about hydrotherapy so improve your opportunities to work in all the hydrotherapy you can." The superintendent didn't know anything

about it but he went on to tell me the story. He said, "A week before the young man left we had brought in here the worst case of acute mania that we ever had. She was so wild that it took six nurses to control her and we gave her all the medicines we dared to give her besides enormous doses of opium and nothing but chloroform would make her quiet. We gave her so much that we didn't dare give her any more and we were just at our wits end." The young man heard about her and said, "Let me see what I can do." The superintendent said that he had that woman put into a neutral bath and he insisted that the temperature be just exactly 94°. He would not have it 1° more or 1° less but it must be just 94° and he said, "You know in fifteen minutes after that woman was put in<sup>b</sup> that bath she was perfectly quiet and in two hours she went to sleep and that night she slept soundly all night for the first time in weeks and weeks and she slept sound every single night after that. We put her into a neutral bath or a wet sheet pack and warm blankets so that they would warm up and produce the same effect and she got well without taking another drop of medicine of any sort. He said, "That is the most wonderful thing I ever heard of." I passed out of his office and was introduced to the assistant superintendent and the assistant superintendent said, "Doctor, I must show you about" and he hadn't got off ten feet from the office when he said, "Dr. Kellogg, I want to tell you about a wonderful case that we had here" and he went on and told me the very same story. He said, "Why, that was a revelation to us!" As a result of that experience, if you go to an insane asylum in the state of Illinois, you will find that every insane asylum there has a lot of these bath tubs where they put their patients who cannot sleep and it has become the fashion in all of the insane asylums in the United States. Sometime ago I was telling, at a medical meeting, some of the wonderful things that water will do and a doctor got up and smiled and made all sorts of sport of Dr. Kellogg's notions about the wonderful things water will do. "Why", he said, "Dr. Kellogg says water will put people to sleep. Just think of that. I have heard water is good for baths, for cleanliness.

We all know that but the idea that water will relieve pain or put people to sleep looks pretty fishy to me." The next speaker was a superintendent of one of the largest insane asylums in the country and he said, "I am glad to speak on this subject. For some time Dr. Kellogg has been sending nurses over to our place to instruct our nurses in the use of water, massage and other things for several years and we have been making use of water and have been very much surprised with the results. Not very long ago we were comparing statistics. The present was twenty years ago. Twenty years ago we bought chloral by the barrel for two thousand patients. We have got a lot of those empty chloral barrels about the institution yet. The other day in looking the matter over we found that twenty years ago with 700 patients we were using more medicine for putting people to sleep every single week than we now use in a whole year with two thousand patients. Just think of that difference." He said, "When a patient doesn't sleep, we put him in a bath or put on a wet rag somewhere and he goes right off to sleep." This has come to be the custom in all the insane asylums in the United States. I think we have trained at least forty or fifty nurses, probably more than that, all head nurses of different institutions, that have been sent here for training in the use of water since some of these things happened years ago. I want you to see the importance of this simple remedy and its value and when you get sleepless, don't send off to the drug store for some hypnotic of some kind, don't allow yourself to swallow chloral or bromide of potash, because they are drugs said to be less harmful than those, but all kinds of sleep-producing drugs are nerve feelers. They make you think you are rested when you are not rested. They do not give you sound sleep. You can make a man cry by knocking him in the head with a club and a dose of medicine/puts a man to sleep is a good deal the same sort of thing. You hit him in the head with a medical club, paralyze the brain and, of course, he goes to sleep but when he awakes he has not the refreshed feeling of accumulated energy and vitality that come from natural, healthful sleep and it is very easy to form the habit of taking sleep-

producing drugs. They are very dangerous. Do you know how Mr. Tyndall lost his life? He was in the habit of taking sleep-producing medicines and his wife gave him a double dose by mistake and he went to sleep and never awoke. His wife killed him by accident. Just think of taking a medicine that only requires the dose to be doubled and you are a dead one. Just think of that, accidentally doubling the dose and you are dead. That is getting too near the dead line altogether. It is better to keep entirely away from these drugs as they are absolutely unnecessary. I never took a pain relieving or sleep-producing drug in my life and never expect to and it is very, very rarely that I <sup>ever</sup> think it necessary to ~~take~~ prescribe such a drug. If a patient is in such a condition in which he can be put into a bath, he can be put to sleep more surely or at least more safely with a bath than by means of a drug. A big dose of opium or an anesthetic will put one to sleep but there is always the undesirable after effects.

Q. Could one enjoy good health who ~~eats~~ no breakfast and takes a hearty meal at noon and a moderate one ~~at~~ about three and a half hours before retiring?

A. Certainly. The body will accommodate itself to a great variety of habits if these habits are regular. I think such a plan as is proposed here is not such a bad plan. Probably the best way is to take breakfast about ten o'clock in the morning and dinner about four o'clock in the afternoon. That probably would be an ideal way for taking meals. If one were to take two or three meals a day, then it should be a very light meal in the morning some fruit and lettuce and then a hearty meal at noon, then something very light in the evening by five or six o'clock perhaps.

Q. Has the spleen any use in the body?

A. Yes, indeed, wonderful uses. Many years ago a doctor performed an operation on a cat by which he removed the cat's spleen with the result that the cat lived and got along apparently very well, seemed to be a little stupid with a tendency to get fat. It was consequently imagined that

the spleen was rather a superfluous organ and for many years it was looked upon as a kind of superfluous organ. Then about 12 or 15 years ago an interesting discovery was made that the spleen was a kind of cemetery. You know we have a whole lot of dead cells in the body that have to be taken care of. The blood cells die at the rate of about eight million cells every second, every time the clock ticks and they have to be disposed of. Just think of that quantity of dead cells floating down the stream of life and they have to be gathered up and it is the business of the spleen to gather up and dispose of these dead cells. Recently it has been discovered that the spleen does something very wonderful and interesting things. In order that the body should be protected from various poisons and from the effects of various germs that invade the body. It is necessary that a condition of immunity should be established and it is believed that the spleen is active in producing the immunizing substances which enable us to resist germs and to supply the blood with these substances all the while as a protection. It is a sort of arsenal of manufactured ammunition for the body with which to fight off its enemies. The spleen is a very useful organ indeed.

Q. What is the cause of goitre?

A. Dr. Gaylord of Buffalo believes he has finally discovered the cause of goitre. He tells us it is due to a worm. We have not made out all the connections yet but dogs have goitre and it is found that the rat entertains a parasitic worm and the eggs of the worm pass off into the excreta of the rat and cockroaches eat the eggs, swallow them and then the rats eat the cockroaches, the embryos developed in the rat and the dog eats the rat so the dog gets the parasite into its blood in that way and these worms finally get into the different parts of the dog's body, the thyroid gland among other parts, and develop in there and produce the hypertrophy which is known as goitre. Now Dr. Gaylord told me not very long that he was satisfied that goitre was a disease due to an animal parasite. It has been found that

goitre is produced by water, especially the water of streams and of stagnant pools. In India where goitre prevails extensively water is obtained from stagnant places and in Switzerland it is found that goitre comes from certain wells and when these or fish were put into the waters of these wells they would get goitre. The experiment has been made upon men, fish and other animals and it is found they are sure to get goitre if they take the water from these so-called goitre wells. Other wells would not produce this effect. Goitre is also some how communicable. In certain parts of India where goitre had been prevalent for hundreds of years people who came in from surrounding parts due to social or political changes were found to develop goitre



and it rapidly spread over the whole province. People whose ancestors from the most remote ages never had goitre became subject to it, indicating that the disease was brought in in some way by some parasite. The cockroach is connected with it along with the fly and it has also been proven that the cockroach is a conveyer of ~~a~~ parasites which produce cancer. It has not been shown that the cockroach produces cancer in human beings, but it has been absolutely proven that the cockroach produces cancer in rats. The rats eat the cockroaches and then cancer develops from worms similar to those that produce goitre and fish are also becoming very subject to goitre in various parts of the country. Dr. Gaylord told me he positively knew that every single fish hatchery in the United States was infected with cancer. Dr. Gaylord ought to know because he was ~~re-~~ appointed ~~person~~ by the United States Government as a member of a commission several years ago, and an appropriation was made to support him to make an investigation of this very question and he has spent four or five years in studying this question in connection with the fish hatcheries of the United States and he finds every single fish hatchery is infected. The trout suffer particularly. They first get goitre and the goitre becomes cancer and an enormous great lump hangs out from the gills here. I will throw some pictures on the screen one of these days that Dr. Gaylord was kind enough to send me. It is highly important that the whole public should be informed about this thing. The trout have been sent out all around the country by the Government to be planted in the streams of the country and they are all infected trout, so all the streams and waters of the United States ~~are~~ have become infected with these cancerous fish. Some of the eggs were sent by the United States Government to Australia, some trout eggs, and when they hatched out the fish developed cancer, showing that the disease had somehow been carried with the eggs of the fish. It has not been proven that the cancer in trout is communicable to human beings, but the cancerous disease of the trout so closely resembles that of human beings it seems to be almost impossible for experts to tell the difference. It probably **v-p** is the very same disease. Dr. Gaylord thoroughly believes that cancer in human

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beings as in rats, is due to an animal parasite. Vegetables have cancer also.

Q--- Does the presence of many molds upon the skin indicate a cancerous or scrofulous tendency?--

A--- A so-called scrofulous tendency we ~~now~~ know to be simply tuberculosis. Scrofula is now know to be ~~simply~~ tuberculosis. The word is not used ~~in~~ any more in medical literature because it is really synonymous with tuberculosis. Molds upon the skin are not necessarily cancerous, but they are more likely to become cancerous, especially pigmented or colored molds are very likely to become the seat of cancer. A tissue has not as much resistance as other tissues, so they are likely to be subject to this disease.

Q--What is known of the merits of the oxygenor and other such chemical batteries for the cure of disease?

A--- This oxygenor is one of the most ridiculous humbugs that was ever foisted upon a gullible public. I think about this as the editor of the Popular Science Monthly stated a few years ago about the blue glass mania that spread over the country with great rapidity at one time, that this blue glass mania was a foolometer to test the length, breadth and thickness of the foolishness of ~~a~~ the nineteenth century. This oxygenor is another foolometer, if you please. There is absolutely no electricity or battery about it. I dissected one at one time. The patient had paid one hundred dollars to have one of these put into his house and it was guaranteed that it would protect his entire family against all kinds of infectious diseases. Directions were given. There was a little switchboard on the wall and if you put the switch on one post, that would fumigate the room for small pox; if you put it on another post, it would prevent the children from getting scarlet fever and measles; if you put it on another post it would cure headache, and if you would put it on another post it would put you to sleep. I investigated this and I found all those posts were connected with the same wire. They are a good deal like the brands of whiskey advertised in the papers. A man who had been connected with a distillery for <sup>a good</sup> many years who had had charge of

the advertising department said, it was perfectly ridiculous. We used to fill all the barrels out of the same barrel but the only difference was the labels that we put on the outside, so it was with the oxygenor or the oxydoner it was called in those days. It was devised by a Dr. ~~xxxxxx~~<sup>Sankey</sup> and all in the world it consisted of was a piece of zinc imbedded in a brass tube surrounded with a cylinder and this cylinder was to be buried in the ground and a copper wire run from it into the house and was connected with a board on the wall, and these five or six switch points on which the switch was moved about. I tested it to see how much electricity was produced by this device and I found there was not enough electricity to make a fly wink his leg, there was not enough to stimulate the smallest kind of movement in a fly. I connected it with a very delicate instrument that would indicate one one-thousandth part of an ampere and it did not show the very slightest amount of electricity present. When you apply a piece of brass, a piece of zinc and a copper penny and put those to your tongue and then just touch them with the instrument, it shows a very decided electrical current. If you lay a copper penny on your tongue it will make a little electricity, but when the oxygenor was connected with that meter, not the smallest particle of electric<sup>al</sup>~~ity~~ current could be detected.

Q--- Is there any danger of over stimulation in the mechanical Swedish department?

A--- Not any practical danger. If one should spend a couple of days there, he might possibly be over stimulated. I knew a person who sat on the vibrating chair for fifteen minutes and he thought he was overstimulated. It produces an extensive peristalsis but the danger is very very slight, indeed. I don't think there is any as a matter of fact.

Q--- Can stammering be cured?

A--- Generally. The only trouble is to keep it cured. A person learns how to speak at a school for stammering and gets along very comfortably, but as soon as he begins to get out in the world and gets a little excited, he forgets about it. Stammering is a sort of mental peculiarity. The trouble is

not in the tongue or the throat or the organs of speech, but generally it seems to be in the brain. A man inquired of another man how far it was to a certain town and he stammered and stammered for a long time and finally said, "Go on you can get there sooner than I can tell you."

Q--Why is your graham bread so much better than the ordinary graham bread?

A-- The reason is simply that the bran is all separated from the flour and is sterilized and then put back into the flour before it is cooked. In making ordinary graham bread, there is a ferment in the bran which acts upon the starch and converts it into dextrines and that makes the loaf ~~much~~ heavy as though a portion of it had been made into<sup>a</sup> gruel, but when the bran is all sifted out and sterilized, the ferment is killed, then when it is put back, it is nothing but so much foreign material and does not interfere with the raising of the bread. That is a Sanitarium idea, and we find it works very well. We have been trying it for ~~many~~ good many years and find it very effective. You can do the same thing by getting sterilized bran in packages and adding it to the flour. The proper proportion is about one part to four parts of fine wheat flour.

Q--- What's the cause of dreams?

A--- They are due to the fact that the brain is still partly active. The brain is divided into compartments. The front part is the seat of consciousness. In absolutely perfect sleep, this part of the brain is cut off from the rest. The <sup>cells</sup> ~~parts~~ of the front part of the brain stand along minute filaments or threads compared to fingers which reach back and touch the cells in the back part of the brain where sensations of sight, hearing and other mind pictures are stored in the base of the brain. When we wish to recall a name or a circumstances, we simply cause the cells in the ~~back~~ front part of the brain to reach out their long fingers to the back part of the brain. They are already there and almost in touch but do not quite touch, and, by an effort of the will, we can project those fingers a little farther and make the right contact just as we turn on the electric lights by touching a button, and the cells of the front part of the brain

though their long filaments are in touch with the cells of the back of the brain where the facts of experience are stored up, then we are conscious and awake. When we go to sleep the contact is broken. It is just like turning off the light by pushing in a button and everything is quiet, but suppose there is some defect in wiring. Three or four little lights would not be turned off. That would be a dream if you please. That is ~~some~~ where some of the contact remains. The contacts get stuck so fast doing the hard work of the day time that they cannot let go, so they keep on at work and you are dreaming about your business or some other things that are too much on your mind and when you find that is the case, it is time for you to have a change. You need to have a vacation. You want to take a trip to Battle Creek or go somewhere else if you cannot come here, but go somewhere where you forget your business, get entirely away from it and give your brain filament a chance to break loose. Now when these contacts remain constantly, then you are wide awake and cannot go to sleep and that is what the neutral bath does for you. It helps these to let go. It produces soothing effects upon the skin. That causes these contacts to break and in that way you get off to sleep and sometimes wrong contacts are made, for instance, the contact that ought to be made up here, is made down there and then you talk wild. That is when you get crazy and lose your self control and sanity and have to be taken to a asylum to get a neutral bath which you had better begin taking at home.

Q--- May a person who has diabetes use codein without danger of acquiring the drug habit?

A--- No, indeed. He should not use any drug of any sort, but should get rid of the sugar and that can be done by proper management.

Q--- Is it advisable for one to go on a milk diet after an attack of appendicitis?

A--- That depends upon other things. A milk diet might be advantageous and it might be harmful. The case should be studied by itself.

Q--- Would you advise a milk diet ~~with~~ for one with insufficient acid?

A--- It is in some instances a very good way to change the flora.

Q-- What forms the ear wax?

A-- A congestion or irritation of the ear that causes excessive action of the glands in the ear. There are glands all over the skin that produce fat which oils the skin, but in the ear these glands are curiously modified in such a way that they make wax instead of fat and the wax has an offensive taste, ~~xxxx~~ has a bitter substance in it, and the purpose of this is to keep the insects out of the ear. It forms little scales normally and falls out of the ear and protects itself and cleanses itself. If an insect gets into the ear, it meets this bit of wax and is very anxious to get out as soon as it can, so the ears are protected against the attacks of insects. When the ear is irritated, the wax is produced in excessive quantity and then harm is likely to result.

A man asked me the other day what I thought about lightening rods. I said, ~~X~~They were splendid but there is something a great deal more important, that is, to put a lightening rod on your stomach. You have a great big house and you know the importance of protecting it from lightening but the chance is not one in five hundred thousand that your house will ever be struck or have any injury from lightening, but your stomach is in tremendous danger of getting struck by something worse than lightening. That hotel dinner, for instance, was as dangerous as lightening and if you keep on doing that sort of thing, one of these days you will find Bright's disease making its appearance. The next thing you will find hardening of the arteries; the next thing a stroke of apoplexy and the next thing will be a funeral. He said he didn't want that, so I suggested that he better put a lightening rod on his stomach right away and better take care that he didn't have any bolts going down there.

A gentleman asked me a day or two ago how I thought a man ought to behave if he wanted to live as long as possible and maintain the highest degree of efficiency. I said there is just one thing to do and that is to live physiologically. "What do you mean by that?" I said, "Just as a man ought to live, to walk uprightly in other words. If you have got a horse or a canary bird or a guinea pig or a woodchuck, you feed that animal just according to the needs

of an animal of its class. You would not feed a canary bird exactly the same thing that you would feed a vicious hawk for example, or that you would feed a bald headed eagle. The canary bird must have its own particular food. The mocking bird and the parrot each must have its own kind of food. Every creature that is made has its own bill of fare, but man, when he sits down to eat doesn't think what is necessary for his stomach or good for his muscles or proper for his bones, or what his brain or colon needs. It is a strange idea that some people are just beginning to get hold of, that we have to eat for the colon as well as for the stomach. Most people are quite satisfied ~~that~~<sup>if</sup> they eat something that tastes good and is not going to hurt their stomach but it is just <sup>as</sup> important to eat colon food as it is to eat stomach food or bone food or brain food or blood food because the colon is a mechanism for getting rid of the body wastes and it needs bulk just exactly as much as the bones need salt and just as much as the blood needs albumin or the brain phosphates. The colon needs bulk. It is a curious thing that every animal seems to have a sense of this except man. When a lion kills and eats a cow or a pig, it eats the whole, hog bones and all. It shows good sense and wisdom in doing that. When the pig ate the corn, it ate the whole of it, but the corn was distributed in the pig. The lime of the corn went to the pig's bones and the rest of the corn went to the soft part, and only one part in two hundred of the lime of the corn went into the soft part and one hundred and ninety nine parts out of the two hundred went into the hog's bones, so he accumulates lime in the bone. Suppose a lion eats a hog and leaves the bones behind. He would not get the lime. Perhaps it was a man that ate the hog but the same thing is true. If he doesn't eat the bones, he doesn't get all the corn back and doesn't get any lime at all. We have got to eat the whole hog or none and even then you are getting it second hand. Man does not often stop to consider that what is good for one species of animal may not be at all adapted to another species of animal. the stomachs of animals are adapted to the food they eat. Whales eat fish and have seven stomachs to digest it. A cow has four stomachs to digest grass with. A dog has a meat stomach to digest the meat he eats and the monkey eats fruits and

nuts and has one nice little fruit stomach to digest fruits with. You see there are thirteen stomachs and it takes thirteen stomachs to digest all the different food stuffs of the world. Yet a man will sit down at a hotel table where he has got everything that every animal ~~xxxx~~ on the face of the earth eats, fish from the sea that the whale eats, grass from the ~~xxxx~~ field that the cow eats, asparagus or lettuce, cabbage and ~~xx~~ things of that kind and roots, and then there is beef-steak that the dog eats and the fruit that the monkey eats and a man sits down expecting to take the bill of fare of all creation and to be able to deal with it with <sup>little</sup> one/puny monkey stomach, just the kind of stomach he has got and it doesn't work. There is only one animal in the world that can digest the ordinary hotel bill of fare and that is the American woodchuck and it has fourteen stomachs.

I thank you for your attention.

End.

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Q-u-e-s-t-i-o-n B-o-x L-e-c-t-u-r-e

At the Sanitarium Parlor, Battle Creek, Michigan, Monday, January 25,

1 9 1 5

at 8 p. m.

by

J. H. Kellogg, M. D.

Question:--Can Bright's disease and hardening of the arteries be cured?

Answer:----Yes and no. Bright's disease is a malady in which the kidney is progressively damaged. The latest theory of the disease which seems to me to be quite reasonable and plausible is that the kidney gradually undergoes dissolution under the influence of an abnormal condition of the body fluids. Prof. Fisher of Cincinnati made a very interesting experiment. He took the kidney and put it into a very weak acid solution and he noticed that although the solution was very weak, indeed, the liquid in which the bits of kidney were placed contained albumin. Now if the acid were not added to the water, there was no albumin to be found in it, but the addition of a very small amount of acid had the effect to dissolve out the cement substances which holds together the various structures of the kidney. The tubes and the little sacks of the kidney in which the secretion is formed are all cemented together by a cement substance and the acid dissolves out this substance and that produces albumin in the water. If the action continued long enough, the kidney would begin to fall to pieces and there would be fragments of the little tubes of decomposed kidney. Prof. Fisher concluded from his experiment that the albumin in the urine signifies that the fluids of the body have become excessively acid and in passing through the kidney have actually dissolved its <sup>structure</sup> ~~structure~~, so when you find albumin in the urine, it means that the kidney ~~is~~ is being destroyed. When the destructive process has gone on sufficiently far, small fragments drop away and these are the so-called casts which appear in the urine. When a person has had Bright's disease, the kidney has been in part

destroyed. Some portions of the kidney have actually been swept away and carried off and, of course, the situation of the kidney is just the same as that of a hand in which a joint of a finger has been lopped off or a whole finger. It may be a part of a finger or two or three fingers or all the fingers may be gone.

That is the situation of the kidney. There may be a small part of the kidney damaged or a larger portion but by and by there may be a large half of the kidney removed. It is fortunately possible to live without two complete kidneys. In other words, we have a surplus of kidneys which provide us the margin of safety which Nature has established to enable us to survive emergencies just as we have a surplus of lung capacity. If it were not for that surplus, when we had to hold our breath for a little while we would go out, but we have a large excess of lung capacity. In ordinary breathing only about two-thirds of a pint of air is breathed in and out, but if one takes a very deep breath, it is possible to breathe in one hundred cubic inches more than the ordinary breath. After one has breathed out, if he makes a special effort, he can breathe out one hundred cubic inches more. That makes about two hundred and thirty cubic inches of breath capacity and after he has gotten out of his lungs, all the air he possibly can, there is still one hundred cubic inches left, so the capacity of the lungs is really about a gallon and a half, yet we ordinarily use less than a pint of this great capacity. If the lung surface was spread out over a level surface, it would cover a space as large as the floor of this room or about two thousand square feet. We only have about twenty square feet of skin, however, so the lung surface is one hundred times as great as the skin surface. This great amount of lung surface is necessary for the rapid purification of the blood. A quantity of blood equal to all the blood in the body passes through the body once in three minutes and this rapid purification is necessary to get rid of the acid of the body. It is the carbonic acid in the blood which renders the blood itself acid that must be eliminated from the lungs, so we see how damaging acids are and how particular the body is to get rid of them, how necessary they should be kept out of the way. There are other acids besides carbonic acid gas. There are acids

which come from the imperfect oxidation or burning of fats which are very irritating substances. Some of you may recall the time when the tallow candle was in use and you know sometimes if you blow out the tallow candle, it would continue to smoke for some time and you remember how that smoke would make you cough and how it would irritate the eye and sometimes cause the tears to flow. That is because the fat was not completely burned. When the candle was ~~burning~~ burning with the pure flame and the fat was completely burned so that it was odorless, carbon dioxide CO<sub>2</sub> the acid that comes ~~is~~ <sup>through</sup> the lungs in breathing, but when the candle was only partly extinguished so that smoke rose from it, it was only imperfectly burned fat which produced various different kinds of acids. These fatty acids are particularly irritating and poisonous. If one does not exercise enough or breath enough air or his body is crippled from fever or other diseases, the fats are not completely burned and these resulting poisonous acid substances passing out through the kidney, not only irritate it, but actually dissolves it. When this action continues long enough it may cause an actual disintegration of the kidney and that is chronic Bright's disease. The disease does not begin when albumin first appears in the urine or casts first show, but the disease began when the patient began to accumulate acids in his body, when his metabolism began to be disturbed in such a way that these food substances were not completely burned. Now that was when he got into the habit of eating Christmas dinners every day for example. A man living on a farm, ~~living~~ working hard out of doors can eat and digest large meals because he is using a tremendous amount of energy. For example, a man working hard in the lumber woods, may use four or five times as much energy as a man ~~is~~ sitting in his counting room studying the market, dictating business letters, counting his dollars or doing something of that sort. That sort of work requires no more bodily energy than actual loafing, so the business man who indulges in the same kind of dinners that the lumber jack does or the man in the harvest field, there is a come back for that man. He is storing up for himself, misery and wretchedness and Bright's disease is one of the things that will come upon

by and by. He is putting a mortgage upon himself in every one of those big dinners and by and by the mortgage will be foreclosed and the first notice of it will be albumin and casts in the urine. The next notice will be swelling of the feet and the next a message to the undertaker, so that this question of Bright's disease is a very important one, you see. The disease is not catching. We can charge somebody else with typhoid fever and troubles of that sort. Dr. Park of England used to say when a man had typhoid fever, somebody ought to be hanged, somebody has been guilty of criminal carelessness when anybody has typhoid fever. When it comes to Bright's disease, we cannot charge that to the other fellow. We are responsible ourselves for our own Bright's disease. A man doesn't have Bright's disease unless he has cultivated it. People swallow Bright's disease. They eat it at the dinner table or the breakfast table. Beefsteak is one of the most prolific causes of Bright's disease. An evidence of that is the fact that when you go to a doctor and he finds Bright's disease well developed, he says, "Cut out your beefsteak." Why? Because he knows absolutely that there is a close relation between the two. He knows from actual observation that if a man suffering from Bright's disease eats beefsteak, the disease advances very rapidly, so the beefsteak must be cut out or the patient will soon be lost. He wants to keep that man alive and fit for business and in order to do that he must cut out the beefsteak. He tells him also that he must cut out smoking for every time he smokes there are more casts and albumin appearing in the urine. The poison from the cigar is another way of irritating the kidneys. Bright's disease cannot be cured in the sense of making the kidneys absolutely sound, but it can be cured in the same way in which you have got an awful ulcer which has eaten off half a finger. You can cure the ulcer but you cannot absolutely cure the hand. The time may come when we can actually cure that hand. A man went into a doctor's office sometime ago who didn't have any nose but when he left the doctor's care a few months later, he had a beautiful nose which you could hardly tell from a classic feature. The doctor had taken a piece of bone or cartilage out of a rib and put that into the nose here. There was a little gristle left at the end of the nose so he

trimmed away all the disease and with that little gristle for support of one end and a little hole he bored into the forehead at the other end he put in a piece of cartilage from his rib and made a beautiful nose for him and there was simply a little scar that nobody would suspect the man had any time been minus a nose. When a person has lost a part of his kidney, it can never be restored, although some hope has been held out through Dr. Carrel's experiments at the Rockefeller Institute that the time might possibly come when a man who had lost a kidney could borrow or buy one from somebody else. Dr. Carrel actually took a kidney out of a cat and grafted it into the kidney of another cat and after while removed the kidney from that cat and put in one from still another cat so the cat enjoyed good health from borrowed kidneys and the cat got along comfortably for months so the time may come when diseased kidneys may be removed and a sound kidney put in its place. It will be some time yet, however, before that is done but things almost equal to that are being done and it is not impossible that it may some time be brought about but in the meantime the best thing for us to do is to take good care of the kidneys we have left. It is possible for life to be marvelously extended by giving the kidneys extra good care, by doing, if you please work of super-irrigation as our Catholic friends would say or being extra good to ourselves. We have more kidney capacity than we actually require. It requires only two-thirds of a kidney to keep a man alive but we have two kidneys so we have three times as much kidney capacity as we really have to have. The probability is, we could live with even less than that. Quite a large number of observations here have shown that the average man requires three times as much work of his kidneys as he ought to. I mean the average man who does not smoke or drink or who is a meat eater. We know that is true. We tested 100 of our flesh abstaining employees here, nurses, our own vigorous young men. We took 100 of these young men and determined the average amount of work done by their kidneys. Then we compared the results obtained from this research with the quantity put down in the scientific text

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book as the normal amount of work which the kidneys do we find it to be three times as great. So if a man wants to live as long as possible he ought to take good care of his kidneys to make them last and you can readily see that the diet he takes must make a very great difference. An old French prophet says a man is as old as his arteries. It is just as right to say a man is as old as his kidneys for when his kidneys are old he is old. When the kidneys stop working the man dies. They are essential to life. A man can live so long as the kidneys last and the other organs are kept intact but when the kidneys are reduced to say half of one kidney, then there is not very much life expectancy left and yet I suspect it is possible for a person to live with even less kidney left than that for we had sometime ago a patient here who was tested by our tests for renal efficiency and found to be doing only one-sixth part of the normal work and yet the man lived on and on for weeks and weeks. In another case in which the work of the kidney was reduced to twenty per cent. or one-fifth of what is called its normal amount of work and this man, I believe, is well still. We were actually able to perform a surgical operation upon him notwithstanding the condition of his kidneys so I suspect it is possible for a person by careful living and extreme care and caution to reduce the necessary work required of the kidneys to such a point that the life may be maintained with perhaps one-fifth part of the work that is ordinarily required of the kidneys. In other words, with one than less than half the kidney but when one gets down to less than that because of continued abuse of the kidneys by tea, coffee, mustard, pepper, peppersauce, ginger, horseradish, capsicum and cayenne and the Lord only knows how many other things that burn and sting and blister as they go down the throat; vinegar, whiskey, peppersauce, cigarettes and nicotine and poisons of various sorts, so when the kidneys are being continually abused and scorched, blistered, burned and torn by this sort of treatment, you cannot expect they are going to last so very long and that is why Bright's disease is coming to be so common, because of the enormous labor required of them. Enormous feeding is the first

thing, especially a large amount of meat eating. When you see a candle burning, it all burns up, goes into gas and if it is burning freely, there is no unpleasant odor about it but it is all converted into carbonic acid gas and water. The very same thing happens to fat, butter and the other fats in the body. Suppose I had a piece of paper, paper of cellulose, and if I should light a match to this paper, it would practically all burn up. If it was filter paper, filter paper such as is used in the laboratory, and has no clay in it which ordinary writing papers do have to give them weight, if it was pure paper and we should set it afire and burn it up, there would be nothing left but the faintest bits of white ash. That represents, if you please, the sugar and the starch of our food, the carbohydrates. When they are burned they are completely converted into carbon dioxide and water and gas and pass off through the lungs and the skin but when one burns flesh, proteins, that is another thing. You know if you should put a little handful of feathers into the furnace or an old shoe, it would be almost impossible to live in that house for a while. The odor of the burning feathers or the burning animal matter would spread all through the house. Sometime ago a missionary told me that he was going back to China and he was going to reform his diet. He said, "Why, I lost my best housekeeper because of my meat eating. One day my Japanese woman who was a very smart woman, the best housekeeper I had ever found at the time, who took most admirable care of the house, after she had been there a couple of weeks, she said, 'Oh, my noble sir, I am compelled to leave your house.'" He said to her, "Why should you go away? We are very much pleased with your work here." She said, "Honorable Sir, I can no longer remain here under your roof." "Well, he said, "I am sorry you ~~must~~ think you must go away. What is the trouble?" She said, "Honorable Sir, I can no longer endure the odor of fresh flesh in your house." That is why she could not stay. She never had been accustomed to have anything at all to do with meat and the burning of flesh was such an offensive odor to her yet really I suppose some of your ~~men's~~ mouths water sometimes when you get that same

odor of burning flesh, when you can smell the chicken frying or the pork roasting but that odor to her was so repulsive that it turned her stomach and she had to leave the place. The reason why the burning flesh, the burning feathers, burning shoes which are all animal matter produce these offensive odors is because they contain certain poisonous substances. For instance, here is starch,  $C_6H_{10}O_5$ , carbon, hydrogen and oxygen, three harmless substances. Oxygen is the life giving element of the air. Hydrogen and gas come from water. Carbon is what we find in the coal we burn, what we have in black element of the lead pencil. That is pure carbon, perfectly harmless, nothing poisonous about it. Fats are made up in the same way as carbon, hydrogen and oxygen, a larger amount of carbon and hydrogen and a very small amount of oxygen and nothing else so here we have starch you see which is the largest element of food and fats another large element of the food but in proteins the element of lean meat we have carbon, hydrogen, oxygen the same as we have in starch and fats but in addition, we have nitrogen, a substance which is most used in gun powder. It is the nitrogen which gives the explosive power to dynamite and to nitroglycerin and gun powder. Gun powder you know is made of saltpeter, charcoal and sulphur. Saltpeter <sup>has</sup> is nitrogen in it, you see and that is what gives the burned powder its peculiar odor and its explosive and poisonous character. Nitroglycerin is not only a powerful explosive but it is a most powerful poison. A drop of nitroglycerin swallowed in a glass of water has a tremendous effect upon the body. Another substance which is a very offensive substance is sulphur. You know how offensive sulphur/fumes <sup>ous</sup> are. It is sulphur combined with hydrogen that gives to the rotten egg its horribly offensive odor. All rotting, decomposing materials owe their offensiveness to these compounds of sulphur. Phosphorous combined with hydrogen produces a gas that is one of the most poisonous of all things known. A single breath of sulphuric hydrogen may be enough to cause death. The compound of these substances are the most malodorous substances that are known. The burning



leather smells so bad because of the phosphorous and the nitrogen. They it contain, and the same is true of the burning feathers because these compounds are volatiles in the air. That is also why meat is so objectionable. These elements cannot be carried off through the lungs as carbon, oxygen and hydrogen can be but must be carried off through the kidneys so the work of carrying off the remains of burned meat is all thrown off from the kidneys. In the case of starch and fats it all goes off through the lungs but in the meat the greater part of it, at least, goes off through the kidneys. The difference between a meatless diet and <sup>an</sup> ordinary mixed diet in which a comparatively small amount of meat was taken is so great on account of the work imposed by the meat that the kidneys of a person living upon a mixed diet are compelled to do three times as much work as the kidneys of a person on a non-meat diet. You see there is a very good reason then why the doctor says to a man suffering from Bright's disease, "You better cut out your beefsteaks." He does not always tell him he should cut out eggs which are just as bad as beefsteak. He also forgets to mention sometimes fish for fish are worse than beefsteak because they undergo decay more readily. It is particularly important the doctor should tell him to cut out such things as sweet breads, liver, kidneys and brain because they are particularly bad. Beefsteak, for example, contains fourteen grains of uric acid per pound whereas a pound of sweetbreads contains seventy grains of uric acid, five times as much.

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It is one of the worst things that ever goes into the body so far as animal poisons are concerned. Bright's disease cannot be cured. It can be arrested and this arrest may be maintained for a long long time, for years and years and years so that the person ~~xxxxxxx~~ <sup>may apparently live as long as though</sup> he had not had Bright's disease, but of course, he won't, but he may live beyond the average age and far beyond what is expected for him. The average person who finds albumin and casts in the urine cannot expect more than three or four years of life under ordinary circumstances, but that same person with the right care can generally extend his life ten, twelve, fifteen or twenty years. I have in mind patients who have been coming back to this institution who were given up to die twenty or twenty-five years ago that are still coming to this institution showing a little albumin now and then when they get a little under the weather but ~~by~~ who ~~by~~ a rigorous diet have been able to keep their heads above water and to live. If Bright's disease has carried ~~with it~~ off half of each kidney, the man is in the situation of a man who had one kidney completely removed. I remember a Judge from whom I had removed a kidney one time and he said to me, "Now Doctor, before I go home I want you to lay down the law for me to tell me how to live, because I have only one kidney left and I know I have got to take awfully good care of it, so I want to know just what to do, how to exercise and everything and how to regulate my habits of life". So I laid it down for him and year by year this judge came back to see us and apparently in the most splendid health, apparently in just as good health as anybody you see about. No one would suspect him of being minus a kidney because he was taking care of it. It was far more important for him to take care of the kidneys before he lost one than afterwards, but he did not lock the barn until after the horse was stolen you see. ~~xxxxxxx~~ One of his ~~xxxxxxx~~ kidneys had been stolen away and so now he was taking care of what he had left, but he had better <sup>have</sup> ~~if~~ taken care of both of them and kept them on hand to work for him. When you are at home indulging in things that are harmful, tea, coffee, mustard, pepper, big dinners, juicy beefsteaks and various things which tempt the appetite, you are simply making roads upon your kidneys. They have to labor hard to get rid of the residue of those corpses that you are swallowing. Now they have to go down through the intestine when they ought to

have gone to the undertaker or to the scavenger in some other way. It is a great mistake to bury the bodies of dead beasts in our stomach, to compel our kidneys to do the scavenger work when they are intended for a better purpose.

Q--- Is there any cure for organic disease of the heart?

A--- There is just the same situation. A heart that has been damaged organically can be helped like a damaged kidney, but it cannot be entirely cured. So far as these broken hearts are concerned, if it is a masculine heart, my observation is they generally get well awfully quick. If it is a feminine heart, the symptoms hang on longer but the right kind of remedy will always effect a cure even in such cases.

Q--- Why are fish more cancerous than other animals?

A--- Because they are the most intensely carnivorous of all animals. When a lion goes out hunting dinner, he doesn't look for another lion to eat; he doesn't ~~look~~ <sup>look</sup> ~~for~~ ~~antelope~~ for tigers nor leopards, but he looks for an antelope. Now where does that antelope get his dinner? He doesn't eat toads and snails, snakes and things of that kind, but he feeds upon the sweet grasses of the field. His flesh is sweet and toothsome and tender. No lion would eat another lion unless he had to. Lion flesh would not have a pleasant flavor at all. Didn't you ever notice the difference between the flavor of a lion's cage and a deer park. When you go to a lion's cage, you ~~want~~ <sup>want to</sup> get out your handkerchief and hurry away as quick as you can. There is a reason for that. The lion is offensive. His breath is bad. The same thing is true of the old dog, but not of the puppy that lives on bread and milk. By and by the puppy goes visiting a neighbor's garbage can, eating all the bones and beginning to eat butchers meat and after three or four years he begins to have a very strong flavor of dog and when he gets to be twelve or fourteen years old and walks through the house, he leaves a canine aroma behind him that is very offensive. What is the trouble? He is getting concentratedly carnivorous, you see. It is the residues of all the flesh he has been eating that are accumulating. You never saw a meat-eating dog fourteen years old that was not lame and rheumatism and limping round. Dogs are generally

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very old by that time. I remember a rheumatic dog a friend of mine had who used to feed him meat against my protest and he always came down the middle of the street and it was very funny to see that dog taking long steps with its front legs and short steps with his hind legs. He could not keep step with himself. He had become so rheumatic and stiff in his hind legs, but Senator Palmer of Detroit had a dog that was a meat abstainer. The Senator himself was a bon vivant who loved good living and paid the penalty for it, but his dog was an abstemious ~~dog~~ sensible dog and knew better than to hasten the end of his good health by gormandizing and he could not be induced to eat flesh. My colleague, Dr. Read, was well acquainted with that dog and when it was twenty years old, it was as lively as a puppy yet without a trace of rheumatism about him. That dog never ate meat and a donkey at thirty-five or forty years is still lively and frisky if he gets half enough to eat, whereas a dog is old and rheumatic, atheromatous and dies of rheumatism or fatty degeneration of the liver or kidneys when he is ten or twelve or fifteen years old. The lion and carnivorous animals generally select non-carnivorous animals for their food. You know that is true. It is true of people too. You would not like to eat a dog or a cat although you would eat a rabbit perhaps or a deer, but I would just as soon eat cat as fish. Why? Because fish are so intensely carnivorous. When you go catching fish, what do you use for bait for example? You do not catch fish with bread crumbs do you? Now with beets, apples, pears, plums or cherries, you never think of dropping a cherry in to catch a trout with. Now it takes a minnow if you are going to catch fish. The minnows soon after they are hatched out live upon vegetable matter, but just as soon as they get their teeth they begin to eat fish and the biggest minnows eat the smaller minnows and larger fish come along and eat the big minnows and the bigger fish eat up these fish and the huge fish eat the big fish and so one fish eats another, and when you catch fish and eat it, you are eating a double distilled concentrated extract of fish. That is why fish smells so much like fish. So you can readily see that if there is anything at all in meat eating as a preparation for cancer, we should expect fish to be the most subject of all animals to cancer and that is the fact.

The fact agrees with the theory in this case, although facts and theories do not always coincide by any means. Carnivorous animals are subject to cancer while non-carnivorous animals are not. If I ever die of cancer, I shall feel everlastingly disgraced and I am sure I won't. I have been making careful observation on that matter and I have had many opportunities for making observation upon this point. In the last forty years, I have been watching sharp for everybody who had cancer anywhere about their bodies and I never found a case of cancer but in two or three instances of people who were not flesh eaters. None of them had been flesh abstainers for any great length of time. I have ~~and~~ in mind one case, a very remarkable case, a man who had a cancer on the back of his neck. An examination of it proved it to be cancer. I recently resubmitted the specimen to the ablest pathologist in New York City and he pronounced it to be an intensely active kind of cancer, and at the time when I first examined this cancer, I sent a specimen to New York to be examined by one of the greatest pathologists of the country and he pronounced it to be cancer without any doubt at all. That man changed his habits of life. He stopped eating meat. He was a sedentary man and he went to exercising out of doors, sawing wood every day, working in his garden, began sleeping out of doors. He completely changed his habits of life and the cancer disappeared, got well of itself without a thing being done to it. That is a fact that I can testify to and this has occurred in more cases than one. Dr. John Bell of England, a very eminent surgeon of the last century collected a considerable number of cases of persons suffering from cancer who were cured by abandoning the use of flesh, wine and other things of that sort and adopting a very simple dietary. I am perfectly frank to tell you that I don't believe that cures of that sort could be expected in more than two or three cases out of a hundred. Perhaps not as often as that, because the man who has already got cancer is so far deteriorated that the average man of this sort has not in him enough power to rally to build up his resistance against the disease, but these persons who happen to be just within the cancer line were able by their change of habits to come back on the safe side again, so in a case of that kind, it is possible for spontaneous recovery to occur.

Q---Explain the action of the liver with headaches?

A---A great many people ~~xxxx~~<sup>think</sup> bilious attacks are due to some disturbance of the liver. People who have so-called bilious headaches attribute all their trouble to the liver. The liver is not a bit at fault. A person who is bilious simply has something rotten in his interior, something rotten a good deal nearer than Denmark. It is right close by ~~and~~ on the very inside of you. Things are rotten, awfully rotten. If you every had a bilious attack and vomited, you remember what it tasted and smelled like. There ~~xxxx~~<sup>was a</sup> whole lot of that material and the whole alimentary canal was smeared with that horrible smelling and horrible tasting material and it was being continually absorbed into the body so that the brain was saturated with it and it is no wonder the head ached; it is no wonder that you were sick and nauseated and distressed. The trouble is in the alimentary canal and not in the liver at all. The liver has been blamed for an enormous amount of wrong doing that it was not in any way responsible for. It was that half rotten turkey you ate for dinner yesterday that gave you that bilious attack. A clergyman asked me some years ago "Why do I always have a bilious attack Monday morning?" "Oh," I said, "it is your Sunday dinner which lies around and rots over night and the stomach is making a protest the next morning, that is the reason." I found it was actually true in this case. This man had an extra luxurious dinner on Sunday and he had to pay for it Monday morning.

Q---If fresh air unhealthy?

A---There are a whole lot of people who think it is. I remember reading a story sometime ago of a man in a lecture room sitting in a draft and he was so scared for fear it would do him harm that he arose and said, "Is there a Christian scientist in the audience." A man stepped up, stretched himself as high as he could and very briefly said, "Yes sir, I am a Christian scientist." "Well sir, would you please change places with me. I am afraid I will take my death of cold sitting in this draft." And the Christian scientist was afraid to. I want to tell you a recipe by which you need never be afraid of fresh air no matter how cold it is or what your circumstances are and no matter how

hard a draft is blowing upon you. You need not suffer any harm and you do not have to practice Christian Science either. You can if you want to. It won't do any harm or any good either. Suppose you were out doors and the fresh <sup>air</sup> was blowing all around you and you should stand somewhere shivering with cold. You would ~~xxxx~~ take your death of cold but you would not do that. You would exercise, you would hop up and down, you would run, you would through your arms about yourself and exercise and keep your blood circulating and in that way you would not take cold. Why? Because ~~xxxxxxx~~ <sup>when one takes cold it</sup> is because the heat leaves his body faster than he is making it, so the temperature of the blood is lowered and that is what makes you shiver. Shivering is a sign that you have already taken cold and nature is making an effort to cure the cold. The shivering is Nature's substitute for exercise. All the muscles are working as hard as they can work ~~xxx~~ when they are shivering real hard. If you ~~xxxxxxx~~ <sup>won't</sup> exercise Nature will exercise you anyhow. So if you are in danger of taking cold, just set yourself shivering. You do not really have to do that. All you have to do is to tint your muscles. If the wind is blowing at the back of your neck, set your neck at work. Hold your head up stiff and stiffen your neck. If you are in Church, simply make your head this way (bowing forward and backward) and the preacher will be immensely pleased. Be sure that you don't move your head the other way from side to side and everything will be lovely. You won't get a cold in the back of the neck. You won't sneeze or cough and nobody will be disturbed. Set all your muscles up tight. When you set all the muscles up, set them at work as hard as hard as you can. It is amazing how rapidly heat is produced. The muscles are the furnace of the body. One does not have to hop up and down to make the legs work. All you have to do is to think it and set them at work as hard as though they were actually at work. All you have to do is to set your arms or your legs absolutely stiff or any of the muscles in your body. You may be in a reposeful attitude and yet your muscles may be contracted hard and rigid and pretty soon the glow will begin to come over the surface of the body. At night for instance, if you haven't got clothes enough,

just start shivering in advance. Get the shivering to going before hand. Shake yourself all over and shake the bed too and you know you will be warm and will not chill but will drop off to sleep before you know it. Sometimes you read in the cook books a lot of recipes and some of them you see have the word "tried". Most of them are put in there on conjecture but after some of them it says "tried". Now you can put down "tried" after this recipe for it is a recipe I regularly use whenever I have occasion and I have had occasion a great many times.

Q--What is the best way to relieve cough?

A--Simply stop coughing. You don't have to cough. You don't cough when you are asleep, why should you cough when you are awake. When one is coughing hard, he falls asleep and stops coughing, so why should you cough when you are awake. Simply make up your mind you won't cough unless there is a necessity for coughing. If you find when you cough you raise from your lungs some heavy white or yellow ~~matter~~ matter, you ought to cough because it is Nature's method of eliminating the material that would clog up the breathing passages, but if one coughs you can keep on coughing forever. Now one does not have to cough if you will get your attention away from it and stay to yourself that you won't cough. I have succeeded many many a time when I have seen people coughing and coughing and tearing their throats to pieces in persuading them that the cough was useless and by simply talking to them in a stern way, getting them to set their wills to work and stop the cough by sheer effort of will, but here is something more you can do and that is to breath in hot steam vapor into the throat. There is nothing like the effects of really hot steam to stop a cough. <sup>If</sup> You haven't got steam take the hot water into the throat and gargle it as far down as possible without letting it go down and repeat that one sip at a time until you have gargled a whole tumblerful of real hot water and by that time the cough will be practically cured. Drink a glassful of hot water, enough to make a general ~~perspiration~~ perspiration and with that will come relief of a cough because the mucous membrane will perspire as well as the skin and so the dryness and irritation which makes the cough will disappear.



Q--Explain the harmful effects the tobacco habit?

A--I think the best thing is for the young wife to take to smoking herself, that is, to threaten to do it. This young man knows tobacco is bad. No intelligent man at the present time does not know that tobacco is a baneful thing. When the farmer goes to market to get something to kill the bugs on his sheep; what does he get? It is tobacco juice, the same thing that perhaps he himself chews and swallows into his stomach. What does the greenhouse man use to kill the green flies and vermin of all kinds that infect the greenhouse? It is tobacco smoke. Sometime ago an old gentleman about eighty years old said, "I am not going to stop smoking. I am too old but I don't want to go clear down town in winter time to get a place to smoke. Now haint you got some place where you can let me come in and have a little quiet smoke by myself? I won't disturb anybody." "Yes," I said, "we have got just one place where you can smoke." So I took him out to a rosebush in the green house that I had noticed was covered with green flies and I said to him, "You may smoke here if you will puff all the smoke on this rosebush. It will do it good," so he began puffing away and blowing the smoke on the rosebush and it was not a minute you know before the dead green flies, the corpses of those flies were falling in regular showers from that rosebush. I kept looking at him, expecting ~~him~~ to see him turn pale, but you know he seemed rather to enjoy the sight. It didn't seem to affect him at all. I thought that if he should see death at hand coming from that smoke that he would realize that there must be death at the other end of the smoke.

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I thought if he could see death at one end of that smoke he would realize that there must be death at the other end of the smoke. If the tobacco smoke diluted with the air falling upon that rose bush would cause those green flies to drop in showers killed by the nicotine, certainly the original source of the smoke must be suffering some too. After talking to him a little while I left him hoping that he would take a hint but you know the next day he wanted another rose bush. Since that time we have not had any smoking room at the Sanitarium. I made up my mind the only thing to do for these old smokers was to let them smoke themselves to death and get them off our hands but the young smokers I do feel sorry for. Some of them think they must smoke in order to hold up their heads in good society. A year or two ago I was up at Rochester, Minnesota, called on my friend, Dr. Will Mayo, who is one of the greatest living persons at the present time and who sends us many patients down here that they do not care to do operations on up there that I thought it my duty to pay my compliments to him so I dropped in. He invited me up to dinner and after dinner he let us into the sitting room and Dr. Mayo said, "I hope you will remember what I am telling you and repeat it every time you get a chance." Dr. Mayo said "It is the custom to pass around cigars after dinner but I am not going to do it. I don't believe in it and he said 'I have noticed that smoking is going out among good surgeons. The best surgeons do not smoke and they do not drink. The custom of smoking and drinking is rapidly falling into disuse among the most intelligent surgeons who are leaders in their profession.' Wasn't that a good testimony against tobacco? That was certainly a most agreeable surprise to me. A surgeon in London sometime ago was offered a cigar. He said, "No, I am a surgeon. I do not smoke." Now if surgeons do not smoke it is because they know they cannot do it. A good surgeon cannot be a good surgeon if he does smoke. Every intelligent man knows that tobacco does not do him any good. A man feels worried about his business. He smokes and it doesn't worry him any more because he is stupified. A dose of opium would have fixed him just as well

in exactly the same way. Perhaps a man has failed to attain some coveted , he has thought in politics or some other direction of his ambition. He feels annoyed and distressed. He smokes. He does not feel annoyed any more. If a man is hungry and smokes he does not feel hungry any more. If he is cold and smokes he does not feel cold any more but if we examined him we find that he has not been warm or refreshed or strengthened any more by the use of tobacco than though he had taken alcohol but he is simply poisoned and does not know what his condition is. A man is tired, he smokes. He does not feel tired any more. He is tired just the same but doesn't know it. Tobacco narcotizes the nerves which tell him that he is tired, puts him to sleep so he is simply fooled. The habitual smoker is never up to his best. He is never thoroughly competent as he might be to perform any tasks that he sets himself about. I suggested to a young lady to smoke or at least to threaten to smoke herself to break her husband of the habit for he had promised her that he would not smoke any more but he had begun again. I said to her, "You get a box of cigars, get good, great long cigars, big ones, and when your husband comes home tomorrow night, you get out one of the cigars, put it into your mouth, into a cigar holder, sit down beside of him when he lights his cigar and tell him you are going to enjoy a cigar along with him and that you appreciate very much the opportunity to have a nice smoke with him and suggest that you you will have a smoker." She actually did that and she acted her part so well that she did not have to smoke very much, only got a whif or two, and she actually made him believe that she had thoroughly determined to learn to smoke and he had to labor with her very, very hard to get her to give it up and he finally promised that he would quit if she would not smoke and he did.

Q. What is the cause of perspiration of the hands and feet?

A. Autointoxication. That is the real cause.

Q. What is the cause of styes on the eyes?

A. The cause is the eye is overworked, congested so its resistance is lowered. Go to a doctor and get him to fix your glasses and it will stop the styes.

Q. Are vegetables and cereals free from the elements of uric acid?

A. Yes, practically so. Graham flour contains three or four grains of uric acid in the pound but remember there is no water in the flour. It is dry whereas meat, which is three-fourths water, contains fourteen grains of uric acid to the pound so multiply fourteen by four in order to compare the dry materials and that will be four grains of uric acid for wheat compared with fifty-six grains of uric acid for dried meat so meat contains fourteen times as much uric acid as wheat. Beans contain a very little uric acid, just about the same amount. Wheat contains only about one grain but beans contain four grains but you can get rid of it in the beans by simply parboiling the beans. The uric acid of beans is soluble in hot water. You would not think of doing that for meat because it would carry off the uric acid and the urea and other things that give the meat its flavor, you know. Beef tea is practically the same thing as uric acid.

Q. What would be the results of colitis if it is not cured?

A. Sometimes it becomes tuberculosis, sometimes cancerous but more frequently it opens the door for the inflooding of poisons from the intestine which overwhelm the kidneys, produced Bright's disease and other troubles, hardening of the arteries and other things.

Q. What is the cause of skin diseases?

A. Dr. Bulkley of New York, the most eminent skin specialist in this country, has been studying this question for the last thirty years. He has recently written out a book in which he has published a large number of recipes from the Battle Creek Sanitarium to show people how to eat when suffering from skin diseases.

Q. Why don't you have dancing?

A. We have a dance every morning in the gymnasium at about 9:15, I believe it is. We have some fine dancing steps, sort of sterilized dancing, but the real thing never theless.

Q. What merit is there in osteopathy?

A. There is some merit and some demerit. A patient that has osteopathic treatment gets a good rubbing up and sometimes needs that sort of thing. The muscles are in a state of spasm and are relieved by vigorous rubbing. Then there is a kind of spectacular mind cure element. The doctor tells the patient that he has got this pain in his back because there is a slip in the vertebrae of the spine and he said, "I will put that back and you will be all right" so he makes some manipulation, makes something snap in the man's back and he feels better right away and I have known doctors that cured the same sort of pains in the stomach and produced the same effect by simply laying on a piece of paper that had been subjected to animal magnetism and this piece of paper worn over night was found very beneficial. A doctor once gave an Irish man a recipe for a porous plaster. He wrote it on a piece of paper and he said, "Take that and wear it over your stomach for a week and it will relieve you." So he put it over his stomach and held it on with a bandage and came back at the end of the week entirely cured. Some of you perhaps knew a man at St. Louis who was afraid of cholera. He got some cholera medicine in order to be sure to have it on hand in case he had an attack and he had it on the table right along beside the bed and it happened that he had an ink bottle on the table also at the same time. He woke up in the middle of the night with a pain in his stomach. He had been eating stewed lobsters for supper and the lobsters were staggering around and making trouble. He was scared, afraid the cholera had come sure enough and he said, "Mary, give me the cholera mixture. I am afraid I have the cholera. Give it to me quick" so she passed the bottle to him and he drank some of it and felt a little better, drank some more, rubbed some on his stomach and felt still

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better and you can imagine how he felt when he awoke in the morning and found ~~he~~ that he got into the ink bottle instead of the cholera medicine but it cured him just the same.

Q. What effect does calcined magnesia have on the system if taken twice a day in small doses?

A. Nothing very serious but it is better to remove the cause. Sour stomach means the gastric glands are irritated and if they continue to make an excess of gastric acid, they will wear out by and by and stop making acid altogether because they have been too active for so long a time. Cut out the beefsteaks, beef tea, bouillon. Stop drinking much water at meals, stop the use of mustard, pepper, peppersauce, ginger and all those hot, irritating things ~~that simply~~ and eat simple foods in moderate quantity and this trouble will disappear.

Q. What causes flat foot?

A. Weakness of the ligaments of the foot.

Q. What do you consider a good treatment for scalp trouble such as itching, dandruff and falling of the hair?

A. The scalp should be thoroughly cleansed by shampooing with castile soap. The mottled castile soap is the real thing. White castile soap you don't know where it does come from. The mottled castile soap is sure to be clean and pure. Shampoo the scalp twice a week with this and every morning with cold water. It is a good thing also to apply a lotion consisting of 20 grains of resorcin in an ounce of alcohol and one drop of castor oil.

Q. Are you still of the opinion that meat taken moderately with cereals and vegetables causes no apparent harm?

A. I have not that opinion. I never had that opinion. I don't remember to have had it for the last 50 years. It certainly does do harm.

I see I have answered all the questions and it is bed time, so I will let you go. I thank you for your attention. END.

Q-u-e-s-t-i-o-n B-o-x L-e-c-t-u-r-e

At

The Sanitarium Parlor, Battle Creek, Mich. Monday, March 29, 1915

at 8 P. M.

by

J. H. Kellogg, M. D.

Question:--If non-meat eating is all that it is cracked up to be, why are there so many people who think it impossible to live without it?

Answer:-- Now this is a very great argument. It really is a sound argument.

These customs have something back of them. When you find a million people doing something and find they have been doing this something for thousands and thousands of years, there must be some reason behind it. So when we find millions of people apparently dependent on flesh, we certainly ought to be very careful before we undertake to upset this habit. We ought to consider it very very long and carefully before we denounce the practice that seems so universal. But let us see if it is really true that the large majority of people who live on meat are meat eaters. As a matter of fact, when you look into the question, you find that the majority of people are not meat eaters. I suppose there are ~~about~~ somewhere about one and a half billion people on this earth and it is astonishing to see what a small proportion of them are meat eaters to any extent at all. For example, there are forty millions of people in Japan. They are almost altogether non-flesh eaters. If they eat meat at all, it is merely the flavor for the insipid foods which constitute their principal dietary, such as rice which has the least flavor of almost any food. Then there are the 400,000,000's of China. Meat eating is almost unknown in China. There is a very good reason why the people of China do not eat meat, and that is : they cannot get it. I am not going to say they would not be meat eaters if they could get the meat to eat, but they cannot get it to eat, and the time is not so very far ahead when the

average citizen of the United States will have just as hard a time to get meat as the Chinaman does at the present time and for the very same reason. The country will be so thickly populated that it will be impossible to feed the so-called food animals in sufficient numbers to supply meat at anything like the present rate of man. One of the very best evidences of this statement which I have been making for the last forty years is to be found in the present situation in Germany. Germany is surrounded by hostile nations. England has undertaken to starve Germany out. For fifty years at least, Germany has been largely dependent upon food supplies from North America, South America, Russia and other countries. At the present time meat supplies are cut off. As a result of this the German people are at their wits end to know where they are going to get enough to eat, and naturally this has led to a very careful study of the whole question of the economics of food by the German Government. They ~~have~~<sup>has</sup> recently appeared a book of 200 pages published last December by the leading scientific men of Germany,-- Prof. Rubner, the greatest living authority on the subject of food, Prof. Zuntz perhaps stands next as the second greatest living authority on the subject of food. These two men have made most extended experiments on this subject. I was in the laboratory of Prof. Zuntz of Berlin some three years ago. One of the things I found there was a large cage constructed so that it could be made absolutely air tight, and in this cage was a tread mill and on the tread mill was an ox and that ox was shut in there working away for all he was worth on the tread mill, simply assisting Prof. Zuntz to perform an experiment. The ox was corked up there like the contents of a bottle with the cork put in tight, shut in there air tight so that not a particle of outside air could get in there but the air the ox was breathing was being continually pumped out purified and pumped back again and a careful note was being made of the exact amount of oxygen the ox consumed and the exact amount of heat thrown off into the air by the ox was determined, and the exact amount of work the ox was doing. Great care was taken to observe the amount of food the ox ate. He was carefully weighed from time to time and his food was analyzed and weight so the amount of energy that was gotten out of the food eaten by the ox was determined with the same accuracy with which a chemist would determine the contents of a piece of ore or by which any other scientific problem would be solved. Within the last fifty years dietetic



has become a science and more has been done by the German scientists to bring this question upon a really thoroughly sound and scientific basis than all the rest of the world together.

Really no one except Professor Pawlow of St. Petersburg has contributed anything like so great knowledge as that which has been brought out by the German scientists. To show you the thoroughness with which these men have gone into the subject, I may mention an instance. In looking about the laboratory of Professor Nicolai, one of the leading men of Berlin, a friend of his came in, Professor Tafpari, and I was introduced to him and he said, "O, yes, Dr. Kellogg, O, yes. I know you very well. You know, Dr. Kellogg, I lived for six weeks on your foods. I didn't eat another thing for a whole six weeks but just your foods." This was some twelve or fifteen years ago when I was studying in the laboratory of Professor Zuntz. Professor Zuntz had found out about Battle Creek foods and he had gotten a supply and he kept two men busy in experimenting with those foods for some time and Professor Nicolai said, "I was another one and we two did not have anything but your foods to eat for six weeks." He had put those two men, now among the leading men of Berlin, to eating Battle Creek foods and they did not have another thing to eat during that time and so with the foods produced all over the world anything about which any information had been obtained was put under careful criticism and tested to see its real food value. An elaborate report was published as the results of these observations and I am very proud to say that they were not unfavorable to Battle Creek foods. In fact, the report was rather flattering in this respect at least that Professor Zuntz admitted the BattleCreek dietary was sufficient and not only sufficient but was palatable and that the Battle Creek dietary was competent to supply all the needs of the body and without the use of meat and that <sup>these</sup> substitutes for meat were the best that had been produced. I mention this incidentally as an evidence of the thoroughness with which these scientific men have done their work; that they even discovered the things that were done in this little country town of Michigan and made a careful investigation of it. These men now have come out with their book of 200 pages in which they have held up to

the German people the exact situation and shown them that nothing but starvation is staring them in the face, absolute starvation, if they do not change their ways. The first thing they find is that the German people, taking them all together, are eating fifty per cent. more food than they need to eat; fifty per cent. more food than they ought to eat, so they have said to the German people, "you have got to stop wasting so much food. The rich must stop eating luxuriously. You must all eat just the plain things that are needful for us." The next thing he called attention to is that they are supporting something like twenty-eight millions of hogs and something like ten million of cattle and they find that they cannot afford to keep so many cattle and hogs so they are told they have got to kill off nine million hogs right away quick because those hogs are eating up corn and a million cattle right away because they are eating up rye and they need the rye and all the corn they have got. Professor Zuntz and Professor Rubner show the people if a hog eats 100 pounds of corn under the most favorable conditions, then he undertakes to get their corn back again by eating the hogs, they find that fifty per cent. or half the corn has somehow disappeared, that the hogs have used up half of that corn in having a good time on his own account. He has been running about enjoying life so he has used up half that corn, more than half. The food is consumed under the most favorable circumstances when fed to an animal so as a matter of economy it is absolutely necessary to take our food at first hand as it comes from the vegetable kingdom and there is no other way to eat ~~philosophically~~ philosophically or biologically. It is the only rational way when we look the matter squarely in the face. The economy, the plan of Nature, is for the vegetable to capture the sunshine and store up the energy of the sunshine; then for the animal to eat this stored up sunshine and make use of it. We know what the manufacturer does. He sends out into the coal fields, digs out a lot of sunshine that is buried up down there in the earth, brings it to the factory, puts it into his furnaces, burns it, converts the

water into steam and the steam runs an engine and the engine turns the dynamo or other machinery and in our own case we see this original sunshine shining out again in these electric lights, the same sunshine that shone upon the earth thousands and thousands of years ago and <sup>has</sup> have been lying under the earth stored up there for our benefit during all these thousands of years and we are getting the sunshine out again so that we can have sunshine in the night as well as in the daytime. A million years ago that was not possible. The same thing is true of all machinery that is run. All the windmills are run by the sunshine. The sun heats the air. It rises at the equator, travels up toward the north pole, then comes down and throws back toward the equator and makes wind and a man puts up a wheel here and in the course of the wind and the wind turns the wheel so you see it is the sunshine that turns all the windmill wheels and the sunshine operates the water so that it rises and the warm moist air comes inland goes up the mountainside until it comes up to such an altitude that the water is cooled and condensed and falls down on the mountainside and collects in a brooklet which with other brooklets make a river and the man makes another kind of wheel and sticks it in the water and, as the current moves along, it turns that wheel so you see the sunshine turns all water wheels and the steam wheels and the wind wheels and all the other sorts of wheels. The sunshine does all the work of the world. Now food stores up sunshine and is an ingenious contrivance, if you please, by means of which animals can make use of sunshine for energy. If an animal goes out of doors and the sun shines upon it, it could not do so much work but an animal can work in the dark. A plant cannot to any great extent. Only a few kinds of plants grow in the dark and they have to grow at the expense of some other plant if they do but we have found ~~sun~~ that we have to have sunshine for the corn to grow because the sunshine furnishes energy out of which the corn is made and corn is simply stored energy and an animal is simply a machine for using an energy. A vegetable is a storehouse of

energy while an animal is a mechanism for consuming energy. When we eat food it is fuel to the body and treated as fuel by the body. It produces heat and energy just exactly as when we put fuel into a locomotive. It is converted into energy and pulls a train. It is just as absurd for one animal to eat another as for one machine to burn another. Quite an absurd thing it would be to feed big locomotives with little locomotives, and when an absurd thing to feed a furnace for instance, with kerosene lamps, small stoves and some things of that sort. There is some fuel in the lamp it is true, but the fuel in a lamp is but a small part of the whole thing. It is only what has been left there, you see. There is the lamp beside the fuel, so when you eat a hog, there is something there besides fuel in the hog. There are ashes there and that is one objection to the eating of flesh, that there are ashes and cinders ~~xxxxx~~ along with the fuel, poisonous waste substances in the flesh that are not food but are unwholesome and more or less poisonous and consequently objectionable. In all Central Africa where there are millions and millions and millions of people, they rarely ever taste meat. The finest people in Africa while they are not avowed vegetarians, are vegetarians from force of circumstances. In all the Congo region, the natives do not eat meat because they have been forbidden for years and years to carry fire arms and the animals have become so timid that it is impossible for them to capture them or to kill them with bows and arrows, clubs and spears as they used to do. The animals have become timid because of the guns with which they are attacked by the white hunters that the black men cannot get and so they are compelled to go without meat. If they eat any meat at all, it is only once a month or once in a few weeks, just a little taste, although sometimes they will kill an animal and eat a good deal of it, but the rest of the time they do not have any at all.

I have met a great many people who have been in Central Africa, including medical missionaries. We always have a number of medical missionaries with us and feel highly honored to have them because they are, perhaps, the most useful people that live and certainly the most self-sacrificing people and we are

glad to have them with us ~~as~~ honored guests. I have talked with a great number of missionaries from all over the world and find it their invariable testimony that these non-flesh eating nations are free from many of the diseases which flesh eating people suffer from and that they constitute in China, India and Central Africa 99/100 of the full population. Here is China with 400 millions; India with 300 millions; Africa with 100 million. There are 800 millions of people, ~~Out~~ of the fifteen or sixteen millions and 800 millions are practically vegetarians. There are more for when we come to the natives of the islands of the sea, when they discovered them, they were living upon the fruits and vegetables that grew upon the earth. Capt. Cooke declared the ~~men~~ men of the Sandwich islands were all Apollos and the women were all Venuses, that they had such perfect forms they were really beautiful to look upon. These people have degenerated very very terribly since the country was first discovered. They have acquired flesh-eating habits and diseases have multiplied among them and they certainly have not improved in consequence and when we come even to civilized lands, we find flesh eating is not universal by any means. For example, in Italy there is very ~~very~~ little meat eaten. The ordinary peasants of Italy practically eat no meat at all. Even in Germany there is not a large amount of meat eaten by the peasantry. There is more eaten in Germany, perhaps, than in most of the countries, but very little in Spain, very little in France and even in England very little meat is eaten by the common people in the country. I made a study of that question about twenty-five years ago. I happened to be stopping for some little time in Birmingham spending a few months with Dr. Lawson Tate, an eminent english surgeon and I used to ~~spend~~ spend a day or two every week in going out into what is known as the "black country" among the people there and acquainting myself thoroughly with their habits. I called upon the doctors, merchants and the different classes of people and I found that meat was almost entirely disused. Among the miners, <sup>where</sup> for instance, the women work and among the brick makers and the nail makers where the women work so much harder and better than the men that the men have to protest against women working in order to keep them from getting

ahead of them. A man protested in a public meeting while I was there. He said that when women have learned trades and become so unsexed, we cannot compete with them. I can see at this moment in my imagination one women working at her forge making nails for camels shoes to be used out in Egypt. She had five children to look after and she stood at that forge hammering away ~~make~~ making camel shoe nails and she could make them cheaper than the men could. She worked a whole week and every week at the rate of fourteen shillings per week or what would be twenty-eight shillings with us and every little child had its little tools and was learning already how to use the blacksmith's tools. Whole families worked. Now those people never tasted meat more than three or four times a year and they are hardy strong vigorous people. I have never seen their equal anywhere else and they sometimes have a soup bone on Sunday and on Christmas and New Years and half holidays they would have a little meat, but no meat at any other time. At my boarding place in Birmingham, there was a rosy-cheeked house maid and I said to her, "Were you born in Birmingham?" "No," she said, "I was born in the country." "Is your father a farmer?" "Yes. He owns a small farm." I said, "I suppose you are very fond of meat by the roses on your cheeks. You must be a very hearty meat eater." "No," she said, "I scarcely ever eat meat in my life." She said, "We do not eat meat at our house. Father raises pigs and cattle but he raises them to sell and we don't eat meat excepting very rarely." The same thing is true in Ireland. The average Irishman does not eat meat but he lives on buttermilk, oatmeal and potatoes. He raises cattle to sell but does not eat meat himself. In Central America, there are vast multitudes of people that have very very little meat. The average Mexican only eats meat once in a while. The finest people in Mexico never eat meat at all. The Tarahumara indians are the most rapid enduring runners in the world and they never eat meat. They take a little parched corn in a little bag and start off on a run across the mountains and run far days and days without stopping hardly except to rest at night. I learned from an authentic source when I was in Mexico some years ago that one indian was one time sent on a journey of three hundred miles to carry a government message and he got to the end of the journey and got back again

in exactly six days and he went over mountains that were so rough that even a donkey could not climb them. There was no regular path in many places and men who told me this story said the only level places this man had to walk upon were the river beds which he forded. It was up and down over the hills and mountains all the way, three hundred miles and back again and he made it in six days and he carried all his food on his back, just a little bag of parched corn.

I had a letter the other day from a missionary down there among the Tarahumara Indians and he wrote me a very interesting account, telling me something further of their habits and I expect soon to have an intimate account of the habits of these people and then I will tell you more about it.

When we look the world over, we find really a very small proportion of people who are actually meat eaters and everybody knows almost that we can get along without meat eating. Perhaps three or four years ago when we had a beef strike here in the country, 40,000 people in some of the large cities took a pledge that they would not eat any meat for six weeks or so or until the price came down, and they organized societies and actually wore badges. They were opposed to eating meat for the purpose of bringing the price down. One thing struck me as very interesting. In all that experience there was not a single instance in which anybody suffered, not an instance in which there was a report of anybody who suffered because they did not eat meat, and no serious complaint of anybody who did not eat meat, no poor workman fell down at his bench and could not go on with his work because he did not have beefsteak for dinner or for breakfast. I know what I am talking about, because I arranged with the clipping bureaus to send me clippings whenever there was any mention whatever of that beef ~~strike~~ strike and I have <sup>d</sup> everything that appeared in all the American papers and <sup>still</sup> have it in my collection and there was not a word ever said about any injury being done to anybody. Nobody offered any sympathy as a matter of fact. I do not remember of a single instance in which there was a word of sympathy for these poor fellows because they could not have any meat to eat. They did not hesitate at all to give up meat for they knew it was a luxury and that they could get along entirely without it. I was reading many

years ago an article by Dr. Hall, the great Arctic explorer. He had made two trips to the Arctic and was going again. He believed he would reach the north pole because they said he had learned a very important lesson and that was ~~that~~ he must learn to live on blubber and meat as the eskimo did. I followed his travels with much interest, and when the report of his travels was published in two great volumes by the United States Government, I got them and I went through them with interest to see how he lived up there and I was really much impressed with one incidence. He told about how he made his dash to the ~~pole~~<sup>pole</sup>. He gave his accounts of all the details just what he took along when he made that dash to the ~~pole~~<sup>pole</sup>, what he ate as he stopped at a certain station. The thing that impressed me most of all was the fact that one day he sat down and ate his dinner on a block of ice with a hurricane blowing forty miles an hour and a temperature 30 or 40° below zero. And what do you think that dinner consisted of? Blubber, frozen seal meal, of course? Nothing of the sort. That dinner consisted of graham crackers. Now that is the thing. When his life was at stake, he was making <sup>the</sup> ~~the~~ <sup>effort</sup> ~~to~~ reach the ~~pole~~<sup>pole</sup>, the thing he took upon his sledges and depended upon to carry him to his goal was graham crackers instead of blubber. It did me a <sup>lot</sup> ~~great~~ of good to read that and I had more faith in graham crackers afterwards than I had before.

It is not true that all civilized people, that every civilized man eats meat. The fact is that the best of the civilized people, the hardest and the strongest do not eat meat. England gets its strength from the country; Ireland gets its strength from the country and the same thing is true of every other country. The strength of the country comes from the country. The town is where people degenerate. If it were not for the country continually reenforcing the life of the town, degeneracy of the human race would be so great that everybody would recognize it. You go into London, over in East London and walk along the street or stand on a corner and watch the people go by and you hardly see a normal person in a whole hour. They are poor, stunted, weasened, diseased creatures and you feel sorry for them. Now you go over in the north of Ireland, in Belfast for example, and you see the people going by on the streets and they are an entirely different looking lot of ~~people~~ folks. Go up into Sweden and Norway and the men and women that pass you



are almost every one of them of fine figures. You will hardly see an exception. The people have fine chests, fine features, fine forms and figures and walk with a sturdy gait and they show vigor and health. That is true generally of the people that are clinging to their original simple habits. There are a whole lot of other people that I have not mentioned. The wild forest people that live down in Central Africa, the orangoutang, the gorilla, the chimpanzee, they are so near alike us that they seem to be almost human. They have the same kind of stomachs, livers, lungs, muscles and bones and they correspond to these forms and bodies of ours almost absolutely. They have the same number of bones, the same muscles and their metabolism, their physiology are almost identical with our own. These animals have from times immemorial been flesh abstainers and they are still flesh abstainers. If you want any further testimony on the subject, I can cite you to that oldest of books, the Bible. In the first chapter of Genesis and the twenty-ninth verse, you will find an explicit statement of the fact that man was never intended to be a meat eater. You find that when God made Adam, it says that He created fruit trees bearing fruit and herbs bearing seed, and He said to Adam, "Every fruit tree bearing fruit and every herb yielding seed, to you it shall be for meat." That it the original meat, ~~through~~<sup>so</sup> according to the Bible man was not created a flesh eater at all, but was created a fruit eater, a grain eater and there is the Bible for it, and if the Bible is worth anything as an authority for you, there it is. But not only the Bible but the earliest writings and traditions of all the ancient nations are to the same effect. The ancient Romans looked back to the golden age and the ancient Greeks looked back to the golden age when flesh was not eaten, when animals were not slain, when blood was not shed as ~~Augustus~~ Ovid(?) said in describing this golden age:

"If man with fleshy morsels must be fed,  
 And chew with bloody teeth the breathing bread,  
 What else is this but to devour our guests  
 And barbarously renew Cyclopean feasts.  
 Not so the Golden Age which fed on fruit  
 Nor durst with bloody meals their mouths pollute,"etc.

The ancients had the tradition and the same statement is made in the Bible that the men<sup>who</sup> represented the primitive founders of the race were non-

flesh eaters, so it is not true at all. "Oh," somebody says, "but if we didn't eat meat there wouldn't be any enterprise or any snap or vigor," There would not be any fighting disposition, so the race would run out. The race would become sterile. Now there are some very interesting facts about that. I wonder if any of you have encountered a deer in the woods, When the deer was fighting for the life of his family, I wonder if any of you remember the stories of hunting buffalo in the old times when there was still buffalo on the western plains. If any of you read Mr. Roosevelt's accounts of his travels hunting in East Africa you will remember that when the question was being discussed what is the most dangerous animal to meet in the forest, Mr. Roosevelt said that the most dangerous of all animals to meet was the lion. There is no doubt about that, but the next most dangerous which all hunters ~~was~~ admitted was the bison. The bison is not a meat eater ~~but~~ and of course the deer is not and it is well known that the buffalo is a very fierce creature and by no means a meek gentle animal with no capacity for fighting and it is also well known that the gorilla, although a non-flesh eater, is of all the beasts in the forest the fiercest. The hunter would almost rather meet a lion than a gorilla. The lion is afraid and will sneak away if you do not compel him to fight in the presence of men, but the gorilla thinks is just as good a man as the other fellow and he will stand up and fight if he sees somebody intruding upon his territory. The gorilla sometimes even kills an elephant, ~~and~~ <sup>as</sup> I was told by a very intelligent scientific man sometime ago. The gorilla has been known to kill an elephant. These animals have adhered to the original bill of fare, but man has wandered away and has become addicted to eating everything that any other animal eats. How is it that we should have acquired the habit of eating everything that every other animal eats? It is quite natural that man should imitate some one animal but to imitate all animals and undertake to monopolize all the bills of fare certainly is too much for anyone's stomach to tolerate. When we come to look at this matter from a psychologic standpoint, you see it is perfectly absurd. A whale has seven stomachs to digest fish. A cow has four stomachs to digest grass. A dog has a meat stomach different from

any other kind of a stomach to digest flesh, and the monkey has another kind of a stomach, a different sort of stomach that makes a different sort of gastric juice to digest nuts and fruits. That makes thirteen stomachs you see. Man sets down at the hotel bill of fare and he finds the foods of all creation offered there. The fish that belong to the whale and the shark, and there is the grass that the cow eats; there is the meat that the dog eats and these fruits and nuts and things that the monkey eats and man sits down there with one little monkey stomach and undertakes to digest the bill of fare of all creation; and then when something goes wrong, he finds fault with his doctor. There is only one animal in the world that can digest the modern hotel bill of fare and that is the Michigan woodchuck which has fourteen stomachs, so he has just one to spare. I got a woodchuck last year and have been getting acquainted with him. He went into his burrow last fall and I looked for him on ground hog day and he didn't come out and I have lost faith in that story. We watched very sharply and put some food around his hole but he did not appear and has not appeared yet, but I watched his footsteps to see what his natural tendencies were and he seems perfectly satisfied with our bill of fare at our house. We gave him just what we ate and never offered him any bones of any sort and he seemed to be perfectly happy and contented and on inquiry into the matter I find that this woodchuck, although he can digest beefsteaks, don't do it, but prefers to live on the original products of the earth instead of taking his food second hand as some people do. It has been intimated that the race would become extinct, that *sterility* would make its appearance. I am sure the people who urge this argument never have noticed the facility of of rabbits, guinea pigs and other animals of this sorts. There are no animals that multiply more rapidly than these creatures do. An experiment was made with rats which are rather omnivorous you know. They can live upon a greater variety of food than any other animals known and can live if necessary on a single article of food which most other animals could not do. Dr. Chambers of Edinborough, some years ago, made a very interesting series of experiments with rats.

He fed rats on meat exclusively, nothing but meat. He did not give them anything else at all and the result was in three or four generations they ran out. The mother rats were no longer able to furnish the maternal nourishment for their young. Their mammary glands withered up and they gradually ran out. They became non-productive, infertile and ran out so Dr. Chambers published these series of experiments as a scientific man in the current medical literature of Great Britain and made the statement that he believed the growing infertility of England which some few years ago actually reached the low level which fertility <sup>has</sup> ~~is~~ reached in France referring to the birth rate. Great Britain has been steadily going down for the last fifty years and two years ago the alarming statement was published in The British Scientific Journal that the birth rate in England had actually reached the low level which it had attained in France some years before and in France it is still going down and the English people felt very much alarmed and ashamed about it. The only thing that saved the situation was the fact that their death rate was still lower than their birth rate whereas in France the birth rate was lower than the death rate so there are more people die every year per thousand people in France than are born per thousand people and <sup>in England</sup> ~~among them~~ it has not got quite so bad as that yet, <sup>but</sup> the birth rate is just as low as it is in France. Dr. Chambers said that in his mind there was no question that the enormous increase in meat eating which has increased 300% in England in fifty years was perhaps the cause of this lowered birth rate, an increasing infertility so I will tell you just one little story and then I will finish my topic. Six or seven years ago in Toronto there was held a meeting of the British Medical Association. I do not know but this was the first time the meeting was ever held in Toronto. Some of the most distinguished scientists of England came over to attend the meeting and among others was a Dr. Ramarao, a quite distinguished physician from India, a Brahman and a member of the medical profession ~~of~~ out there, a man who was educated in India under the Judsons, the famous missionaries of

India. We have recently had the pleasure of entertaining with us here for a few weeks a cousin of the doctor to whom I am referring now, a lady physician, for here have been three or four generations of Judsons who have been doing so much for that great country, the pioneer missionaries of India. This Dr. Ramarao was present at the meeting. One of the distinguished English gentlemen in discussing the paper by Dr. Chittenden of Yale in which he called attention to the fact that we were eating too much meat, took the issue with this proposition. He got up and said, "Meat is the most essential element of our food" and as proof of it he called attention to the fact that a little handful of English meat eating soldiers were able to control all the millions of India. Fifty-five thousand soldiers in India control three hundred million people. He attributed it to the fact that they were meat eaters while the natives of India were vegetarians. He had not reached his seat when he finished speaking before this Dr. Ramarao was on his feet and he stood up, a tall broad shouldered, thick chested, splendid looking man and in the most sonorous and eloquent

English he proceeded to completely annihilate the English speaker. He said, "The gentleman says the Hindoo cannot fight because he is a vegetarian." He said, "I admit the Hindoo does not fight but it is not because he cannot but because he doesn't want to fight. If the gentleman thinks a vegetarian cannot fight, I desire to invite attention to myself. I am My ancestors for many hundreds of years have never tasted flesh. I have not tasted flesh in all my life and have seldom tasted milk and not even eggs. I have lived almost absolutely without animal food of any sort. Now he said, "If the gentleman wishes to test my physical ability, I shall be glad if any gentleman in this audience wishes to test my physical ability, I shall be glad to meet him at this moment. I am secretary of the Athletic Association of Madras." The whole audience broke out into a tremendous cheer because the people saw he had presented practical proof. The people of India have not run out. This wonderful populous country more thickly settled than almost any country in the world is not running out in numbers but is increasing in

numbers at an tremendous rate. Here was this splendid man who could have picked up the speaker preceding him and thrown him over his shoulder and carried him off. There is no ground for the theory that a non-meat diet is not entirely sufficient to support a vigorous race life. At the present time there is no respectable physiologist that dares say anything else than this. I can give you any amount of authority, Von Noorden, Gaudier, Chittenden, and a great number of authorities. I can give you any number of men as to the proof of what I am saying. The statement is made clearly and unequivocally <sup>that</sup> the products of the vegetable kingdom are entirely sufficient to furnish everything the body needs for nourishment.

Q. What is the cause of *swollen veins?*

A. It indicates disease of the heart or circulation.

Q. Is it possible ~~there~~ is no trouble with a tooth when twice in a case of grippe the same tooth has swollen and the dentist finds no cavity?

A. The proper thing for such a person to do is to go to the X-ray man and have an X-ray examination made of the tooth. The X-ray examination will often show trouble that the dentist cannot discover. The X-ray man makes an X-ray examination and the X-ray will show up the very smallest defect if there is a little abscess at the roots of the teeth it stands out in the picture as plain as though it could be seen with the naked eye.

Q. Would you advise two meals a day for a person whose stomach takes five and a half hours to empty?

A. The length of time between meals ~~should be~~ and the number of meals per day depends upon the amount of food we eat. Cannon has showed, for example, that fats of all kinds require a long time to get out of the stomach, also a long time getting out of the small intestine so if one eats food containing a considerable amount of fat he must give that meal a longer time for digestion than a meal which contains nothing but starch

or fruits. If a person makes a breakfast out of fruits and rice or suppose one takes a baked apple and boiled rice for breakfast, the breakfast would be digested and would have left the stomach completely in two hours' time and the person probably would begin to feel a little empty in about three hours and feel as though he would like to eat something more and he is prepared for something more and it would do no harm to eat something if he chose at that time unless he ate an enormous quantity of course but if instead of that it had been a breakfast made up of fried eggs, fried bacon, saratoga chips, fried oysters or something of that sort, you may just depend upon it that this would stay right in the center of your stomach for hours and hours. The lumbermen of the north woods is fond of fat pork because he says it sticks by the ribs and that is what it does. It does not digest and so it makes a different what you eat, you see. A great many people do not sleep at night because they do not eat the right thing at night but they eat a hearty meal. The six o'clock dinner is doing more mischief than almost any other one evil habit that I know of except perhaps some poison habits. The six o'clock dinner is a terrible wrong against the body, a damage to the body. People have got the idea that it is a good thing to eat heartily before going to bed because you feel drowsy after you eat and so it helps you go to sleep. Sleep obtained under those circumstances is not refreshing. The digestion that takes place under those circumstances is not good normal digestion. Food stays in the stomach too long so the stomach is exposed to excessively acid gastric juice for a long time. Sleep does not interfere with the glandular secretion. Experiments have shown that the gastric gland is making gastric juice just as well when we are sound asleep as when we are wide awake but the movements of the stomach are lessened during sleep partly because the breathing is less full of vigor so the food remains in the stomach for a longer time than usual and the mucous membrane is exposed to the action of the gastric juice and that is the reason why a

great many people get hyperhydrochloria. People wake up in the morning and haven't any appetite. The stomach is tired out, worn out and you have an all gone sensation in the stomach. I used to meet a good many people who were afraid to go to bed on an empty stomach because they had such an all gone feeling. I remember one man thought he could not possibly live over night if he did not have his hearty supper. I persuaded him to drink some warm water and to go to bed and try it one night and he was the most astonished man the next morning you ever saw. He said, "Doctor, when I got up this morning I found that all gone feeling was all gone." He thought it would be ten times worse but he said it was absolutely gone. His stomach was simply tired out, irritated. Don't eat very heartily at night



Do not eat bread and butter at night or pie, cake and things that contain a good deal of fat but simply take a very simple lunch at night. If you take anything, let it be rice, porridge or some sort of fruit. Fruit does not require stomach work. That 's the reason why it is a good thing to eat at night or between meals if you like. It requires no stomach work. There is no protein in fruit to amount to anything and no starch in it. The starch is already digested and converted into sugar so the fruit is ready to be passed along into the intestine for its nutritive juices to be absorbed and utilized at once. Sugar is the principal thing in fruit. Fruit sugar does not have to be digested.

Q--Why does bile rise in the mouth instead of leaving the system as it normally should?

A--There are several cases in which bile comes up from the stomach. It may be regurgitated. Persons who have achylia in which the stomach makes no acid at all, the pylorus remains open. In such cases, if one lies upon the left side for some time, the bile will for sometimes run back into the stomach. In fact it is likely to be passing back and forth anyway. In such a case a person may have a cough perhaps. If there happens to be bile in the stomach and the person coughs or strains, perhaps a little bile will come up into the throat. The bile is passing out and into the stomach in those cases particularly, and no particular harm comes from it perhaps. In cases in which there is or nausea there is likely to be bile brought up into the stomach. The probability is that bile visits the stomach more frequently than is supposed and it doesn't do any harm in the majority of cases.

Q--A man in good health has 94 to 98 blood pressure. To what do you attribute this?

A--He ~~is~~ probably a little below normal, not quite up to his standard vigor, but there is nothing to be alarmed about. 100 to 110 I think should be really the normal blood pressure. Mine is 110 and I am trying to keep it there. I hope to still have it 110 ten or fifteen years from now. The blood pressure does not rise if one lives in a normal way, certainly not until the arteries

begin to undergo changes. When the arteries begin to harden and contract, the blood pressure naturally rises and it is necessary that it should rise.

Q--Why does candy eating cause pimples?

A--I am not certain it does. I do not know of any scientific proof that the use of candy produces pimples. The principal cause of pimples is lack of thorough cleansing of the intestine. Inactive bowels is the most common cause. The use of meat and an excessive quantity of animal fat is most likely to be the cause of pimples.

Q--If cane sugar causes HCl, isn 't it a good thing for<sup>a</sup> hyper?

A--I should think it would be the very worst thing he could take. In fact, most persons who suffer from hyperacidity have discovered by their own experience that the use of cane sugar candy, preserves and things of that sort is very objectionable and they suffer very greatly after eating foods rich in cane sugar.

Q--What is the cause of a grinding in the knee joint? which sounds like bones grating against each other?

A--It is a roughening of the articulating surfaces. Sometimes there are loose cartilages or fibrous bodies formed which are movable around the joints. Sometimes they will catch in certain points and lock the joints.

Q--What causes a tongue to be red as ~~fire~~ <sup>fire</sup> ~~and~~ almost and rough and sore so that one cannot eat?

A--This condition of the tongue is generally associated with a disturbed condition of the stomach. It is very likely to be associated with hyperhydrochloria; sometimes it is associated with achylia. I was talking with Prof. Ehrlick(?) ~~some~~ some years ago about conditions of this sort and he told me he believed it was due to animal parasites in the mouth. In my own observation, persons who have this trouble generally have a little pyorrhea about <sup>edge of the</sup> the gums. It means an infected mouth. That is the real root of the trouble.

Q--What is the best oil to use on the hair?

A--As a matter of fact, the hair makes its own oil. It does not require oil. Most people have too much oil on the hair so it is a good plan to shampoo the scalp occasionally to remove the oil, but if the hair is dry and needs oil, you

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should not be content by putting on some oil of some kind. I have no particular kind of oil I want to advertise, but a little very fine white vaseline perhaps is as good as anything and seems to have some little tendency to promote the growth of the hair which is a matter of some interest to some of us, but the fact is, this is an important symptom that ought to be considered. When the hair is dry and the skin is dry also, that is a significant symptom. It means that the thyroid gland which controls the growth of the hair and the functions of the skin is insufficient its activity is deficient so that must be taken into account. There are several things to be done in such cases as that. One is to stimulate the thyroid gland by hot and cold application. The dried thyroid of a sheep may be used. A most important thing of all is to change the diet. Cut out meats of all kinds because the thyroid gland is overtaxed. When one takes meat, because of the large increase of toxins absorbed from the colon. Some experiments made in Germany some years ago show that when dogs have thyroid glands removed, if they are fed upon <sup>a</sup>meat <sup>diet</sup>, they very soon died, but if they were fed on a bread and milk diet, they thrived, got along all right, so the matter of diet is ~~most~~ <sup>very</sup> closely associated with the functions of the thyroid gland.

Q--Can you suggest a preventative for grippe germs?

A--These are among the <sup>mysterious and</sup> most ~~most~~ persuasive of all infectious organisms. It is probable the germs which give rise to a common cold of which there are probably several different microbes belong to the same class as those which produce grippe or influenza. It is simply a difference in the intensity which the disease develops.

Q--Please give treatment for pyorrhea?

A--The best prescription is a good dentist, but the dentist alone won't suffice. You must have a dietitian too and change your diet. A non-flesh diet is of the ~~most~~ greatest importance. In a recent discussion before the Royal Society of Medicine in England, this question was quite lengthily discussed and it was the general opinion that pyorrhea is an indication of an auto-intoxication or alimentary toxemia and lowered vital resistance, and that the non-flesh diet is very important in such cases. Thorough cleanliness of the ~~mouth~~ mouth and treatment of the gums

is important. About ten years ago the custom was when a person was found to have pyorrhea to pull out their teeth, to pull out every tooth that was infected, but now we know that these teeth can often be cured. We have seen it in a great many cases.

Q--How do you explain the fact that ~~notwithstanding~~ <sup>notwithstanding</sup> the doctrine of vegetarianism the dominant races of the world in every department of human endeavor are meat eaters like the Anglo-Saxons, ~~Teutons~~ Teutons, salts, etc?

A--It is true that ~~such~~ in all these countries ~~is~~ that meat is used quite largely, but it is not true in any of these countries that all the people are meat eaters and it certainly is true that an increasing number of people are to be found in all these civilized countries who are abstaining from meat and finding they are better off without it than with it. I omitted to mention to you one statement made by these eminent German scientists who are advising the German people how they can live within themselves and defeat the attempt of England to starve them out and that is that they should cut out meats very largely. The thing that is ~~made~~ made to them that if they will cut out the meats, they need not be afraid of suffering any injury, but instead it would be an advantage to them, and beans, peas and other wholesome food of that sort are recommended as being complete or perfect substitutes for meat, for the people are informed that there is not the slightest danger if they should cut out meat entirely. That is the testimony of Rubner, Zuntz, and the most eminent scientific men of Germany. We had a visit from Prof. Zuntz I think about four years ago and he sat at our table and I sat at the table with him. Another physiologist, our good Prof. Lumbard of the University of Michigan was here to spend the day also with Prof. Zuntz and Prof. Lumbard confessed that he missed his beefsteak. Prof. Zuntz said at once, "If I could have such foods as these, I should never eat meat again as long as I live." This was a spontaneous expression and I was satisfied it was an honest expression of his opinion that meat eating is absolutely unnecessary. In my chat with him in Berlin three years ago he expressed himself to the same effect, that meat was quite unnecessary as an article of diet. All the physiologists agree to that at the present time.

Q--Is there danger of drinking too much of H<sub>2</sub>O?

A--It is possible for a person to over distend the stomach by drinking water and there are a few cases of disease in which we have to restrict water to some extent, ~~but~~ and in many cases it is generally restricted. For instance, in diabetes when persons are accustomed to drink a good deal, it used to be the fashion for doctors to say, "you must not drink so much water" and the patients used to suffer greatly because of terrible thirst. It is now understood to be the greatest possible mistake. When a person has thirst he should drink. His thirst is an indication that water is needed. It is an instinctive demand for water. Nature is not foolish but is wise. When she calls for water, we should give her water. Persons even who are suffering from dropsy profit by the use of water. A person may be enormously swollen up by dropsy and yet we should not withdraw water entirely in such a case. There was a time when patients were forbidden water in fevers. I read not long ago in a medical book of a man who had small pox and was covered up with feather beds and not allowed to have any water and he ~~became~~ became delirious when his attendant stepped outside and he jumped out the window and was rolling in the snow outside. They thought he would certainly die but he didn't. He went back to bed, the fever came down; ~~and~~ he quickly passed ~~through~~ through the crisis and he made a good recovery. It was discovered that water was not so dangerous as it has been thought to be. When I was a medical student in Bellevue hospital over forty years ago, Prof. Austin Flint told <sup>of</sup> a patient who had dropsy; the kidneys were diseased and the patient was getting worse and worse and worse and they finally gave her up and said she would die anyhow, and if she wants drink, we will let her drink. So he said the nurses let her drink all she wanted to and it wouldn't do her any harm because she was going to die anyway. This woman began drinking and she drank quantities of water and in a week the dropsy was almost entirely gone and she made a good recovery. He reported this in <sup>the</sup> Academy of Medicine. It made a very great impression upon my mind, so I at once began to depart from the standard method of treating cases of that sort in those days which was to restrict the water very greatly, but there is now and

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then a case in which it is necessary to restrict the water, especially in cases in which it is necessary to lower the blood pressure when it is very high. It is safer to the heart on the other hand to take a little more water than is necessary than not to take enough.

Q--What is the case and remedy for gas in the small intestine?

A--The presence of gas is an indication that there is material remaining behind which ought to be discharged from the body. This should be gotten rid of and something ~~ought to~~ <sup>should</sup> be done to hasten the activity of the intestine. This gas is generally in the colon and an enema will give temporary relief. In the worst cases of this sort, the gas is in the small intestine and is due to failure of the ileocecal valve. When the material gets ~~in from the~~ <sup>in from the</sup> small intestine into the colon, it cannot go back ordinarily, but when the valve is broken down, the material from the colon backs right back into the small intestine so the small intestine cannot get rid of the material or the gas. When the ~~small~~ colon contracts it discharges at once at both ends so the gas is forced up as well as down and it cannot be gotten rid of. The only radical relief is to repair the valve and this is fortunately a very simple thing that can be done very quickly, easily and safely. ~~quickly~~ This is not always necessary, however. In fact, it is not usually necessary in more than one case in five or six. It is only necessary to secure vigorous activity of the intestine to carry off the gas, making the intestine work a little harder and taking care to allow no accumulation. I use paraffin oil and bulky food stuffs, sufficient to make the intestine act vigorously. This is always required in the great majority of cases.

Q--What are the early effects of diabetes?

A--I will give a talk upon that subject another time.

Q--If rheumatism is a germ disease, why does exposure to cold or being caught in <sup>a</sup> rain storm give a person rheumatic pain?

A--Cold intensifies nerve sensibility; heat lessens nerve sensibility; heat kills pain while cold aggravates pain always. You ask me why. I answer that I simply do not know anything about it. I do not know why but I only know that to be a fact just as we know that the sun is bright and the grass is green. We do not

know why the grass is green instead of red or some other color but we know as a matter of fact that heat kills pain and that cold aggravates pain, so a person who has rheumatism ~~XXXXXXXXXX~~ <sup>his nerves are</sup> in a hypersensitive state and exposure to cold will almost always aggravate this pain. When a person has a tendency to rheumatism, ~~mm~~ and has to have cold upon his head, these cold cloths are used continuously from day to day, by and by we not infrequently get rheumatism of the skin, so there is a chronic pain in the skin. Sometimes in cases of heart disease we have to put cold over the heart as a tonic for the heart, but the first thing we know, we get rheumatism of the skin over the heart and then we have to alternate ~~by~~ <sup>with</sup> the use of heat. A very short hot application just for a moment will cure that and it is only necessary to take a little pains and apply the proper antidote. The harm that cold ~~XXXXX~~ <sup>does</sup> can generally be entirely removed by heat. The harm that heat does unless carried to a great extreme can always be removed by cold. If you get to feeling depressed in a hot bath, a dose of hot water will cure all of that depressing effect, absolutely and instantaneously, so one does not need to be afraid of the weakening effects of a bath, unless these baths are very greatly ~~XXXXX~~ prolonged and taken very frequently. We measured a man 's strength once and found he could lift about 6000 pounds. We gave him a hot bath for half an hour. At the end of that time he could not stand up without help. His strength then was only about half as much as in the first place. He was taken straight back to the bathroom, given a cold shower bath and then ~~XXXXXXXXXXXXXXXXXX~~ <sup>his strength tested again</sup> and he lifted more than he did in the first place. He was cured in three minutes, you see, so that kind of weakness that one feels after a warm bath, one need not be afraid of. It is simply a temporary depression that is the characteristic and specific effect of heat and will be removed by cold. Ask your doctor to give you more cold water. You want more resistance and nerve tone and you get that from cold. I wonder how you like the bubble bath. We find it a very excellent tonic bath because with the water rapidly bubbling you can tolerate a little lower temperature. We have now another bath coming in, an exercise bath that I will tell you about at another time. We have an apparatus in which you row,

dropping water over yourself, the rowing exercise, the word helps keep the body warm, and so makes it possible to tolerate a lower temperature. Ask your doctor to give you more cold water. When I was in Vienna some twenty years ago, I called on Prof. Winternitz who is the greatest authority on hydrotherapy perhaps in the world and I said to him, "Prof. Winternitz, what is new in hydrotherapy." He said, "Nothing new, nothing except colder water, colder water, always colder water." Although he had been practicing hydrotherapy for forty years, he was every year using water a little colder and a little colder. We find that is our experience here also, more cold water. The cold water is the best agent in hydrotherapy. Hot water relieves pain and makes one comfortable, gets rid of miseries but it is the cold water that boosts and lifts and increases vital stamina ~~and~~ gives appetite, vigor and nerve tone.

Q--Does heat kill germs?

A--Yes if you have enough of it.

Q--Would not cooking meat destroy dangerous germs?

A--Yes it would but it does not kill the spores. It takes 240° three hours to kill all the spores in meat. The man who has charge of the processing of the Anglo American Canning Company told me that they found it necessary to make their meats keep to cook them at 240° for three hours. Why? Germs are killed in a very few minutes but the worst germ, the disease-producing germs which produce putrefaction and other mischief produce spores which have the power to resist a high degree of temperature. The corn plant is very easily killed, but the corn plant can resist a great amount of heat and cold while still in the kernel, but a little frost or a little extra heat will kill the growing corn. The corn itself is the resting state of the plant and in that state it will endure a great amount of heat and the spore is to the germ exactly what the seed corn is to the corn plant.

Q--What causes low blood pressure?

A--Lowered vitality in general. Diminished blood supply and weak ~~heart~~ heart are the most common causes.



Q--How may one cure extreme drowsiness after eating?

A--The best thing is to put on an abdominal supporter and compress the abdomen. The drowsiness is due to an accumulation of ~~gases~~ an excess of blood in the abdomen after eating. The abdominal supporter will compress the abdomen and hence help to sustain the proper pressure there and so keep the blood in the brain where you want it. Another thing is to be careful not to eat too much. Another thing is the wearing of a moist abdominal bandage. That acts as a tonic to contract the blood vessels. There are other measures that may be employed. One of very great importance is to acquire the habit of sitting erect, keeping the abdominal muscles well drawn in and the chest high. Deep breathing is a very good thing.

Q--What causes gas on the stomach?

A--The swallowing of air. That is the principal cause of gas on the stomach. It is not fermentation in the stomach; it is not a chemical change going on; it is not gas secreted as was formerly supposed. The gas in the stomach which you find there which sometimes comes up, you actually swallow it. You say, "I don't believe anything of the sort." It can be proved on you. If any of you are suffering from gas on the stomach and you think you have a great deal of gas in the stomach, if you come around and see me, I will take you down to the X-ray room, put you ~~x~~ under the X-ray and actually see that gas going down before it comes up. I have never been able to make anybody believe this or hardly ever. I remember a man who was very much offended at me sometime ago who came into my office and said, "Doctor, what is this gas in my stomach? It is perfectly dreadful. It makes me miserable." I said, "You are a cribber." "A cribber," he said, "nobody ever acused me of cribbing before." I said, "You are a cribber. If you were out west and were a horse, they would say, 'You are a wind sucker', You swallow the air.'" I had to labor with him for an hour or two before I got him even half convinced and I don't believe he was convinced then. The air he was raising from his stomach, he had previously swallowed. He was not raising air but he was swallowing air into his stomach. One can easily acquire the trick of doing it. If you don't look out it will get to be a habit before you know it. It is a spasmodic action of the diaphragm that pulls the air down-

and tends to let  
 shuts up ~~XXXXXXXXXXXX~~ the air you are breathing in instead of passing to the lungs, pass down into the stomach. The fact is, the gas is not in the stomach till it is swallowed. There is discomfort in the stomach and one finds that taking a little air down into the stomach will relieve that discomfort. It is perhaps due to the fact that the mucous surfaces are sensitive and falling together produce an uneasiness and when air enters into the stomach, this is relieved. The sensitive part of the stomach where the pain is, is at the upper part of the stomach, near where the esophagus enters the stomach. That is the only part of the stomach that is normal or sensitive. When one swallows air into the stomach, the air lies in the upper part of the stomach and so will relieve that sensitive part from pressure and so the person will be temporarily relieved, but after a little while, pain appears again, the gas will escape and pain will begin again and you will be swallowing air again and you sometimes have cases which are so aggravated that they are really quite a disturbance. We had one gentleman from Canada some years ago who made such a noise that it disturbed the whole hall. He would get his stomach full and then the air would come luring up with a tremendous noise and he actually woke people up. It became a habit with him.

Q--Why should a man have a backache one morning and feel fine the next morning?

A--It would be better to have it that way than have backache every morning. This backache in the morning is really a somewhat significant symptom. It is one of the symptoms of duodenal ulcer and so ought to be looked into. If I were suffering in that way, I think I should have a bismuth meal. I would go to a roentgenologist and have a bismuth meal and find out for certain what was the cause of that trouble. This morning backache is rather significant. These things are often connected with gall-bladder disease, duodenal ulcer or some trouble in that region, sometimes perhaps trouble with the pancreas and so the matter ought to be looked into.

Q--What causes car sickness? Is there anything to prevent it ?

A--It can usually be prevented by lying down and keeping horizontal. ~~It~~ It is a disturbance of the organs of equilibration, the same as like experiences on ship-board.

Are  
Q--~~Is~~ Para-lax and Russian oil the same thing?

A--Para-lax is simply an emulsion of Russian oil which has been purified by washing thoroughly with water.

Q--If freckles are caused by too much iron in the blood, is there a solution that will remove them?

A--That is a new theory. I have never met this before. There is no evidence to lead me to believe that freckles are caused by too much iron in the blood. Really freckles are natural. They belong to the skin and it is no use to try to remove them. We cannot remove them without removing the skin. A slight coloration of the skin is produced by exposure to the sun but this will very quickly disappear when the cause is removed.

Q--Is the health of women and children affected by the breathing of smoke of tobacco?

A--I think there is no doubt about it. I suppose this refers to the breathing of the smoke of tobacco that has been breathed before, that is, ~~breathing~~ smoking second hand. I do not know of <sup>any</sup> more objectionable method of using tobacco than that. It is certainly <sup>a</sup> very much objected to method. I feel very much sick in body and soul both when I have to smoke a stale cigar over after someone else has smoked it. It is something really very abominable. People who are sensitive to tobacco living in an atmosphere of tobacco smoke are very often kept in a state of misery, nausea and discomfort continually. I have often seen children turn their faces away from a tobacco smoker and there is no doubt that a great many women and children spend their lives in misery because of this thing. I hope the time will come when we will get civilized enough so we will eliminate the tobacco. I think it is time we began to think about that at any rate. We won't be able to eliminate tobacco by law that way, but I certainly thing the coming man won't use tobacco. As a matter of fact, we need to do a whole lot of eliminating. Society is getting a whole lot of handicaps loaded on. The average poison dose is something monstrous. I was very much shocked sometime ago to see the per capita dose of alcohol, nicotine, their and caffen. It is something amazing and it seems to be increasing continually.

It is one of the most important things to be eliminated, the elimination of evils that have become aggravated, that have become grafted upon our civilized life. There were three men stopped in at a restaurant and a waiter came around and gave their order. The first one said, "I have bread and butter, sausage and a cup of coffee." The next one came around and took their orders. The first one said, "I will have bread and butter, sausage and a cup of coffee." The next one said, "You may bring me some fried eggs, bread and butter and coffee." The third one said, "Give me the same but eliminate the eggs." The waiter said, "Very well,"--a colored waiter. He went to the kitchen and pretty soon he came back and said to the third man, "Beg pardon sor, how did you say you wanted those eggs cooked sor?" The man saw the joke and said, "Eliminated, eliminated them." "All right, we will have them soon sor." But pretty soon he came back again. He said, "The cook didn't quite understand about those eggs. How did you say you wanted them?" The man replied, "Eliminated, of course." "All right, sor, all right, we will have them in a few minutes," but pretty soon he came back again and he said, "Sor, the cook told me to tell you she had broken the handle off the eliminator and couldn't eliminate the eggs today." We want to get to work and eliminate the evil things from our civilization and keep the handle on our eliminator so that it won't get broken off. The saloon is one of the things we are going to try to eliminate in this town next week.

I thank you for your attention.

The end.

Portion of the Question Box Lecture at the Sanitarium Parlor, Battle Creek,  
Michigan, Monday, May 24, 1915 at 8:00 P. M.

By

J. H. Kellogg, M. D.

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~~Q. What is the cause of periodical blues?~~

A. ~~You know this is the most interesting question I have~~  
~~been asked in six months and before I get through talking to you about~~  
~~it, you will say so. People do not have the blues because they have been~~  
~~naughty. People do not have the blues because everything is going bad~~  
~~and their business is all going to pieces. Do you know why people have~~  
~~the blues? It is because they have an excessive activity of the supra-~~  
~~renal capsules of the kidneys. Now you understand all about it. It was~~  
~~found out by Dr. Brown-Sequard, a French American whose mother was an~~  
~~American and his father French so his name is Brown-Sequard and he told~~  
~~me when I worked in his laboratory in Paris 25 years ago, of this wonder-~~  
~~ful discovery he had made and the whole world now gives him credit for it~~  
~~because at that time there was very little importance attached to it, but~~  
~~at the present time tremendous importance is attached to the function of~~  
~~this little capsule of the kidney. Look at your hands and see if you can~~  
~~see any brown spots scattered over them. When people get to be forty or~~  
~~fifty or sixty years old they usually have some brown spots. I am sixty-~~  
~~four but I haven't any yet. What do you suppose these brown spots mean?~~  
~~They mean your suprarenal capsule is getting tired out. It is losing its~~  
~~efficiency. One of the duties of these suprarenal capsules is to destroy~~  
~~poisonous pigments which are formed in the body. You know here is a piece~~  
~~of red fresh meat. When it begins to decay it changes color. It gets dark;~~  
~~blackish brown, and the reason is because there are developed in that~~  
*This was*  
*of about thirty*  
*wonderful discovery although*  
*this*  
*there are*  
*that the*  
*For example take*

<sup>that</sup>  
 decomposing meat pigments and these pigments are very poisonous, ~~and~~  
 when simple decomposition takes place in the alimentary canal, the  
 same thing happens in the <sup>the</sup> alimentary canal that happens outside of the  
 body. If a rabbit gets killed in the woods by accident and lies around  
 beside a log it undergoes decay, putrefies, and the flesh turns brown  
 and it has a bad odor to it. Suppose a man ate a <sup>piece of cooked</sup> ~~part of that~~ rabbit  
 and part of it lay around in his colon. Then <sup>the</sup> same thing would happen  
 to it that happened to the rabbit or ~~the bird~~ in the woods, you see, or to  
~~a dead rat in a closet.~~ <sup>from this decomposition</sup> The poisons are absorbed into the blood, taken  
 into the circulation. That is the reason why <sup>many people</sup> ~~some of you~~ have such a  
<sup>bad</sup> awful breath. ~~I met a man in the office not so very long ago who had such~~  
~~an awful breath that I had to open the window when he began to talk, and I~~  
~~had to turn my head away and hold my breath. It was something dreadful.~~  
~~I began to talk to him about reforming his habits and found he lived on~~  
~~beefsteak and dead things mostly, and I found he didn't like the idea of~~  
~~all. He said he couldn't eat anything else. He chiefly lived on meat and~~  
~~I found him a very hard case to manage. I made up my mind I would have to~~  
~~make an impression upon him in some way so I said to him, "Look here my~~  
~~friend, do you know what your breath smells like?" "Why no, have I got~~  
~~a bad breath? My wife never mentioned it." I said "It's because she is~~  
~~a remarkably amiable woman and long suffering?" I said, "I am going to~~  
~~tell you the truth as my duty as a doctor. Your breath smells just like~~  
~~a dead rat." That man nearly collapsed. <sup>was called</sup> ~~I called~~ his attention to the  
<sup>it had been necessary to</sup> face that ~~I had~~ opened the windows on account of his bad breath. I think  
~~before I got through talking with him that he made a remark which was a~~  
~~great encouragement to me. He said, "Doctor, I think you have made a~~  
~~point. I think he turned over a new leaf after he went away and got rid~~  
~~of that coat on his tongue and that horrible bad breath. It was simply~~  
~~the stench coming out through his lungs, you see, and his whole body was~~  
~~saturated with that stench. It was his particular aroms, don't you see.~~~~

It was his bouquet. Now when you smell a flower the flower has its own peculiar fragrance. This man's fragrance was that of a boneyard, if

you please, and it was not simply in his breath, you know, but it was in him.

*A bad breath is the sum of the whole*  
~~It was not the odor of his breath but the odor of a man, the stench arising~~

*the entire body and is the*  
~~from that man that was conveyed out through his breath, and that is what is~~

*one having*  
~~true of everybody that has got a bad breath, so when you have a bad breath~~

*indeed not*  
~~it is a significant thing. I should certainly feel ashamed and horrified~~

*h h*  
~~if I found I had a bad breath. I should know it was not simply in my breath~~

*the*  
~~but was in me, in my brain, in my muscles, in every atom of my body, and~~

*The*  
~~my whole body is exposed to these horrible poisons that are so offensive~~

to the olfactory sense and these poisons are just as offensive to every

other sense in the body as they are to the olfactory sense and just as

irritating to the other nerves, but the olfactory nerves are the ones that

have an opportunity to express their repugnance while the other nerves

are not qualified to do it in that way. It is the duty of these suprarenal

capsules to destroy *poisons that produce the* these horrible stench and poisons and to create and

antidote. It is their duty to destroy these pigmentary poisons that tint

the skin and give a dirty tinge to the complexion and *but* these brown circles

around the eyes, ~~these brown spots scattered over your hands, so-called~~

*See*  
~~liver spots.~~ They are not due to any disturbance of the liver at all but to

inefficiency of the suprarenal capsules ~~so~~ when you are getting brown spots

on your hands it is because your suprarenal capsules are overworked and

allowing these pigments to accumulate in your body. That is why the skin

of an old man has *a* this parchment like appearance, *a* this dark, dingy color

and it is why the skin of a boy or girl of sixteen or eighteen is so clear

because the suprarenal capsules are active, vigorous and able to destroy these

poisons and keep the body clean and sweet. What has this ~~got~~ to do with the

blues? One of these substances made by the suprarenal capsules is known as

adrenalin which is sent out into the blood in just such quantities as the

body needs but when the suprarenal capsules are overstimulated by an excess

of these poisons circulating in the body, then adrenalin is produced in larger quantity than can be utilized by the body, <sup>The result is</sup> ~~it produced~~ the blues. It produces depression. It has an affect upon the mind. It influences the cells of the front part of the brain in such a way as to produce this horrible misery called the blues. Now there are a good many reasons for this excessive activity of the suprarenal capsules. One of them is meat eating. What has that got to do with it? It is not what is in the meat when you eat it but what happens to the meat that you do not digest and assimilate. People who eat meat take an excess of protein. They can hardly avoid it. If you eat lean meat at least, you can hardly avoid taking an excess of protein because ~~the~~ ordinary foodstuffs contain protein enough. I never eat beans. I never eat milk or eggs but just the very simplest foods. I live almost entirely on the very coarsest vegetables. I eat about one slice of bread in two days and the rest of my diet is potatoes, spinach, lettuce, just the coarsest things that I can get hold of



and I find when I live on that sort of diet that I am just equal to all the work that I can possibly get through. I can work sixteen, eighteen or twenty hours a day and work every minute that I have my eyes open and ~~keep right at it and feel fine all the time. It is not the work that does the harm, my friends.~~ We are loading ourselves all the time with handicaps. With tea, coffee, alcohol, tobacco and with things that ~~ret in our interiors~~ and contaminate and spoil our bodies. That is the reason why we are so inefficient and the reason why we ~~get tuberculosis, get the blues, and get broken down.~~ It is not the work that does it at all. Work is one of the healthiest things in the world. It is very difficult for a person to do himself harm with work, and ~~is really a very difficult thing in my opinion~~ because work is natural and the damage that the work does is easily repaired by rest. ~~We can repair all the work damage that work does~~ but the damage that comes from a ~~turkey dinner,~~ that comes from a Thanksgiving gluttony, for example, is quite another thing. That may last you a month or you may never get over it in the world because it saturates your whole body with poisons and over-excites these glands that the suprarenal capsules make too much adrenalin. <sup>SA</sup> Other glands too, are involved. ~~I might mention also~~ mustard, pepper, pepper sauce, ginger and all other poisonous things that we take into our bodies, also which attack the suprarenal capsules and excite them to make more adrenalin. Any man who goes on a spree <sup>for</sup> instance, and drinks a lot of <sup>intoxicants</sup> ~~whiskey~~ and gets drunk, when he recovers, he is awfully depressed. ~~Did any of you ever try it?~~ I don't expect you to confess right here in public but I just made that remark to set you to reminiscantating and going back a little in your experience. Did you ever go on any sort of a spree? People can go on a spree on tea for instance. I know an old lady who used to keep the tea pot on the stove all the time and drink a cup of tea every half hour or so. She was a regular tea toper and I read a while ago of a woman who actually had delirium tremens from drinking tea. Some time ago a man <sup>told</sup> ~~admitted to~~ me that once in a beef steak contest he ate nine pounds of beef steak at one sitting. You know what a beef steak contest is.

They have their hands tied behind them and go after the beefsteak just as a dog does and see who can eat the most of it. This man ate nine pounds and he said there was just one man ahead of him in the contest and that was the mayor at that time of New York City and he had eaten eleven and a half pounds at one sitting, so my friend did not really have a national reputation. This man told me that the next day after he had had a beefsteak spree, if you please, he had the rheumatism in his left shoulder so bad that he could not work, could not raise his arm. He said, "I always get it but I would rather have a nice juicy beefsteak than the most luscious pear you ever saw in your life." "Why", he said, "it just makes my mouth water to look at it." That man had really become a carnivorous animal, that is the way a dog feels when he sees a rabbit. ~~Now~~ there are other ways in which the suprarenal capsules can be over-excited. Some of you can do it now. A wrong habit of sitting is one way to excite these glands. ~~Now Give us a chair for instance, an ordinary chair with a straight back and it is really a horrible example.~~ When one sits a great deal the chair becomes a sort of mold into which the body is shaped, don't you see? and <sup>one</sup> you carry that same shape with you when you get on your feet. <sup>he has</sup> That is the reason why you see so many business men with round shoulders and why you see so many farmers <sup>have the same deformity</sup> in the same way. The farmer sits <sup>up</sup> down on <sup>the top of his</sup> a load of wood and you see him sitting down all doubled up like a jack knife, after this fashion. ~~When a farmer sits down to rest, he sits like a leg on top of a fence, doubled over in this fashion, so the farmers are nearly all round shouldered.~~ <sup>The farmer's</sup> His occupation gives him a right to a splendid physical development and a good physical bearing but he does not usually have it, and the same thing is true of the ordinary athlete. He is round shouldered and flat chested. The reason is, that after the <sup>his</sup> athletic exertion, <sup>the</sup> athletes generally sit down in a chair and relax, <sup>in a bad sitting posture</sup> collapse, and so get themselves into a bad shape. ~~Now~~ When one sits properly, <sup>is</sup> the chest/raised and the abdominal muscles are drawn in, this

is exceedingly important. Gravitation is like the devil, always pulling down. I don't believe much in the devil and don't know whether you do or not, but he is supposed to be the power that is pulling us down and that is what that phrase represents I suppose. Gravitation is dragging us down all the time. We have got to fight gravitation. It is a pernicious force. I am not sure but what gravitation does more harm than almost any other physical force operating upon us. It certainly does ~~as~~ <sup>many</sup> a thousand times more harm than cold does. There are a thousand ~~times~~ more people who die from gravitation every year than who die from freezing to death. A man falls out of a six storey window and it is gravitation that kills him you see. If a man gets dumped out of an automobile, it is gravitation that hits him, really the world comes up and hits him and that is the reason why he gets hurt. Now gravitation is operating upon us in very subtle ways. We can readily understand how gravitation hits a man when he falls off the church steeple or out of a cherry tree. Gravitation is pulling him down and he has hit the earth, coming up to meet him and the collision has been a damage to him and has resulted in injury as breaking the leg or arm or something of that sort. Now there are ~~more~~ <sup>many</sup> subtle ways in which gravitation is working upon us ~~and~~ injuriously all the while. One of these, I want to make clear to you. It is one of the most prolific sources of the blues, an exceedingly common source of the blues. When one is ~~lying~~ <sup>is</sup> lying down flat, here is the stomach, liver and all the other organs and they remain ~~right~~ up in position where they belong but just the minute we get upon our feet, gravitation is pulling ~~all these things~~ <sup>them</sup> out of place. When one lies flat, the heart has simply to circulate the blood around on a horizontal plane but the moment one gets on his feet, the heart has to pump the blood and lift it clear out of the feet up to the heart and has to lift the blood up to the top of the head, then it goes back to the heart and so it has the height of the body through which to lift the blood and has to work hard, that is the reason why the pulse is a little more rapid when one is on his feet and why the heart beats a little harder. When one is standing on his feet in this

way the blood has a tendency to gravitate down into the abdomen <sup>here</sup>.  
 The only thing that prevents the blood from running away into the abdomen in  
 large quantity is the fact that the abdominal muscles ~~here~~ are contracted  
 against the blood vessels. I sometimes have to open the abdomen in doing an  
 operation and there are the large veins in there. When I first open the  
 abdomen, these veins are flat, ~~and~~ only about half full of blood but within  
 a few seconds after I open the abdomen these veins are swollen up and look like  
 whipcords.

I have seen veins as big as my little finger, enormously  
 distended with blood because of the pressure on these tense abdominal muscles,  
 which hold the organs against the blood vessels and keep them from becoming  
 distended in this way. <sup>The</sup> You can see the veins on the back of <sup>his</sup> hand when I <sup>he</sup>  
 hold <sup>his</sup> hand down so that the blood runs into it. If <sup>he</sup> I hold the other hand up  
 the blood all runs out of it. ~~Now~~ Exchange places with <sup>the</sup> my hands and <sup>it will</sup> you can

<sup>be</sup> see that the one which formerly had the blood in it becomes blanched right away  
 while the one which was formerly blanched becomes filled with blood. The same  
 thing happens to the large blood vessels in the abdomen, ~~so~~ whenever we are in  
 the erect position, the circulation of the blood ~~is~~ <sup>in</sup> all the organs of the body  
 is brought under the control of gravitation. In this respect, ~~you see~~, we  
 differ from any other animal that lives. A dog going on all fours does not have  
 any embarrassment of this sort because the ~~mark~~ <sup>relation</sup> of his abdominal organs to the  
 body is just the same whether he is standing up or lying down, ~~don't you see?~~  
~~But~~ he is always horizontal, but man ~~in his efforts to climb up in the world~~  
~~has gotten up on his hind legs you see.~~ He is no longer going about on all fours  
~~but has gotten up on his hind legs so that~~ <sup>he</sup> his trunk is erect in line with his  
 posterior extremities and the result is, when he is on his feet, gravitation is  
 pulling everything out of place. Nature has endeavored to compensate for this  
 in some degree at least by producing a curve in the back ~~here~~ which makes the  
 abdomen a sort of shelf on which the organs can lie and when these muscles are  
 made tense so that they support the over-lying organs, we do not suffer any  
 serious injury but when we allow ourselves to get into <sup>a bent up posture</sup> ~~this sort of shape~~, we

destroy the shape by relaxing the abdominal muscles, ~~and everything that~~  
~~right straight~~ down. There is nothing to support the liver so the liver  
falls ~~right~~ down upon the colon and pushes it down and everything is pushed  
down into the lower part of the abdomen and leaves a bulge <sup>there</sup> here.

When Prof. Fisher of Yale University was here the last time, he told  
us a little story which surprised me very much. He revealed a professional  
secret that I had communicated to him in my office. I did not suppose he would  
do such a thing in public but he did so I am going to tell you about it. He  
told how much he was suffering from depressions, how he had the blues awfully  
bad when he came to the Sanitarium. He said, "When I came into Dr. Kellogg's  
Office and sat down there, we began to talk and I asked Dr. Kellogg to make  
a little examination, the Doctor began at once by saying to me; "I notice,  
Prof. Fisher, that you have a wrinkle across your stomach." He said, "That  
struck me as <sup>a</sup> very peculiar remark for him to make when he had not seen my  
stomach" and he said, "I wondered what kind of magician this was." So Prof.  
Fisher said, "So the Doctor asked me to unbutton my vest so he could make an  
examination and he said, sure enough there was a wrinkle there, and I didn't  
know I had it." He said, "Doctor Kellogg, how did you know I had a wrinkle  
across my stomach," I said, "I knew because I saw you had a wrinkle across your  
vest, that means there is a wrinkle across your stomach ~~xxxx~~ because the same  
that wrinkles your vest wrinkles your stomach." "Well", he said, "what has that  
got to do with my health?" "Well", I said, ~~to him~~ "The thing that has to do with  
the health is, the moment <sup>one</sup> you relax <sup>his</sup> ~~your~~ body in such a way as to allow

Question Box at the Sanitarium Parlor, Monday, August 30, 1915 at 8:00 P. M.

by

J. H. Kellogg, M. D.

Q. When are you going to advertise dancing?

A. We find our sterilized dancing in the gymnasium answers the purpose very well. We do not undertake to cultivate the social phase of this question.

Q. What causes a girl to faint? I am sure that depends on how you spell it. I have known it to be done both ways. I remember sometime ago we had with us a young lady whose brother wanted to take her home and she didn't want to go. I labored with him but he was obdurate and she was to leave at 10:30 in the morning. About quarter past ten her brother came rushing into the office and said, "Doctor, do come and see my sister right away quick." I went to see her and she had fainted away. She was lying upon the bed in a dead faint. I stepped up to the bed, felt her pulse, listened to her heart and heard a faint whisper say, "Don't be frightened, Doctor, I will be all right when my brother goes." This young lady fainted because she wanted to prolong her stay at the Sanitarium. She recovered very completely in the course of half an hour after her brother had taken his departure on the train. Fainting is really a very serious phenomena. It is due in general to failure of the heart. When a person faints it is because the heart has failed to pump the proper amount of blood into the brain. I suppose all of you know some simple ways of combating this symptom. One of the simplest ways is to dash a little cold water into the face or to wet a cloth in cold water and slap the face with cold water. The effect of this is to stimulate the nerves which

energize the heart so that the heart action is increased and the blood sent to the brain. Everybody does not know the fact that there is an area of skin lying right over the heart that is much more sensitive to cold than the face is. Every part of the surface of the body may be utilized to stimulate the heart. Cold applications made to the soles of the feet or to the palms of the hands or any other part of the body will stimulate the heart. An impulse travels to the brain, then to the heart to excite it to increase activity but the most sensitive part of the body is the area called the precordium which lies just over the heart itself. The heart is greatly stimulated at once by percussion or cold applications applied over this area. Percussion of the heart in this way will often cause the heart to recover its action. Percussion of the body just below the ribs and the liver has a powerful effect upon the heart. I remember a patient fainted away once when I was performing an abdominal operation and the patient had a rather weak heart and was evidently very sensitive. All of the sudden her heart stopped beating. Fortunately I had my hand on the abdominal cavity and reached and seized the heart through the diaphragm. I just simply seized the heart and gave it a little nudge. The heart immediately began to beat. Shortly afterwards it stopped again and I gave it another little nudge and it began beating and is going still. Everyone ought to understand the effect of a fomentation upon the heart. Usually when one faints he is ~~xxxxxx~~<sup>told</sup> to lie down. A much better way is not to lie down at all. If one is sitting and feels faint the proper thing to do is to cross the hands over the abdomen and then bend forward as far as possible. The effect of that is to compress the abdomen and this forces the blood into the brain at once and the patient faint feeling disappears very quickly. This is much more convenient and much more effective as a means of preventing fainting. I remember a number of

years ago a patient upon whom I had operated, I had performed an operation for removing a very large tumor. The patient had gotten through the operation and during the dressing a nurse called me and said the patient seemed to be dead. Her pulse had stopped beating, there was no sound to be heard of the heart and no pulse. The patient was apparently dead. I immediately placed my hands upon the abdomen and compressed the abdomen knowing the fact that I have just mentioned to you that this would relieve fainting so I forced the blood back to the face. The face flushed at once and the heart began to beat at once. I removed my hands and the heart stopped again. I made firm compression and held my hands on the abdomen until a rubber bag could be procured which was placed under a bandage drawn tight over the bag and then the bag was inflated with air. It was kept in position two or three hours and the patient got along all right. You see the heart is ~~subject~~ subject to mechanically influences, to percussion and to the effect of compression upon the abdomen for displacing the blood upward through the brain and especially to the effects of cold applied to the surface. Cold applied to any part of the surface, especially over the chest wall, relieves this feeling at once. I remember some years ago a gentleman who had a very weak heart who came here to the Sanitarium and he was immensely pleased when he found the spells which he sometimes had were immediately relieved by <sup>a</sup> cold application to his chest. He said, "When I have had these attacks at home I have usually taken some medicine and did not get over it for a day or two but now a cold cloth is applied and in a few moments I am all right." One morning he was walking up Manchester Street and he was taken suddenly with a shikk spell, could not walk any further so he stepped in through a gate and sat down upon the steps of a house. The lady of the house noticed him and asked if she could do anything. He said, "Please bring me a wet towel." She wet the end of a towel



and brought it to him and he slipped the wet end down inside his shirt next his skin and in five minutes he was quite himself again and came home. It is marvelous what power there is in these simple remedies. It is worth while to know what ~~ixxxixing~~ can be done with cold water and with hot water, so I hope you will all be interested in a series of lessons that will be begun this week on simple remedies and the uses of water at home. Everyone of you ought to go home wiser than when you came in the use of these very, very simple remedies.

Q. What is the cause of sciatica and of neuritis?

A. They are generally due to poisons absorbed from the colon but they are sometimes due from poisons absorbed from decayed teeth or diseased tonsils or ulcerated gums or a chronic abscess or a chronic sore anywhere in the body. The germs from such a sore are continually being absorbed into the body, and if it is a diseased tooth or tonsil, the germs are very likely to get into the general circulation and to become a cause of sciatica, rheumatism or some other painful malady. This fact has been discovered really very recently and it is found to be extremely practical. A lady who was suffering from rheumatism very severely was found to have diseased tonsils. They were removed and the rheumatism disappeared within a week. One young man had rheumatism so bad he could not walk. The doctor removed the diseased tonsils and within a week the young man was going all about and had forgotten that he had ever had a pain. It is important that these things should be looked after. Every person suffering from chronic rheumatism should have the tonsils, ~~xxxxxx~~ <sup>the nose,</sup> and the teeth carefully examined and should make sure that there is no ~~subtle~~ <sup>subtle</sup> source of infection. Probably the most common of all sources of infection is found in the colon. When a person is suffering from colitis there is a suppurating surface, a large surface perhaps six inches long or three or four feet long. When you have an examination by the X-ray and it points out colitis, that means

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there is a large surface open to infect<sup>ion</sup> in this way and there are constantly in contact with that substance millions and millions of bacteria which may find their way into the blood and become the cause of neuritis, neurasthenia, rheumatism and a great variety of unpleasant painful disorders.

Q. Is the cold plunge as good as the cold spray?

A. No, for the reason that it is an immersion bath. The cold spray is a valuable tonic bath because it combines the mechanical effect of the impact of water with the skin chemical or thermic effect of the contact of cold water with the skin. There is the sensation of touch as well as of temperature and the two together secure a more vigorous reaction. The mechanical effect produces a reaction as well as the chemical effect. If you percuss the skin it soon becomes red. Put a piece of ice upon the skin for a moment and the skin will become red. Percussion makes it red by the mechanical effects and the ice produces the red color because of the tonic effect of cold. The two effects are similar but produce two entirely different sets of nerves. If we combine these two things together we will have a very powerful stimulating effect. Extremes of cold water applied to the surface of double the effect. The best plan that one can adopt in his own room is the surf bath. This is a bath in which you sit down in a tub and go through the movements of rowing with a dipper peculiarly shaped by which the water is brought up to the chest and rolls over the body very much as though you were having a surf bath at the seashore. This dipper has a rubber tube attached to it which is attached to the end of the tub and you dip up a dipper of water and as it comes near the body, a little jerk of the body backwards onto the dipper and it pours out over the body in a stream and really makes one feel that he is having a fine surf bath. Put about six inches of water in the tub at about 100°. Sit down in it and then open up the cold water faucet and begin to row. The water

gets gradually colder and colder and colder and in the meantime one is counting his strokes from one to one hundred. By the time you get up to thirty or forty it begins to feel a little cool and you get so interested in counting these strokes that you forget all about it and you get the benefit of the exercise of your lungs and your skin will grow and you will feel very greatly invigorated. You are rejuvenated, too, in a certain sense. The application of cold to the skin has the effect to arouse the resistance of the body. When a person has cultivated the skin in this way and gotten it in a condition in which it will react quickly to the application of cold, he has ~~is~~ ~~so doing~~ wonderfully increased his resistance to disease. When one is able to react to cold in this way he can react in other ways, and thus increase his resistance to disease. That is why cold bathing is so very valuable a means of preventing disease. When a person takes cold baths regularly he increases the resistance against all source of diseases. I might mention ~~a circumstance~~ I was reading about some years ago in an old English work an instance that occurred nearly one hundred and twenty-five years ago. An English military commander had his regiment located on the banks of a river, and suddenly there broke out through the camp an epidemic of typhoid fever. The commander immediately began marching all those soldiers down to the river bank and compelled them to go in and take a swim in the cold water. The result was that in two weeks' time that epidemic was stopped. The soldiers very soon improved so much in vigor and vitality that the epidemic stopped. It was really a very wonderful thing. The epidemic was stopped not by removing the infection but by increasing the resistance of the soldiers. When any epidemic of disease attacks a town it is not everybody who gets sick. Typhoid fever seizes upon the people who ~~are~~ <sup>are</sup> the most vulnerable, and have the least resistance.

Indeed, this is one of Nature's methods by which the weakest are weeded out. It is a means by which Nature secures the survival of the fittest. When we allow the weak and feeble to survive we encourage race degeneracy so it is important to suppress typhoid fever, smallpox, cholera and all these other means by which the feeble were selected and left out. It is highly important that we should adopt means for improving the weak and feeble that are kept alive and the habitual daily cold bath is one of the most effective of these measures.

Q. I am five feet eight inches tall and weigh 112 pounds. Suggest a diet to increase my weight.

A. This young lady wants to get fat and handsome, you see. I know just how to do it. I am a beauty doctor. I feel very proud of the fact that I know many methods by which people of good looks can be improved. In fact, that is what we aim at chiefly in this institution. by improving peoples complexions, you know, and cultivating roses on their cheeks and making their eyes snap with vital fire. We are all beauty doctors here. That is a secret of our success. Beauty and health go together. You cannot have such a thing as real vigorous, ruddy health without the element of beauty involved in it. A healthy person always has an attractive appearance. A diet for gaining flesh is simply a diet which will cause the body to increase its store of fat. Underneath the skin there is deposited a layer of fat. Fat has a number of uses in the body. In general, it is regarded as reserved tissue, tissue that is layed up in store for a day when you do not get to dinner so then you can feed upon this stored up food. You can take a bite off yourself if you do not find anything else that is better. The first purpose of fat is to serve as reserve tissue. The person whose skin doesn't have enough of this reserve tissue is like a railroad train that has not got enough coal to run it to the next station. A plump person is like a

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locomotive whose tender is running over with coal. The thing that is necessary is more fuel. All foodstuffs are fuel but certain ones are particularly valuable for the laying on of fat or reserved tissue. These two elements are the fat and the starches. These serve to make fat but in different ways. When we eat starch this starch is by the body converted into human fat. The fat which is created within our own bodies <sup>and</sup> is exactly adapted to our uses is the kind of fat which the body itself makes out of starch. When one eats fat in the form of fat it is transported into the body and deposited in exactly the same condition in which we take it. If it is fluid fat of the ordinary temperature, that is, oil, it is deposited in the body as oil. If it is hard fat like tallow it is deposited in the body as tallow. If one eats beef fat it is deposited as beef fat. If one eats mutton fat it is deposited as mutton fat. If one eats pig fat <sup>or lard</sup> it is deposited as pig fat. It is a common experiment to feed dogs upon mutton fat and the dog gets rounded out and hard like a fat sheep and such a dog is called a mutton dog because underneath the skin is an accumulation of mutton tallow just like what we find in the sheep exactly. The same thing is true of man. If he eats a great deal of beef fat or mutton fat his body will be filled out with this hard beef fat or mutton tallow.

When one makes his fat out of starch, then it is human fat again. I think I prefer that kind of fat. If one wants to gain flesh, he should increase the amount of food he takes in the form of starch and fat. If one wants to gain flesh rapidly, he should eat a large amount of fat as much as the body can assimilate. The body can take in quite a large amount of fat. The ordinary amount of fat taken is two or three ounces, but the body can assimilate five or six ounces in twenty-four hours. It is particularly important to eat more food than you utilize every day. When a locomotive travels from Kalamazoo to Battle Creek, it puts on coal enough to last till it gets to Battle Creek, and at Battle Creek it puts on enough to last till it gets to Jackson, and at Jackson enough to last until it gets to the next station. Suppose when the locomotive reaches Kalamazoo there is put on twice as much coal as is necessary to bring the engine to Battle Creek, and then at Battle Creek there is put on twice as much coal as is necessary to take it to Jackson and at Jackson the same performance is repeated. By the time they got to Detroit, the coal would be running over into the baggage car. After it was full, if they went far enough it would run over into the smoking car and then would get into the day coach and then into the sleepers until the whole train would be full of coal. That is the situation of the over fat person. On the other hand, a person in whom the tender is almost empty, in order to get this tender full must put on at each station a little more coal than the locomotive used up since leaving the last station, so it will gradually accumulate and collect until the tender is full; so the lean person must take every day and every meal a little more food than his height and his activities require. A person five feet, eight inches tall ought to take for maintenance about 2200 calories; but to gain flesh, such a person should take 3000 calories a day and it should be mostly made up of fat and starch. He won't need to take more than 150 to 175 calories of protein or 200 at the very outside, but he will need to take a large amount of starch and fat. I should say the proportion should be about 200 calories of protein, 1200 calories of fat and the balance which would be somewhere about 1500 calories to

consist of starch.

Question: What are the causes of goitre?

Answer: There are two kinds of goitre. There is what is known as exophthalmic goitre in which the thyroid gland enlarges but does not become exceedingly large and in which the nervous system is greatly disturbed. There is usually a rise of temperature at least on exercise and the heart beats very rapidly and with great force. Sometimes the pulse will run up to 175 or 200. There are marked nervous symptoms and great weakness and depression and a tendency to feverishness. This disease is undoubtedly due to overloading the body with toxins. It is my firm belief that these toxins are generally derived from the colon. It is one the consequences of intestinal autointoxication or intestinal toxemia. These persons have almost universally suffered from inactivity of the bowels and have been quite hearty meat eaters and the cure in these cases consists in putting the patient to bed, giving them perfect rest, relieving the system of the overload of poisons by making the bowels move three or four times a day, and by restricting the diet. I think I will tell you a little story so you will see how affective this method is. When I was in Florida last ~~xxxxx~~ year I went to Ft. Myers and went across the state to Miami for the purpose of doing some literary work. In crossing Lake Okechobee my steamer got stuck in the mud and stayed there for ten days and we had a very nice quiet time. We got to Miami and after a day or two I went out to the postoffice and coming back I found an aged gentlemen waiting for me who was well known throughout the whole United States,--a famous judge<sup>He</sup>--said to me, "Dr. Kellogg, I could not resist the temptation to come to see you, but I wanted to see you to tell you that I had not forgotten you or the debt of gratitude I owe to you and to the Battle Creek Sanitarium for having saved my daughter's life." And he told me the story which I already knew. His daughter had been suffering from this kind of goitre for three years and had been given up to die. Finally one of the leading doctors of Chicago, the late Dr. N. S. Davis, told the judge that nothing more could be done. The young lady had been taken South and all about the country and had consulted various specialists and had been given up as a

hopeless case. The fact had been stated to her frankly. The doctor said she could not live but she must die. The judge said she said, "Now papa, I don't want to die in Chicago. I want you to take me to some quiet place to die and won't you take ~~up~~ me up to Battle Creek for I have heard that it is a quiet place". In those days we didn't have so many hundreds of northern people here. She came and I saw her and I said to the judge, I could tell better about the her case at the end of ten days. At the end of ten days she was much better and we began to take hope. She was really better. In three weeks she had improved so much that we began to see that she was getting well. She went straight on getting better until within three months she was entirely well and married a wellknown New York gentlemen, the president of the New York Yacht Club. Three years later the lady came back to make us a short visit, and a few years later she came back bringing with her three beautiful children, and three years ago I saw an account in the paper that this lady whose first husband had died had recently married again in New York. She was one of the most beautiful and one of the most brilliant of New York society women. Some of you will remember an account of the wedding. As the lady stood up to be married, a string of pearls hung about her neck, was so long that one end of the loop fell upon the floor and four policemen stood near by guarding a million dollars' worth of wedding presents. This woman first came here about thirty-two years ago as a patient and she is enjoying the most splendid health today. She did not take one drop of medicine. She did not have any kind of surgical operation performed, but simply adopted the simple diet--the non-flesh diet--increased the activity of the bowels in connection with simple applications of galvanism and other simple measures. I have seen a large number of people get well of this disease in the same way. By the application of the X-ray in these cases, the increased amount of gland tissue which is present can be reduced, so a much more rapid cure can be affected. A very common method of treating these cases is to perform a surgical operation and I think there are some cases in which an operation is necessary, although in my opinion, the principal cases



in which surgical operations are required, are those in which the patient is not willing to exercise the time and patience necessary for a cure by non-surgical measures. I believe that almost every single case could be cured by non-surgical measures, perhaps every case by combining with these dietetic and other measures with which we have cured many cases, the application of the X-ray which also has cured many cases alone by itself. Putting these measures together, I believe that practically every case may be cured. There might be some exception to that but I am strongly inclined to believe that <sup>none</sup> ~~many~~ of these cases need to be operated upon; and I think there is some ground for apprehension that in time it will be discovered, that the operation in these cases may possibly do harm. The effect of overwork on the gland is to by and by produce degeneracy. If an operation is performed and nothing is done to remove the causes of the disease, that portion of the gland which remains will be overworked more than ever. It is a poison destroying gland and nature makes it large only because there is a large amount of poison circulating in the blood that must be removed. If part of the gland is removed by the operation the remaining part will have to do all the work that the whole gland did before and the result will be it will be overworked and by and by degeneracy will set in, then there will be a deficiency of the thyroid gland. A man called at my office about eight weeks ago and said, "Doctor, now I have taken my wife to various specialists and nobody can tell what is the matter with her. I don't believe you can tell anything about it either, but she insisted on my bringing her here. I don't believe any doctor knows anything about her case." I said to him, "I know already what is the matter with your wife." I had not examined her but had only looked at her, but I said, "I know right away now what is the matter with your wife. She is suffering from myxoedema." Her tongue was thick and she looked as though her face was swollen, but it was not swollen. Her hands looked as though they were swollen up, but they were not. She looked as though she had dropsy, but she did not have it. Her movements were all slow. Her speech was slow. She stumbled in her speech. Her tongue seemed to be thick

and I immediately began to remark about it. Her thyroid gland had disappeared and there was a hollow place in her neck where the thyroid ought to have been. This lady was cured by simple treating her with the dried thyroid of a sheep. She took two grains of this powder two or three times a day and in a week she was another woman entirely. At the same time the diet was changed, meat was withdrawn, the bowels were made more active, her regimen was modified and I met her a day or two ago and didn't know her at all she was so entirely changed. This is the condition of a person when the thyroid gland has wasted away, and I am sure that in the course of ten or fifteen or twenty years from now, there will be a great crop of these patients in different parts of the United States who have had half of their thyroid gland removed and are now calling for more thyroid gland and will have to depend upon sheep thyroid to keep them alive. There is another kind of goitre which is not accompanied by these nervous symptoms but in which there is simply an enlargement of the thyroid gland. Sometimes a large mass grows down under the sternum and compresses the trachea, the large air tube that passes down into the lungs through the throat. This sometimes compresses the esophagus and makes difficulty in swallowing and drinking water. Sometimes it compresses the large arteries and produces vertigo and makes a person feel very uncomfortable. Sometimes this effect is so pronounced that a person is not able to lie down but becomes nearly suffocated when doing so. A man's wife brought her husband here because he had not been able to lie down for three months and he made so much noise breathing in the sitting position that he kept the neighbors awake, and he had to be operated upon for the benefit of the neighbors. Of course, he was interested in his own case himself also. It was necessary to remove a mass as large as my two fists. When we got down to the trachea, it was only about half its normal size. The mass had grown around the trachea, compressed it until the air could not pass through it without considerable noise. It was a great satisfaction to be able to relieve this man. This form of goitre seems to be due to some sort of parasite, perhaps vegetable parasite. It is found to be present in connection with cancer. Fish

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of various sorts which get cancer have thyroid enlargement or goitre and the goitre afterwards becomes cancer. The cause of goitre is finally found to be in water. This has been pretty certainly determined. It is an infectious disease too. It gets into the water and is spread by means of the water. In India there is a certain stream where there never was any goitre until some people from a neighboring region who had goitre were brought in and settled along the banks of this stream and in the course of the next twelve or fifteen years, goitre appeared all the way down that stream. In the course of twenty years a great number of cases appeared all along down the stream where there never had been goitre before these people who had moved on to the territory adjoining the stream further up had settled. This is a matter of observation by a very eminent British officer in India and I think there can be no doubt about the liability of the statement made; so it is very important to investigate the water supply where ever people are found to be suffering from goitre. ~~This~~ If goitre is very prevalent in your neighborhood when you go home, insist upon the water being examined. There are places in Switzerland where goitre is very common. At Lieterbad in the mountains, the water is collected from hot springs in great tanks and men women and children and poodle dogs all go into the tank in the morning about seven o'clock and stay there until about 1 o'clock in the afternoon. A man in ~~add~~ attendance at the baths explained that the diseases antidoted one another because there were so many different diseases there. They combined with the electricity of the water which exploded the diseases. Great numbers of people in that place have goitre. The people go about the streets there with goitres so big that they actually hang down to their waists. They have slings and bandages around their necks to support the weight of the goitre. They often compare notes to see who has the biggest goitre. These people are unfortunate creatures because they are mentally depreciated as well as suffering from this enlargement. When the matter was studied closely, it was found that these people got their water from certain places and that people who got water from other wells did not have goitre. Experiments were made with fish and it

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was found that when water was obtained from the so-called goitre wells and the fish were put into it, within a few moments they developed goitre, whereas fish kept in water from other wells did not get goitre. So goitre seems pretty clearly to be due to infected water. If there is a good deal of goitre in the district where you live at home, insist upon a careful investigation of the water supply. Get some trout from the Government. Make a large box and arrange so that the water supply of the town shall, some of it, run through that tank and in the course of a few months if there is anything bad about that water, those fish will get goitre too.

~~What~~  
Q--Food or combinations of food are especially liable to cause fermentation and gas?

A--There is a very wrong idea upon this subject. People who suffer from fullness of the stomach imagine that it is due to fermentation of food, whereas this is a very rare thing. The fermentation of food in the stomach is the very rarest kind of thing or that gas in the stomach is due to fermentation. It is only persons who have enormously dilated stomachs with obstruction at the pylorus and people who have cancer of the stomach so that the stomach has retired from work and really does nothing to the food, it is only such persons who suffer from fermentation. It is really a very rare thing. What is the cause of gas then? I expect you will all say it is nonsense when I tell you it does not come from food at all but is simply air that you have swallowed. You say, "I know better because at first I began to feel wretched and then gas begins to come up and keeps coming up and I didn't swallow it". But that is just what you were doing then and that is what I was doing. I have a thousand times said to such a patient, "Show me how it works" and they proceed to swallow air. You cannot make anybody believe it, but Dr. Case who has been studying a large number of these cases in the X-ray room where he has an opportunity to see everything that goes on can watch the air as it goes down, can see it enter the stomach. Air is black as midnight to the X-ray and it is easy to see. Dr. Case says he has examined 100 consecutive cases of persons who complained of gas in their stomachs and in every single one he found that when the patient thought he was

raising gas he was simply swallowing air into his stomach. The truth of the matter is that there is a kind of discomfort here in the stomach. Air taken into the stomach will often set up a real severe colic. It does not remain in the stomach but goes along way down into the intestine. A short time ago we had a case in which the patient swallowed so much air that the whole intestines were swollen with air that had been swallowed. Discomfort appears in the stomach similar to the sensation of hiccough which causes a reflex movement by which air is sucked into the stomach when one thinks he is really raising air from the stomach. Sometimes after the stomach has been pretty well bulged out, there will be a certain out rush of air from the stomach. In such cases, of course, there is some air actually raised from the stomach, but when the patient thinks he is raising air from the stomach he is in 99 cases out of 100 at least drawing air down into his stomach. When a horse has that trouble in the west, they say he is a wind sucker or a cribber or a stump sucker because he bites the edge of a stump real hard and then sucks air down into his stomach. The very fact that you set the teeth together as the horse does in laying hold of a stump or a crib is proof that you are swallowing air instead of raising it from the stomach. When you eat starchy food, you are likely to have this trouble if you have hyperacidity. When you eat meat it absorbs the hydrochloric acid just the same as ~~xxxxxx~~<sup>soda</sup> will do it. It combines with it so that it neutralizes it and consequently when a person has hyperhydrochloria, he feels never so comfortable as when he has eaten a good big beefsteak and he is immediately comfortable right away because the meat has neutralized the acids, but that beefsteak stimulates the stomach to make more gastric acid than ever, so the trouble is aggravated continually by the thing which seems to be a remedy. Starch does not neutralize the acid, so a person~~ks~~<sup>whose</sup> stomach makes too much gastric juice, if he eats starchy food has a very sour stomach and a burning in the stomach and he thinks the food has soured. It has not soured at all, but it simply has not neutralized the acid that was there. You say, "How am I going to cure that condition?" And Go right on eating cereals foods and continuing to abstain from meat?" You say, "I never can endure this acidity." You don't have too. All

that is necessary is for you to add fat in sufficient amount to the cereal food, put with it a sufficient amount of butter and that will prevent the stomach from making the acid. A tablespoonful of olive oil at the beginning of a meal will neutralize the acid. Prof. Pawlow of St. Petersburg made that wonderful discovery. If you take any other kind of food into your stomach, the stomach will make gastric juice. If one even drinks a pint of water, it will cause the stomach to pour out HCl in abundance, but oil and particularly olive oil will cause the stomach to stop making gastric juice right away. It will stop entirely, so when a person has hyperacidity, it is very important to take olive oil. If you do not like it, you must learn to like it. There isn't anything else that will take its place. Fat will cause the stomach to stop making so much acid and the cereal foods will furnish nourishment for the body and it will act as a soft poultice if you please, for the sore of the stomach. It will no longer be irritated and will get a chance to heal, so it is very important that the dairy diet that you think sours in the stomach and produces this condition that is causing you to swallow air is the diet that is best for you to take. It is the very diet that will cure that condition if you will persevere in the use of it, but you must add olive oil and good butter. Be very careful that you do not eat anything but good sweet butter made from sterilized cream. Ordinary commercial butter will never do at all because it has a little strong taint in it. That little butyric acid is the worse thing you can possibly put into your stomach. It will excite the stomach even worse than beefsteak. It causes the stomach to make a highly active acid gastric juice. Why? Because the rancid flavor is an evidence of putrefaction. HCl is a disinfectant and when you take old butter with a rancid odor of butyric acid in it into your stomach, it is a notification to the body that there is something rotten there that needs to be disinfected, and so it pours out the strongest kind of gastric juice to disinfect it, so it is very important to be careful about butter. The only condition under which commercial butter can be used at all is that it should be thoroughly worked over with water, washed again and again.

The proper way is to buy good sweet cream, boil it, then churn it and then you have good sterilized butter. Do not eat much salt either because it is irritating and increases the acid production.

Q. Can there be a scientific cause for a person being absolutely unable to eat sugar in any form even fruits and the sweeter vegetables such as beets, carrots and corn? This distaste dates from infancy.

A. This is simply an idiosyncrasy and an idiosyncrasy is not scientific at all.

Q. What is the cause and cure for specks and various transparent bodies floating before the vision?

A. The eye is a ball filled with transparent media. We look out through these transparent media which act as lenses for the eye. When we have these floating specks it is because some fragments of the lining membrane of this lobe have gotten loose and are floating through this transparent media. You will notice that if you turn the eye suddenly in one direction that these specks will come floating along afterwards. They will seem to be moving in the opposite direction from the deflection in which you move your eye.

Q. Can it be cured?

A. Not always. One thing should be mentioned and that is the practice of rubbing the eye hard is objectionable because it causes a dislodgment of these little particles that ~~may~~ float in the eye in this way. People who have inflamed lids and rub the eye are likely to suffer in this way because of the slight injuries done by the rubbing.

Q. When the source of infection is removed in arthritis to what extent can the stiffness of the joints be overcome?

A. If the joints have not become actually set by a bony union it can generally be limbered up but if the bones have grown together, nothing but a surgical operation can afford relief and that does not always effect a cure.



Q. Can the laboratory make successful examinations of excretions when the blood is sent from a distance?

A. Yes. These examinations can be made provided the specimens are properly prepared.

Q. What is the cause of a drop in the hemoglobin from 94 to 84 over a period of six months while living the simple life?

A. Such a change is not significant at all. Such a change might be produced by losing one hour of sleep. If you are accustomed to sleep late hours and only get six or seven hours' sleep the next morning the hemoglobin will go down a little because we make blood while we are asleep. I know a New York doctor who became so acute in the examination of the blood that he could tell whether a person had lost an ounce of sleep the night before or not, at least he claimed this ability.

Q. Is there any reason for a rise of six points in blood pressure while living here at the Sanitarium?

A. A rise of six points in blood pressure may be beneficial or it may be entirely immaterial. It is really not worth talking about because a rise of six points might come simply from a change of position. If, for instance, you are lying down and your blood pressure was taken and then you stand up on your feet the probability is that your blood pressure will rise six to ten points. That is simply a slight change that occurs from ordinary bodily exercises. If you will take the blood pressure before dinner and again after dinner it will be up six or to ten points after dinner. The blood pressure changes at different times of the day. Changes in the barometer will cause a little change in the blood pressure so a slight change of six or eight points does not account for anything unless it is progressive and continuous. If it is six points higher today than it was yesterday and a week from now six points higher and in another week six points higher still, that, of course, would be significant. On the other

hand, if it is coming down a few points steadily, week by week, that also is significant but a single examination could not be relied upon as an indication of any pathological condition.

Q. Are the phosphates in bran assimilated?

A. Yes. The phosphates of cereals are assimilated. The phosphates you dig out of the ground are not assimilated. Dr. Ringer of England showed nearly forty years ago that when one takes twenty grains of phosphates in the form of medicine, not more than one grain at the most will be assimilated because he could recover nineteen out of the twenty grains whereas a large part of the phosphates taken in the food which are organic phosphates, organized phosphates, entirely different from the inorganic compounds, these are almost altogether assimilated.

Q. Do many surgeons perform the operation of making a new ileocecal valve?

A. This is rather a modern operation and it is coming into vogue. I have heard of several Chicago and New York doctors who have performed the operation and in five years from now I think there will be a great many performing the operation.

Q. What is the best treatment and cure for muscular rheumatism?

A. Hot fomentations and massage are the most valuable measures for immediate relief. For permanent relief we must remove the cause. A low protein diet, increased activity of the intestines which improves the body as a whole are the most effective measures. Milk and eggs (hard boiled) with starch or flour known under the name of cakes, such products as the National Biscuit Company's products are, in my opinion, the cause of goitres, inflammation and pus formation. Am I right?

A. I should hardly be willing to subscribe to all that. I am afraid the National Biscuit Company would have me arrested for defamation of character and sue me for damages. As a matter of fact, however, a large

part of our chronic troubles are due to our wrong eating and some of the errors mentioned here are certainly very meretricious.

Q. What rules should one follow to control the appetite for food to conform to the necessities of life?

A. It is a fact that most of use eat too much. The majority of people eat a great deal more than they need. There are thousands and thousands of people who are dying from over-feeding where there is just one who dies from actual starvation. The Chicago senator sometime ago estimated that in his lifetime he had eaten eighty-four wagonloads more than he ought to have eaten. The average man or woman eats his own weight every month. Suppose you weigh 150 pounds. Five pounds a day, you see, will equal your own weight in a month. It is quite easy to eat your own weight in a month. The average man eats at least his own weight every month and that is five times his own weight every year. That is a whole lot, isn't it? So the average man or woman eats about a ton a year. That is quite a lot. Suppose you ate twenty-five per cent. more than you ought to, then in four years you would have eaten a ton more than you ought to have eaten and in forty years it would be ten tons. If one ate twice as much as he ought to, you can see it would pile up very rapidly.

Q. What shall one do when he has more appatite than he needs?

A. He can do some things that will be really very valuable. One of the first things is to eat hard, dry food so that he will have to masticate every bit of it and chew it very thoroughly. The majority of people who eat too much do so because <sup>their</sup> ~~they-are~~ eating gets rid of an instinctive reflex which tells them when they have taken enough. When we take food into the stomach very shortly some of it is digested and absorbed and it reaches the hungry center and gives notice that food has come in time so that we stop eating before we have eaten too much. If one sits down at the table feeling as though he never could eat enough, if he has such a tremendous appetite, in half an hour or even fifteen or twenty minutes

you wonder if you could ever have wanted food at all and feel as though you never wanted to eat a meal again as long as you live. That sense of hunger is entirely gone. Your appetite is satisfied completely and you forget how it feels to be hungry. What makes that sudden change? The food is still in your stomach. It has not been assimilated or digested but a small sample of that food has been digested, taken into the blood and gotten into the circulation and the body has been notified that food has come and your wants are supplied so the stomach is notified not to take any more food and it shuts up and refuses to admit it. When one is eating, when he first begins to eat, the stomach is not a large open cavity in which the food is dropping, but when one is eating the food is taken into a shut pouch and as a little morsel comes in it is seized, taken hold of and then another one comes in and that is taken hold of and the stomach keeps relaxing a little more and more as the food comes in. Sometimes it feels as though you could not take another morsel but after chatting a few moments you are just as hungry as you were before so people who have small appetites remember that and give your stomach time to dilate. If a person eats heartily he may get his stomach crowded full before the body has had time to say enough, you see, so it is important to eat slowly and to eat dry, hard food that requires constant, hard, long chewing and that is almost a complete remedy for eating too much. Another thing of value is, if you are prone to eat too much, take something fat at the beginning of the meal such as a tablespoonful of olive oil, for example. That lessens the amount of gastric juice to be produced and that will lessen the appetite somewhat because Prof. Pawlow has proven that appetite means juice. There is a close association between gastric juice in the stomach and appetite. By taking the oil this juice is produced and there is less appetite. Another plan is to take a little food half an hour before meal time. That will be digested so the notice of satisfaction will <sup>come</sup> sooner you see and it will generally

take the edge off the appetite a little.

Q. If the lips are blue in the morning does it signify low blood?

A. No. Not at all. It simply means the surface vessels are not very active. A little exercise in the morning before breakfast will relieve that. Exercise in the gymnasium will be sufficient. Exercises for strengthening the abdominal muscles by raising the legs and arm exercises will be of service.

Q. Is thirty minutes' cooking sufficient for Quaker Oats?

A. I would not cook Quaker Oats at all. Steel-cut oats are better for the reason that they do not form a sticky mush. Steel-cut oats should be cooked six minutes; no more. You will be surprised to see what a nice little tasty dish you get with steel-cut oats cooked six minutes. Stir it into boiling water and let it cook until it thickens; then set it away to simmer for five or six minutes and you have a most perfectly prepared breakfast cereal. You do not want it entirely cooked. Oatmeal should never be thoroughly cooked. When it is long cooked it becomes paste and that will roll up into balls in the colon and produce one of the very worst forms of constipation. For many years oatmeal has been forbidden by some of the most eminent specialists of the world but simply because it is made pasty by long cooking. A breakfast cereal should never be cooked more than six or eight minutes. Why? Because it is important to carry into the lower part of the intestine some raw starch. The raw food faddists have done some remarkable things. A number of people have been almost resurrected from the grave by living on the ~~kamx~~ <sup>raw</sup> diet and the reason why is because such a diet was better than the diet they had been taking before but it is not necessary to live on raw potatoes and raw oatmeal. The Scotch cook brose by putting some oatmeal in a pan of boiling water and stirring it up. It is hardly cooked at all.

in twenty

Q. You state that one ~~kamx~~ in this country is affected with

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cancer.

A. No, I stated that one in twenty dies of cancer in this country. That is what the statistics of the United States Census Bureau show.

Q. You state as though there are now three hundred thousand persons so afflicted?

A. We have a population of one hundred million according to the latest estimate. The number afflicted with this terrible disease will be one in three hundred and thirty-three instead of one in ten. One in twenty dies of cancer but there are three hundred thousand who suffer from this disease.

Q. Is your Yegurt related to the Bulgarseoon served in Child's restaurant?

A. I do not know anything about Bulgarseoon. I know Yogurt has a perfectly authentic and respectable history and I must tell you something about what it is. I first learned about the bacillus *Bulgaricus* about ten years ago. In Paris I called upon one of my friends and said, Doctor, "What is new?" He said, "You must see Dr. Combe in Lausanne. He is doing most wonderful things in treating auto-intoxication. Then you must see Metchnikoff who has made some wonderful discoveries." Metchnikoff had just published a book on the nature of man and I read this book and found he had been making experiments with the bacillus <sup>A</sup> *Bulgaricus*. The young man in Geneva had been studying sour milk from Bulgaria and had found in it a new bacillus that made a larger amount of lactic acid and grew more steadily than any other sour milk germ or lactic acid producing germ that was known. Prof. Tissier of the Pasteur Institute had taken this germ and made a study of it and had discovered that this germ, when taken into the intestine in sufficient amount, would change the flora of the intestine and cause the wild germs of the intestine to disappear and so would change entirely the character of the intestinal

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contents. I obtained from the Pasteur Institute a supply of these germs, brought them to this country and I think we were the first to propagate them in this country. We began raising them in our laboratory. After a while I made an experiment. I put some into milk and produced Yogurt buttermilk of what is called Yogurt in Bulgaria. I put a beefsteak into a jar of this Yogurt buttermilk and that beefsteak has now been there for eight or nine years and is perfectly fresh and sweet as it was when it was put in there. It has not undergone the slightest decomposition. I will be glad to show you this beefsteak. You will be surprised to see that it is preserved as perfectly as though it was right fresh from the butchers. It is just as tough as it was originally. I wanted to make sure that I had some good germs. They came from Metchnikoff's Laboratory but I thought they might have been spoiled in the laboratory so I sent the Dr. Clark a friend of mine in Sophia, Bulgaria, for some of the original germs and he sent them to me. We cultivated them and put the two together. A short time afterwards a missionary arrived here who had been located for forty years at the foot of Mt. Ararat in Mesopotamia and he brought with him some of the germs that are used there. He said to me, "I believe I have got a better strain on these germs than you have. It makes a better flavor than yours. Here is some that my daughter very carefully tended all the way over from Mesopotamia so she sent me some. He told me a story about it too. He said that in Mesopotamia ~~that~~ the natives say that Noah brought these germs over in the ark and it seems very reasonable because Noah lived to be nearly a thousand years old and he must have had some longevity germs to help him out and if he had such a good thing, he certainly would not have left it behind so it is very evident that these germs were brought over by Noah in the ark and we added them to our collection. Sometime afterwards I had word from a friend in India, away up in Darjiling, in the Himalayan Mountains, and he said, "I find the natives here are using a sour milk which they call Dhaddi and it seems like the Yogurt buttermilk you gave us

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at the Sanitarium so he sent me over some. We found in this the very same germ. It was very large and vigorous so we added that to our collection. I was in Edinburgh some three or four years ago and I met there a very brilliant surgeon from Iceland and he told me about a wonderful germ they had there that cured intestinal trouble and they used it in milk to preserve the milk in the winter time. In the fall they make up barrels of Yogurt buttermilk with this particular germ and when they have intestinal trouble and awful bilious attacks they live for three or four days on the Yogurt buttermilk and it cures them. It goes by the name of skyr. This was found to be an almost certain cure for serious intestinal troubles. He sent me a sample of the skyr and we found the very same germ in it only it was still larger and more vigorous so we added that to our collection so you see our Yogurt buttermilk is really very cosmopolitan. There are germs from the Pasteur Institute, germs from Bulgaria, germs from Mesopotamia that came over with Noah in the ark, germs from India, germs from the Himalayan Mountains and germs from Iceland and so we have all kinds of germs that the world knows anything about so far.

Q. For a woman with high blood pressure, what is the proper regimen in regard to diet, exercise, baths, etc?

A. The important thing is, first of all, to be careful to take a little less than you want rather than a good deal too much. An excess of food means an excess of blood and that means increased blood pressure. It is very important to eat highly laxative foods so that the bowels will be very active because pressure-producing poisons are produced in large amount in the colon and absorbed into the blood. Old age begins in the colon. Don't forget that. Professor Metchnikoff showed by a study of all classes of animals that the animals with the longest colons have the shortest life, and he takes the position that the colon ought to be removed. He said we have already begun to remove it by cutting of the appendix, and if we keep on after awhile we will remove the whole colon and after a time perhaps the colon will cease



to occur. I do not think he is right about it for the colon is a very useful organ, but it needs to be reformed. Old age begins in the colon so the first thing of importance for a person with high blood pressure is to see that the bowels have the normal rhythm which is three full complete movements everyday, or one after every single meal without any exception at all and ~~if~~<sup>for</sup> a person with very high blood pressure it is better to have four movements a day instead of three so as to be certain that the bowels are completely emptied of these poison-forming materials.

"But won't that weaken a person" you say. Would it weaken you to get some fresh air when you need it? I said to a gentleman who thought it would be an awful thing to have his bowels move three times a day, "Suppose ~~his~~<sup>your</sup> bowels should move and instead of being removed, the contents should be left in a corner of your room so that the whole room was perfumed with the effluvia from this bowel movement, and you stayed there shut up in that room and breathed that perfume, say all day, what would be the effects of it?" "Oh it would give me an awful headache", he said. Now then this is diluted with all the air of the room, the window is open occasionally and it is a good deal diluted. Suppose it had remained in your body instead of being out of the body in the room? You would have got the whole of it in concentrated form. The material that is discharged from the colon contains the most horrible poisons and is the most damaging excretion the body has to dispose of. It contains the bile which is six times as poisonous as urine, ~~but~~<sup>yet</sup> the bladder is emptied regularly and frequently through the day. The bowels ought to be emptied just as frequently because there is the secretion of the liver which is greatly increased after every meal. A pint of bile or more is poured out every day and it is the equivalent of three quarts of urine in poisonous properties, and this can be disposed of in no way except by regular movements of the bowels. A person with high blood pressure should see that the bowels move three, four or five times a day. The poisons which produce the movement of the bowels in diarrhoea make you feel weak, ~~but we increase the~~<sup>but we increase the</sup> activity of the bowels in order to get rid of the poisons. A low-protein laxative diet and a great deal of moderate exercise are essential. Golf playing is a capital thing. I played my first game of golf today. My good friend, Dr. Rogers, insisted

on carrying me off and teaching me how to play the game. I got sunburned so I will never forget it. It is splendid exercise particularly for persons with a tendency to a rise of blood pressure because it is not too violent. A person with a tendency to high blood pressure needs a great deal of exercise by no violent exercise. Moderate exercise lowers blood pressure while violent exercise raises blood pressure. Exercise lowers pressure by dilating the vessels of the muscles and getting the blood into the muscles. It also strengthens the heart. Neutral baths are the best, not hot baths. An electric light bath for three or four minutes followed by a neutral bath is a most excellent bath for high blood pressure.

Q--How can one remedy an anemic condition of the blood?

A--Sunshine, fresh air and a vegetable diet which furnishes the body with a great amount of assimilable iron. A large amount of iron is found in the green leaves of lettuce and in spinach. The New Zealand spinach is the best of any sort, but all vegetables contain iron. Milk contains practically no iron at all. That is the reason a person cannot live indefinitely on a milk diet. Strawberries and other fruit contain a large amount of iron.

Q--What <sup>bread</sup> should one eat who is suffering from hyperacidity.

A--It is better to avoid bread and take all food in the form of a puree that does not require chewing at all, and taking plenty of fat with it.

Q--If one accidentally swallowed small particles of glass, would harm result?

A--Probably not, but as a special precaution, it is well to eat very freely of potato and vegetable purees of various sorts. This will surround the little particles of glass and prevent injury. Even pins and needles rarely do any harm when swallowed. Nature does wonderful things. For example, when a baby swallows a stick pin, you need not be scared about it. Nature knows exactly what to do with it. Suppose it is sticking into the wall of the intestine. As fast as the pin get in, the wall gets thick ahead of it and the pin doesn't get a chance to get through. The intestine pushes the pin over so that ~~it is~~ by and by it is facing down the intestine head first and all is well. This is not theory. Prof. Rosier(?) of Paris experimented upon animals and demonstrated this wonderful thing. The instinct that resides in the intestine. He found the intestine would do that when all the nerves

that connected the intestine with the brain and spinal cord were cut off and the intestine was isolated completely as though it were a separate animal.

Q--What is the best diet for an anemic person with nervous indigestion?

A--Take the diet you find on the tables upstairs, the Battle Creek Sanitarium diet, a simple diet of simple food, particularly fruits and vegetables of all sorts. The all contain all the elements necessary for building the body up.

Q--What is the cause of a girl of 22 years becoming depressed and hysterical?

A--Unfortunately some people are born with weak nervous systems so that they react too strongly to ~~max~~ <sup>the ordinary</sup> stimuli with which we come in contact in our daily experience. I remember one such girl who was walking down the hall here and ~~the~~ <sup>a</sup> door slammed, and she fell down upon the floor as though she had been knocked down. Her heart stopped for a moment and her face turned pale. Such persons need to be reconstructed. That young woman by careful discipline got pretty well, enjoyed pretty good health for quite a number of years, but ended up in the insane asylum about twenty years later because she could not stand the wear and tear of life contact with various special emergencies which she encountered. Such persons are born neurotic. They generally inherit this condition. A natural, simple outdoor life in which the body is never over stimulated but is always kept in as quiet a state as possible and all the functions maintained as healthful as possible is about the only thing that can be done and in the majority of cases this sort of treatment will enable such a person to live a very comfortable life.

Q--What is the cause of disinclination to rise for the morning shower and exercise and how can same be conquered?

A--The best thing will be to make a contract with a good steady nurse to arrive at your room at the proper time in the morning with a towel wrung out of ice water and rub it up and down your spine a few times. I think that your lethergy will disappear and you will feel like getting up and doing something like enough.

Q--After a baby has been fed through a stomach tube until fourteen months of age, will she ever learn to take food naturally?

A--If the child has ordinary intelligence, there is no reason why it should not very soon begin to take food in a natural way.

Q--Are bananas and ~~xism~~ roasted peanuts proper food for a person suffering from diabetes?

A--Some diabetics do better with bananas than almost any other form of carbohydrate food. Roasted peanuts are not the most digestible form of peanuts. The peanut may be cooked thoroughly without being roasted. When it is roasted it is likely to be somewhat burned and the burned fat of the peanut is very indigestible. It should be very lightly roasted and then is a very wholesome.

Q--Are cold baths detrimental to one afflicted with heart trouble?

A--They are of the greatest benefit but must be given very carefully.

Q--Is ice cream a laxative diet?

A--No. The ice cream is rather an objectionable diet. There is no objection to ice cream if it is properly eaten, but it must be very thoroughly masticated and it ought to be well sterilized before eating.

End.

v-p

Q-U-E-S-T-I-O-N B-O-X L-E-C-T-U-R-E

At the Sanitarium Parlor, Battle Creek, Michigan, Monday, September 20, 1915 at

8:00 P.M.

By

J. H. Kellogg, M. D.

Question: Why is it that all the food I eat seems to turn to flesh and yet I feel so weak:

Answer: Scientific investigations in recent years have shown that there are some people who have a particular facility for taking on flesh. These persons do not burn up their food material as other people do. Food is fuel. Food is to the body just as coal is to the locomotive. Some people do not burn up their fuel readily and there is a tendency for the fuel to accumulate, just as though a locomotive did not have a very good draft and the fireman cannot make the furnace burn the coal up. Supposing at every station a regular amount of coal is taken on to the tender of the locomotive. The consequences, the tender gets full and running over, and then the baggage car gets full and runs over into the day coach and the smoking car and so it continues until the entire train is filled up. That is what happens to people who do not burn their fuel well. They eat as much food as those who do burn their fuel better and in consequence there is an accumulation. There are two things to be done. First, to eat less food. How much less? It is only necessary to weigh once every day and each day eat a little less and a little less until you find that there is no further increase in the weight. If one is weighed every third day, for example, and finds an increase of half an ounce, an ounce or two ounces, then the food should be diminished. Here is a very important point for such persons. It is not necessary to diminish the bulk of food. People sometimes do themselves very great harm in reducing the ~~quantity~~ bulk of the foods the same time. In order to keep the bowels acting properly, it is necessary that a certain bulk should be eaten every day and every meal. Every meal is an independent and definite problem for the body to work out, so each meal must be provided with proper bulk. So when

a person wishes to reduce weight or to prevent excessive weight, if he reduces his food, he is likely to at once begin at once to suffer from inactivity of the bowels, and to suffer more from that cause than from the obesity itself. I have met many such cases. The remedy is to be found in increasing the bulk of the food rather than diminishing it. When we say "increased bulk", we are not talking about quantity of nutriment but about mere mass of food, the size of the meal rather than the amount of food contained in the meal. There is a very great difference in the food value of various substances. For example, for a day's ration of cabbage, one would have to eat somewhere about fourteen or fifteen pounds or about half a bushel. That would be more than it would be possible for the human stomach to contain, but for a day's ration of fat, for example, if one should take all his food in the form of fat, he could not take more than about half a pound. Eight ounces of fat would supply 2000 calories, so it makes a ~~great deal of difference~~ <sup>great deal of difference</sup> what ones eat. If one were to eat oatmeal reckoned with dry oatmeal, not made into mush or dried cornmeal or dried rice, it would require about a pound to a pound and a quarter. A pound of corn meal would amount to more after it is cooked than one might think. Sometime ago, a medical student made a wager that he could eat a pound of cornmeal at one meal, so the cornmeal was made into a mush and it made a big kettleful of mush. He ate breakfast and there was still a large quantity left. He ate dinner, at supper and still did not seem to make much impression upon his pot of cornmeal mush and it took him three whole days living on nothing else at all to consume his pound of cornmeal made into mush. At least three-fourths of our vegetable foods consist of water, as cooked thick cornmeal mush contains three-fourths its weight of water, so we have to consider that when estimating the size of a meal. A person with obesity should eat a great deal of such food as lettuce, celery, cabbage and cucumbers, spinach and greens of various sorts, turnips, parsnips, beets and fruits. It is a good plan to begin the meal with these foods and to eat largely of ~~bulky food~~ bulky foods at the beginning of the meal. The result will be, the amount of food taken may be lessened without any inconvenience because it is the quantity or bulk of food taken that satisfied the stomach rather than the quality. The amount of food taken into the stomach is the thing that produces the sense of satisfaction.

One must take a little fat with the meal. The fat of all the different food elements possesses most of all the quality of producing a sense of satiety or satisfaction. Sweets or carbohydrates do not produce the sensation. That is the reason why some people when they discontinue the use of meat feel a sense of something lacking. It is because of the fat that goes with the meat. When they discontinue the use of meat, they <sup>should</sup> take a little more butter or olive oil. This will supply entirely the loss that is felt so there will be no sensation of lack of satisfaction. So this patient should live very largely on coarse vegetables. It will be found easy to reduce the weight if one adopts the plan outlined. Just a little taste of butter and cream should be used for fat, no bread at all or nothing more than a little crust of zwieback at each meal and using potatoes very sparingly. Half of a medium sized potato or a very small potato once or twice a day is all that should be taken.

Q--Is the drinking of mineral water to be recommended in the treatment of disease of any sort? especially of the kidneys?

A--No it is not to be recommended at all. There is no greater fraud perpetrated upon the American people than the trade in mineral waters. I do not know of any way in which the American people are being more thoroughly swindled and openly and basely swindled than in the use of mineral waters. If a man finds on his farm a spring that the cattle won't drink from, or if they do drink from it, it makes them sick, he immediately builds a fence around it and advertises it as a famous mineral water. He puts it up in bottles and sends it around the country and if it has to a sufficient degree the taste of the sea and the smell of perdition in it, it very soon becomes famous. The brimstone or sulphurous flavor of the water and the salty taste will make almost any spring famous. Cattle that drink such water are made sick and they avoid it, but people will actually pay for such water and take it. If such water was given to people, they would not take it, but they will spend fifty or one hundred or a thousand miles and pay fifty cents a bottle for it and feel that they are fortunate in being able to get hold of it. I remember some years ago a gentleman who heard of the famous water at Mt. Clemens. They have there a well that was bored for a salt well many years ago. They found water which contained a large amount of

salt but it contained also other ingredients, other impurities in such large amount that the salt could not be extracted profitably. It was so expensive a process to get rid of these impurities in the water that it was impossible to make a profitable salt industry there. What to do with this well, they didn't know. I remember very well, for several years various men tried to exploit it. I was very well acquainted with one man who spent several years there and <sup>really</sup> got the thing started. This effort finally succeeded through advertising in creating a great reputation. People went there to be treated for rheumatism and a good many people got well. I was talking with one man who gave baths at such a place and he thought the reason people got well there was because they stopped drinking whiskey and began drinking water instead; and another reason was that they got relieved of some impurities of the skin. He said he found half a pint of dirt in the bottom of the tub after giving one man a bath. People are benefited by baths in these hot springs. If they had taken hot baths at home, they would have been benefited just the same. We had a patient here who had a bottle of water sent up ~~to~~ here from Mt. Clemens. As soon as it got here we had the package opened in the office, he raised the bottle to his lips and took a good mouthful of it. The directions are: to put one tablespoonful into a tumblerful of water and sip it slowly. He drank it straight from the bottle and it was a very unpleasant dose. He ~~threw~~ threw the bottle straight across the room. He had had enough of mineral water. Mineral water is simply minerals or drugs in solution and the most common ingredients of mineral waters are common salt and sulphate of ~~magnesia~~ magnesia--two very common drugs. The sulphate of magnesia gives the mineral water a slightly bitter taste. These waters are unquestionably the most popular of all mineral waters because they produce activity of the bowels and this is what the great majority of people are drinking mineral waters for. It is to stimulate the bowels to activity and they do this but the effect of taking these minerals, day after day, week after week, and month after month is to wear out the stomach, to disturb the function of the stomach so that it is no longer able to produce the proper amount of gastric juice. By and by comes colitis which is an extremely common result from the use of these mineral waters. Colitis is almost universally present in people who have long made use of mineral water and it is now



recognized as a cause of colitis. The last time I was in Vienna, I found Dr. von Noorden take a very strong stand against the use of mineral waters because of their proneness to produce colitis. The desire that some people have for water that has a bad taste or a bad smell is very strange, indeed. There seems to be a popular notion that the thing that will make people sick when well, is the very thing that will make them well when sick. I wish you would all read a paragraph that you will find in the last number of the Ladies' Home Journal from Dr. William Othler. You can find the same paragraph in the Encyclopedia Americana in an article by Dr. Othler, the great American physician now of Oxford, England in which he tells of the new school of medicine and how the modern doctor very rarely recommend drugs and has very little use for drugs. He tells how the medical profession thirty or forty years ago thought it very necessary to use drugs for almost ~~an~~ everything, and even still he says, "We have to use drugs sometimes in order to fix the patient's faith upon something. The patient must be made to believe that if he continues taking medicine long enough it is somehow going to cure him, and people still have so much confidence in drugs that some people have to have a dose of medicine in order to inspire their faith and confidence." One doctor told me sometime ago that if he did not give medicine, his patients would run away and go to a doctor across the road and why should he allow the other doctor to give the patient his bread bills or his little harmless doses and get the fees when he could have them just as well. Dr. Othler calls attention to the fact that about twenty-five or thirty years ago experiments were made by eminent physicians in Vienna with all the various drugs. They were tried in various ways. Experiments were made upon people and upon animals and the uselessness of almost every drug known was thoroughly exposed. Dr. Billings of Chicago some years ago when the American Medical Association held its annual meeting at New Orleans in his presidential address said to the thousands of doctors there assembled, "Drugs do not cure disease." He said, "There are only three drugs in the whole materia medica that are of any use in the cure of anything." Those three were opium to cure pain, mercury to cure a nameless disease and, quinine to cure malaria. I am not going to say there are no other medicines that might be sometimes useful. Simple charcoal is a useful

remedy. Bismuth is a very useful remedy to allay irritation. We are coming to learn that the ~~interior~~<sup>interior</sup> of the body is not so very much different from the exterior and things that are useful upon the exterior are often useful upon the interior. Powdered bismuth is very good, indeed, to relieve irritation either exterior or interior. We sometimes apply ointment, cold cream to the skin to allay the irritation of sunburn. We apply ointment of various kinds. We are now finding out that vaseline is just as good for the inside as for the outside. In the form of paraffin oil which is simply a liquid vaseline, we find a very useful lubricant for the inside of the body, so we are discovering that those drugs which are useful are not those which are absorbed into the blood and circulated through the blood to the tissues but simply those which act in a mechanical way upon the interior of the body or the exterior.

Q--Is there any cure and what treatment would you advise for one who has prolapsed stomach and colon?

A--Yes there is a very simple cure. Apply the right kind of a spring supporter. A radical cure is to develop the natural support of these internal organs. There are two reasons why the stomach and colon are prolapsed. One is the membrane which suspends the colon is elongated. The colon is attached to the mesentery which is like a sort of fringe or a border to the thin membrane which is attached to the back bone and the intestine is arranged around the edge of this membrane. When this membrane which supports the colon becomes elongated that allows it to drop down. This is usually the case in prolapse of the colon. That cannot be remedied in any possible way, but as a matter of fact, the great injury does not come from the prolapsed position of the stomach or the colon. We used to think the stomach or the colon could not empty because it was low lying in the abdomen. That is now known to be quite a mistake. X-ray observations made in our own laboratory in thousands of cases have shown that the change in position really does very little harm, that the mere lowered position does not produce any very considerable degree of hindrance, but there is something more about this that is very important. The pendant colon produces a constant strain upon the

sympathetic nerves. A membrane that supports the stomach and the ligaments have nerves and blood vessels running through the colon and these nerves when the organs are loaded and pendant and improperly supported are constantly under stress. You know <sup>how</sup> your arm feels sometimes when you are trying to carry a heavy bag to the depot, the bag gets heavier and heavier, even if you had a one-pound weight suspended ~~through~~<sup>to</sup> a single finger and it was hanging there for hours it would become almost endurably painful. The same thing is true of these internal conditions. Whether water or food taken into the stomach undigested and unabsorbed lying in the stomach or the colon causes a strain which after a while becomes almost unendurably distressing. Usually the pain is not felt in the intestine or in the stomach but between the shoulders or in the lower part of the back. It is felt as a dull ache, a dragging sensation around the ~~knus~~ loins, a feeling of weariness and depression. One of the consequences of this condition of the stomach and colon is the accumulation of blood in this part of the body. The portal circulation is capable of holding all the blood in the body. That is why people faint sometimes. When ones face turns pale and he faints, it is because his blood has run away into the abdomen. All in the world he has to do to get relief is to compress the abdomen. I will show you this because it is a very useful little trick. Suppose you begin to feel faint when you are sitting up. I was giving a temperance lecture many years ago and I was describing on a black board how a drunkard's stomach looked and there was a man in the back part of the audience and I saw three or four big men carrying out a big man. When he saw what the inside of a drunkard's stomach looked like as a result of whiskey, he was so disturbed that he fainted dead away and they had to carry him out. Ladies sometimes faint away as well as men. Suppose a lady says to a lady sitting next to her, "Oh I am going to faint away". The lady next to her immediately shouts for help. Everybody has to get out of the way ~~ix~~ ~~xxxx~~ to give her a chance to lie down on the floor. The floor isn't a nice place to lie upon and it may not be very clean. In this way it can be done much more effectively. Cross the hands low down over the abdomen, then bend over keeping the knees together. That compresses the abdomen and drives the blood right up into the head and you are relieved because of the crowding of the blood into the head.

You can do it instantly. We also use this principle in surgery. In one case in which I removed an enormous great tumor from the leg, when we got through the operation and the patient was taken out for a dressing, pretty soon the nurse called me and the patient seemed to be dead, had every appearance of a dead person. There was no pulse, no heart beat and no breathing. Knowing what I have told you, I simply made very strong compression upon the abdomen at once. The blood at once came back to the face, the face flushed and the heart began to beat and the patient began to breath and live again. The patient had been really dead. You say that may have been an accident. Well I thought so too, so I withdrew my hands and at once the face blanched again, the pulse ceased and the breathing ceased again. So I immediately had two nurses make hard pressure upon the abdomen and the blood came back and the heart began again and we had no further difficulty. I at once arranged a large rubber bag over the abdomen and tied a bandage around it and then inflated the bag full of air and ~~xx~~<sup>this</sup> compressed the abdomen in the most effective way and the patient had no further trouble, so you see the importance of the regulation of the blood supply between the abdomen and the head and other parts of the body. A great many times a person complains of feeling a little faint or weak or dull or drowsy or incapable of doing work ~~unlike~~ after dinner. The reason is simply that after ~~xx~~ taking food into the stomach, a large amount of blood is poured into the stomach to help digest the food. This quantity of blood removed from the circulation is so great that there is not enough left to keep the brain active. That is what produces this sensation of faintness. Such a person should lie down after a meal and remain quiet for a little while until the equilibrium of the circulation has been ~~reestablished~~ restored. Many people have a weak depressed feeling all the time. This is because there is too much blood here in the portal circulation. When you go to bed at night, do not sleep on your back, but sleep on your face. I had a letter from a very eminent college professor a week or two ago in which he said, "I am sleeping on my portal circulation and apparently getting very great benefit from it." It was Prof. Fisher, who is here so often and talks about his case so readily in public and everywhere and appreciates so much the great advantages he has gotten from these simple life principles that I am sure he would not object to

my telling you that he is sleeping on his portal circulation and he said he is getting great benefit out of it because he finds when he sleeps on his portal circulation that his brain is more vigorous, he gets more benefit from sleep, the brain is more active during the day and he can get along with less sleep. In order to sleep on the portal circulation effectively, it is necessary to have something pressing against the body, so it is well to lie over a little hard cushion or pillow. One of these little leather cushions that are used about automobiles a great deal is exactly adapted to this purpose. Another thing of perhaps even greater importance for persons who have to be on their feet a great deal is the wearing of an abdominal supporter. The ordinary supporter is of practically no use. It constricts the body. The main pressure is upon the hips. What is necessary is something which will lift like the hand, which will make firm pressure. The advantage one gets from these supporters is not so much in holding up the stomach and the colon, although there is some advantage in that in taking off the strain from the sympathetic nerves, but the great advantage really is the compression of your portal circulation. It prevents the filling up of these large vessels which are immense in size. I have seen veins in this part of the body distended with blood as big as my finger, so when there is a loose condition of the abdominal muscles so that they are weak and ~~flabby~~ flaccid as they often are in sedentary people, particularly in women because of improper clothing, the wearing of rigid garments that hold their <sup>bodies</sup> ~~heads~~ rigid so that there is no opportunity for exercise of the muscles or for development of these muscles, such women suffer greatly from this cause. The over accumulation of blood in the interior of the body--this is one of the causes of colitis also. A chronically congested state of the colon is one of the causes of chronic constipation; it is one of the causes of gallstones. Women have colitis four times as often as men and it is probably because of the difference in their clothing. I remember a traveling man some years ago came here complaining of a pain in his right side. Some doctor thought it was due to appendicitis. The appendix was removed but he was not benefited. He didn't know what the difficulty was. For two years he had been an invalid and had to give up his position because

he could not carry his bag of samples in his hand. After he had been here a very short time, I noticed his shape. He had a protruding lower abdomen, a characteristic shape of a person with weak abdominal muscles, so I brought out a little supporter with a pad behind and a steel spring and a pad on either side in front. I applied it and the man looked up in great astonishment. He said, "Why, doctor; that relieves me perfectly. What a fool I have been! Why I have been going around three years with my hand in my pocket holding my stomach up and why didn't I think of that before." The steel spring did it for him, so he didn't have to carry his hand in his pocket after that. The very next day he rode fifteen miles on a bicycle. He took his bag of samples in a few days and marched off and I have hardly seen him since. I know there are scores of people who come to this institution who have troubles of this kind which they think must be due to some serious trouble with the kidneys and effects that they attribute to various internal ailments that can be completely and perfectly relieved by the application of this simple spring supporter. One says "Don't this supporter make the muscles weak?" No, because they prevent the muscles from being over stretched and completely tired out by the continuous strain upon them. Give the muscles a chance to recover their tone by taking off the excessive weight from the internal organs. The important thing is to compress the abdomen and allow the blood that is congested here get into the general circulation and travel to parts where it is very much needed. If you have ever attended an exhibition of the turnberrin you will see that they always wear a tight belt around here. ~~It~~ They makes the belt firm and tight not simply to protect the muscles there but they unconsciously do it in order to crowd out of the abdomen the excess of blood and get it into the muscles where they need it. The indian goes out on a hunt and if he  
14535 does not find anything to eat he takes up a notch in his belt. If he doesn't find anything to eat the next day, he takes up another notch. He keeps his belt tight all the time because in that way it keeps the blood from accumulating in this region of the body. I do not believe in tight lacing of the chest, but the bandage applied below is quite a different thing. It is only when the muscles become weak that these supporters are of value. It is not to apply a bandage but

a spring supporter which lifts only in front without constricting the sides at all. A lady came to me yesterday and she said, "Doctor, you prescribed a supporter for me but I simply cannot stand it. It gives me so much pain." She said, "I know I cannot wear it because it give me so much pain." I said, "Let us see what the trouble is." SO we put the supporter on. The lady sat down in a chair. "Now," she said, "it hurt me so I could not endure it." I said, "All right, I see why it hurt you. You are sitting on it. Just <sup>simply</sup> straighten up and see how you feel then." She straightened up and said, "Why it is very comfortable. It is all right now." I said, "That supporter is constructed that way on purpose so that when you get out of position that supporter will tell you that and make you straighten up." Of course that remark was a slight exaggeration. The supporter is made to be as comfortable as possible but when a person gets out of position, it immediately begins to crowd and press upon sensitive points and that is a suggestion immediately to take a right attitude to raise the chest to a proper position, then the supporter is a perfect fit and a real delight and comfort.

Q--When the appendix is not normal, can it be made normal by any kind of treatment?

A--A sick appendix may get well as well as a ~~sick~~ sick finger. A sick appendix generally does get well. Every person who has appendicitis had had appendicitis a great many times before he ever noticed it. He had some slight discomforts due to disease of the appendix but he did not notice it, but it is only after the appendix has been sick a great many times ~~and~~ after it has been inflamed and diseased a great number of times that it by and by becomes so bad that your attention is called to it. The appendix that has to be removed is infected, and the mouth <sup>of it</sup> has become closed and the inflammation taking place inside of it causes the accumulation of pus and other material which is likely to break through into the abdomen. This is the danger from a diseased appendix. That is the only reason why the appendix is particularly dangerous when in a state of inflammation, because you do not know what is going to happen, so when the appendix becomes diseased to such a degree that you are conscious of a constant soreness in that region or frequent attacks of pain, it ought to be removed because it is a hopelessly diseased

you ever knew anything about it, but when it comes to the point that you are conscious of it all the time and have a severe attack <sup>then</sup> ~~and~~ it is getting to be a serious matter and you ought to have it removed.

Q--Does the copious drinking of pure water produce or increase obesity?

A--It depends upon what you are doing. If you are eating ~~heartily the~~ <sup>heartily the</sup> drinking of water will help to increase obesity, but if you are eating a spare diet or a diet especially intended to reduce weight, then the free drinking of water helps to reduce the weight, carries off the waste material of the body.

Q--About how long will it take to cure a headache of a whole month's persistence due to autointoxication?

A--Such a headache can usually be cured in four days if the patient will do exactly what he is told to do. There may be some slight relapses but in the majority of cases there need not be any serious relapse and in the course of two or three weeks, a person ought to say "good-bye" to such a headache forever. This institution is a veritable cemetery of headaches. I believe there are at least a million headaches buried here. Of course, I mean past, present and future headaches. There are constantly among our patients some scores of patients who came here to be relieved of headaches. There is almost no malady I know of that is more distressing than headache. I had headache myself for twenty-five or thirty years. Headache really changes one's character and disposition. It affects one's business and social relation. Chronic headache is a very serious matter and these headaches are practically all of them toxic. A day or two ago I found a patient with symptoms that indicated something more serious than ordinary headache. The X-ray examination showed that a little tumor had begun to develop in the brain where the woman had had an injury some years ago. I hope we shall be able to relieve it without any serious operation. Every case must be studied carefully, of course, and there are exceptions. 99 out of 100 of all headaches that we encounter at this institution are due to the absorption of poisons from the colon. A coated tongue, a bad breath and an unhealthy complexion are tell-tale signs of chronic toxemia to which headache is really due.



Q--Is chewing tobacco as bad as smoking?

A--Sometime ago we had a patient here who had been in the habit of smoking and he promised to stop smoking. He had stopped smoking but I discovered some little time afterwards that while he did not smoke, he would put a cigar in his mouth in the morning and before night that cigar had entirely disappeared. It kept getting shorter and shorter and shorter. In other words, he actually ate that cigar. I do not see any improvement over smoking in that. I doubt if there is any at all. I think it may be a few shades worse. The only advantage I can see about tobacco chewing, is that a person who chews gets most of the ~~benefit~~ tobacco himself, whereas a person who smokes, makes other people smoke along with him. There is nothing so depressible to me as to have to do second-hand smoking, that is to have to follow along after an old smoker and take the smoke he has already smoked and inhale it whether I want to or not. Perhaps on a still summer's night when the air is delightful and you think what a fine evening this is, you start out to walk down the street and some smoker has been ahead of you and polluted the atmosphere of the whole street. Certainly there will come a time when we will get so civilized that we will have a law which will prohibit any man from smoking in any public place. Smokers will be confined to certain precincts. If a man ~~has~~ wants to retire to some secluded spot and smoke himself to death, he will be allowed to do it, but he won't be allowed to pollute the fresh, clean, sweet air that Nature gives us and to make it impossible for anybody in his vicinity to get a sweet breath.

Q--What is good for erysipelas?

A--A patient with erysipelas should stay in bed, drink at least a gallon of water a day, -two gallons would be better--and to apply in the early stages of the disease clothes dipped out of cold water every five or ten minutes. After a day or two when the bright red blush has given place to a dusty hue, then hot applications should be applied instead. In the transition period hot and cold applications may be used. It is a good thing to put <sup>on</sup> Ichthyol upon the surface of the skin.

Q--A man who smoked from five to eight cigars a day up to six

of age and his physical condition demands a let-up, is it safe to deprive him of tobacco entirely at once? Some physicians advise smoking one cigar after each meal under these circumstances. What is your opinion and advice?

A--I have never yet known a physician to advise a smoker who had evidently done himself damage by smoking, to smoke one cigar after each meal unless he was himself a smoker. It is only physicians who smoke that give advice of that sort, and I think physicians who smoke are disqualified from giving an opinion upon this subject. They do not know themselves the really injurious effects of tobacco. There is no possible harm in ceasing to do any evil thing. ~~just as~~ <sup>just as</sup> soon as you like, just as suddenly as you please. What possible harm would come to a man who has been accustomed to lie and to steal if he suddenly stopped? Would one imagine that one should gradually taper off his stealing or lying? Might it not be a great shock to his moral nature, to suddenly stop lying and stealing? The habitual use of tobacco or any other poisons or poisonous drugs is a sin against the body; it is a crime, a damage against the body. How can any possible harm come from ceasing at once to injure the body. When people go to prison who have been accustomed to the use of opium which is a much more enslaving drug than tobacco, he is not supplied with opium or with morphia; he is shut up in a cell and he has to fight it out. Of course, he feels very wretched and miserable. He would like to have something done to relieve that misery, but misery is not going to kill him. The thing that happens to him when the drug is withdrawn, is simply begins to come to himself, and he finds out what his real condition is. Opium hides that condition from him. The same thing is true of tobacco. Tobacco is a narcotic like opium. If he is tired and smokes, he doesn't feel tired any more. If he is hungry and smokes, he doesn't feel hungry any more. If he is worried and depressed about his business affairs and he smokes ~~and~~ <sup>then</sup> he doesn't feel worried or depressed any more. His business does not worry him because for the time being he is stupified, narcotized by the drug and does not appreciate the situation as he did before. A man suffering pain, takes opium and he does not feel pain any more but the injury and the pain are there just the same and the cause of the worry is there just the same and the lack of food is there just the same. Tobacco simply deceives a man

as to what his real condition is. There is no possible good in it. It was once supposed to be a useful drug and it was prescribed in the materia medica, but to-day you won't find tobacco mentioned in the materia medica. The medical profession have thrown it out of the materia medica as a useless and harmful drug and the time is not very far ahead when the medical profession will throw out alcohol in just the same way. Alcohol is just exactly as useless as a drug as tobacco is. It is perfectly safe for a man who smokes whether one or one hundred cigars a day to stop smoking at once. He will, of course, be unfortunate a little while, but he will be surprised to see if he abstains from it how quickly the hankering for it will disappear. To taper off slowly the use of any ~~drug~~ kind of drug is a good deal like having your leg amputated by inches instead of having it ~~gmkxxxxxmf~~ cut right off. The majority of people who undertake to taper off, after tapering a little while in that direction, begin to taper in the other direction again and taper on instead of off, so never get entirely rid of the drug.

Q--Is it injurious to sleep directly after eating?

A--It is not a good plan to sleep directly after eating but it is a good plan for some people to rest. Persons who have pain after eating should always rest for a while. Many persons find themselves very greatly ~~amxxxxxxx~~ refreshed by ten minutes' sleep after a meal. That does <sup>absolutely</sup> ~~xxxxxxx~~ no harm at all, but to sleep one or two or three hours after a meal is a very injurious practice. The stomach does not contract as rapidly when one is asleep. The gastric juice is poured out just as rapidly when one is asleep as when one is awake. I am satisfied that this is one of the causes of the extreme prevalence of acid dyspepsia or hyperhydrochloria. More people suffer from this trouble than from any other form of gastric disorder. Persons who complain of gas in the stomach generally have an excess of acid; persons who complain of pain, heart burn and so on have this excess of acid. It generally preceded gastric ulcer, duodenal ulcer and gastric cancer and I think the late dinner, the after theater supper. The practice of eating late at night is a common cause, in fact the most common cause and the most active cause of this condition, especially the eating of meat at these times. One can eat whenever he is hungry if he eats the right thing. It is just as proper for one to eat

when he is hungry as to drink when he is thirsty, but it is important to eat the right thing and the right thing if you are going to eat just before going to bed or late at night is fruit. There is an old adage, "Fruit is golden in the morning, silver at noon and lead at night". This is entirely an error except with reference to morning. Fruit is golden for breakfast, for dinner and is double golden, I think it is pearls and diamonds for supper. It is far more important to eat fruit for supper than it is to take it for breakfast because taken at supper it will tax the digestive organs so little that there will be no burden to the body during sleep. Many of you do not sleep well because you eat so much supper. You would all be better if you took breakfast at eight o'clock and dinner at three o'clock if you did not eat another thing. When I eat any place at six o'clock, I feel the effect of it right away. You say, "Well what's the use? I pay for this supper, why shouldn't I eat it?" It cost you more to eat it than to go without it as a matter of fact. I recommend that those of you who think you must have suppers, to eat fruit. Do not eat bread and butter; do not eat pie and deserts; do not eat vegetables. If you want to eat any vegetables at all, let it be a simple potato, soup or potato puree, but if you eat much butter with it or anything in the shape of rich food like pie crust or cake, it will lie in your stomach for hours and hours and disturb your sleep. You will have a bad taste in your mouth in the morning and you won't have any appetite for breakfast. You say you have an "all-gone" feeling if you don't eat. If you find it is late at night that you have that all-gone feeling, if you go without supper at night, you will find in the morning that when you wake up that instead of having a worse "all-gone" feeling, the "all-gone" feeling will be all gone. If the goneness is due to a congested, irritated state of the stomach, the walls of the stomach coming together produce that irritated condition. Drink a glass of warm water or hot water and it will disappear. The next morning you will find the feeling has <sup>entirely</sup> disappeared and you will have a keen appetite for breakfast and will get far more good out of it. If you would go without your suppers, you would get twice the benefit you are now getting. You would get well quicker and get away quicker, so the institution won't profit by this advice but you will profit. I feel all the time that we are doing you wrong in ~~keep~~ feeding you three meals so

near together. When we had only two meals a day, three-fourths of our patients would insist on having a tray sent to their rooms in the evening, so the inconvenience was greater, so we compromised by allowing the evening lunches to be served in the dining room and it swelled out into a six o'clock dinner. I know that everybody who takes this hearty late meal is being damaged by it, so I am going to hammer away at this thing and warn everybody at least so that you will know in eating a hearty supper you are doing yourself harm and you ought to acquire the habit of taking breakfast and dinner and making these the principal and omit the supper or take a very light meal. If you eat anything at all, it should be fruit. You know the truth of what I am telling you. Dr. King visited us once at a time when he was connected with the Clifton Springs Sanitarium. He said to me, "Dr. Kellogg, what do you do for your patients to make them sleep at night?" He said, "The worst trouble we have is to make our patients sleep." He said, "To tell you the truth, I suffer myself in that way. I do not sleep at night." I said, "It is a very simple thing. Send them to bed without supper." He said, "Do you think that will do it?" I said, "I know it. I have studied this thing for so many years that I am sure that is the principal reason why we have so very little trouble here getting people to sleep at night because we send them to bed without any supper." He said, "I accidentally missed my supper last night and I did sleep better." He stopped a few days with us, slept soundly every night, and he was convinced, as I have been for many years, that the going to bed supperless is the very best prescription you can possibly make for insomnia. The reason is very, very simple. When you have food in the stomach the process of digestion goes on all right because the secretion of gastric juice is automatic like heart action. You don't have to tell your heart when to beat. The stomach does the same thing. If there is food in the stomach it makes gastric juice whether you are awake or asleep and digestion goes on although it is a little slower because the stomach does not empty itself as it does when you are awake. The reason is that lying still

in bed your breathing is more quiet. The act of breathing assists in the process of conveying the food along the intestine. When one is trying to digest a meal and the blood is surging into the abdomen and the sympathetic nerves are congested and active, they are all the time sending reflexes up to the brain so while one can digest well while he sleeps, he cannot sleep well while he digests. The reason is that this great abdominal brain which is closely associated with the cerebrum is all the time sending up messages to the brain and stimulating and exciting it and that is the reason why one cannot sleep very well. Most people who eat hearty suppers dream horrible dreams and don't know anything about the dreamless sleep of childhood. The dog lies down, goes to sleep after eating and he dreams. He begins to snarl and to growl. He is having all kinds of fights in his sleep and is having an awful time. Anyone of you who will try this experiment, cut down your supper, make it consist of fruits and a little rice, perhaps, and Laxa or Laxa Biscuit or a tablespoonful of bran mixed in with the rice, some simple thing of that kind instead of the hearty food you have been eating, you will find it will make a wonderful difference. If you go to bed without any supper at all, but two or three glasses of hot water, it will be better still. You will make of it by just what you miss ~~make~~ for supper. You will get sweet, unrefreshing, undisturbed sleep that is worth twice as much as the sleep you get when the stomach is struggling with an undigested meal.

Q. Are Epsom Salts of advantage in treating diabetes?

A. Not especially. These salts stimulate the skin and may possibly be some benefit because they will make it possible to give the bath at a lower temperature. A person can take a bath that is quite heavy with these salts at 70° where he would require 80° without the salt. One can bathe in sea water without discomfort at a lower temperature than in fresh water. One can get the cold water by rubbing the skin with ~~stinking~~ sponges wet in cold water or the cold shower or some other way. The application of mineral baths to the surface of the body has no effect upon the blood because

minerals are not absorbed at all to any extent through the skin. The amount absorbed is so extremely small it requires the most refined chemical analysis to show the salts absorbed.

Q. What is Kaffir Tea?

A. It consists of the leaves and buds of a shrub which grows upon the highlands in South Africa. It is known as red bud down there. It has the aroma of tea without the tannic acid and without the theine which gives it a very important advantage. It is used very extensively in South Africa as a substitute for tea so it is absolutely harmless. If one wants to get rid of the tea and coffee appetite, it is just as well to discard it entirely and not take any substitutes at all. I do not recommend Minute Brew or Kaffir Tea or substitutes of any sort for harmful things. The best way is to cut the things right out entirely. If one is in the habit of taking caramel cereal, Postum and Minute Brew, and cannot get them, he will take coffee for the time being because he must have his accustomed flavor, you see. As a matter of fact, it is better to discard these things entirely.

Q. Does not the form of man's teeth indicate that he should eat meat?

A. No. It indicates the very opposite. Why? Because they are not like the teeth of the dog. They are like the teeth of an ape. They are identical with the teeth of the higher ape with one exception, the canine or eyeteeth which are longer in the ape than they are in man which indicates that man must be even more frugivorous than the ape is and even less carnivorous and less a meat eater than the ape is.

Q. What do you advise for one who has been paralyzed and has a weak heart?

A. I would recommend a diet consisting chiefly of fruits and vegetables. Coarse vegetables particularly should be used freely.

Bread should be taken sparingly. Potatoes should be used largely instead of bread and use fruits and fresh vegetables of all sorts very freely.

Q. What should we do after getting home to prevent intestinal inactivity?

A. A person who is suffering from chronic inactivity of the bowels should be sure before he goes home that the difficulty is mastered. You must be sure you have established a regimen that you can pursue at home with success <sup>because</sup> there is nothing so bad as the accumulation of poisons in the one's interior, especially these colon poisons. The use of tobacco, whiskey, and wine, if ordinarily used, is not half as bad as these colon poisons. I am not talking about the gutter drunkard but the ordinary use of wine and beer as people ordinarily use those things, it is not half as bad as to allow the colon to remain filled with these horrible poisons continually being absorbed into the blood and poisoning the whole body so it is a very important thing. Before you go home, if you have trouble of this kind to be absolutely certain that the difficulty is mastered, so you can manage the thing at home. Do not go back to the use of drug laxatives, cascara, salts, senna or any of those things because they will certainly make the difficulty worse. They will intensify the colitis, increase the absorption of poisons and the difficulty altogether. When I visited VonNoorden's clinic the last time, I said to his assistant, Professor Faulka, "What does Dr. VonNoorden do in obstinate cases of constipation?" VonNoorden and others in Vienna are not narrow, contracted men but are open minded, scientific men who are continually making researches and observations and drawing scientific conclusions from them so I have been endeavoring to keep in touch with them for many years. It is our custom to send someone to Europe to visit the different clinics every winter to pick up bits of information that will fit into our program and assist us in solving our problem. I said to Dr. Faulka, "What does Dr. VonNoorden do in very obstinate cases of constipation?" "Diet" he said. I said, "Suppose



you have tried all kinds of diet and still the patient is no better, what then?" "Diet", he said. "Just Diet?" But I said, "Suppose it is a desperately obstinate case and diet fails entirely, what sort of medicine do you use?" "No medicine at all, simply diet." "Why, Doctor," he said, "nothing is so bad as the chronic use of laxative drugs." That is all the encouragement I could get from Dr. VonNoerden's clinic for the use of any drug of any kind under any circumstances. Nothing is so bad as the chronic use of laxative drugs. Suppose a patient had a surgical operation. Of course, he said, under these circumstances the use of a laxative drug to make sure that the bowels are thoroughly emptied may be advisable but to cure constipation drugs of any sort are extremely damaging. You say what about agar-agar, Colax, Bran and Paraffin? They are not drugs in the ordinary sense but are supplementary foods which do the body just what food ought to do. Agar-agar supplies extra bulk. It is cellulose. It is practically the same thing as what you find in beets, carrots, lettuce and fresh vegetables generally. In Paraffin Oil we have a clearly mechanical substance which acts as a lubricant and in that respect takes the place of lubricating mucus which Nature supplies but which is not supplied in sufficient quantity in cases of chronic constipation. We have to supply an artificial lubricant and in Paraffin Oil we have something absolutely harmless. Bran is also available and it is one of the most valuable of all remedies. See that every member of the family gets an adequate supply of bran. That ought to be at least a heaping tablespoonful at every meal. When you cook the breakfast cereal put in about one-fourth bulk of bran and you will like it better. Corn meal mush is a very constipating food but with one-fourth bran added to it, <sup>it</sup> is more palatable than in the ordinary form and it is laxative instead of being the opposite.

Q. May a man of sixty-three reasonably expect to escape Bright's disease if he can keep his blood pressure below 175 and keep himself free from constipation?

A. Such a man probably has Bright's disease already. That is one of the first symptoms of Bright's disease. High blood pressure indicates the approach of Bright's disease long before casts, albumin or any other urinary symptom makes its appearance. Nevertheless, the disease can be arrested, held at bay, although it may not be entirely prevented even though the kidneys have become diseased. Fortunately one can get along with two-thirds of one kidney if he lives carefully. I remember one case in which I removed a large kidney with a stone in it, half as big as my fist. The one kidney left did more work in the next twenty-four hours than both kidneys did the twenty-four hours before.

Q. What are the dangers of a blood pressure of 190?

A. There is no danger from the blood pressure. It is not the pressure that does the harm. I have seen people go on months and months and months with a blood pressure of 300. I never saw anybody who got any injury from high blood pressure. The thing that does the harm is the thing that makes the high blood pressure. The thing that makes the high blood pressure is poisons circulating in the blood which set up a degeneration of the blood vessels. It is because the blood vessels of the brain or some other part become weakened, rotten I almost say, brittle, and lose their strength so that they cannot resist the pressure of the blood that does the harm. I have seen apoplexy occur when the blood pressure is only 125. It was because the arteries in the brain had become injured to such a degree that they could not resist the ordinary normal pressure. That is what does the harm. It is the degeneration of the arteries and the softening of the arteries that makes the trouble and not the high blood pressure. A person with a pressure of 190 ought to do something to get it down. The only thing that will get the blood pressure down safely is the removal of the cause of the blood pressure and when one removes the cause of the <sup>high</sup> blood pressure, he will at once remove the cause of the degeneration of the blood vessels, you see. He will stop this process of

degenerating at the same time that he gets the blood pressure down and so while this high blood pressure is something of a disadvantage, still we should always remember that the blood pressure is never any higher than it needs to be. In your condition you must have high blood pressure in order to keep you going and it is a mistake to lower the pressure without at the same time removing the cause of the high blood pressure. I once had a blood pressure of 175 and I was scared for a few minutes. I removed the cause and my blood pressure came down to 110 and that is where it is now. The occasion was this. I was attempting to revise an improvement of the instrument with which to take the blood pressure so as to get a more accurate test of the diastolic pressure which at that time was very hard to get. I was testing it out and one of my assistants was helping me and I found my blood pressure 110 and I was making some little adjustment of the apparatus and left the bandage on my arm and a few minutes afterwards, half an hour perhaps, I found it 175. I said, why, it must be I made a mistake. Is it true I am getting old so fast as that, that my blood pressure which was 110 is rising like that? I took it again and found sure enough it was 175. Then I realized that I had deprived my arm of blood by having the band on for so long a time <sup>it</sup> and had notified my brain and my brains had notified my heart that more pressure was necessary to get the blood to the tips of my fingers so in order that those fingers should not suffer and be damaged the heart had raised the pressure to 175 in order to get the blood to the tissues of <sup>I</sup> my hands so ~~it~~ should not suffer any injury. Every organ of the body is being watched over to see that it has the proper amount of blood. If the kidneys are diseased and the arteries contract the proper amount of blood cannot get through and long before Bright's disease shows itself or any other symptom, it is indicated by this rise of blood pressure which is necessary in order to get the adequate supply of blood to the kidneys.

Q. What foods may be avoided by one suffering from high

blood pressure?

A. Bouillons, meats of all kinds, fish, flesh and fowl, Meat extracts and all those things are particularly bad because they are poisons which circulate in the blood and stimulate the processes which cause congested vessels.

Q. Can the sinusoidal current be applied beneficially in colitis?

A. Yes. It affects the muscles only. It does not affect the interior.

Q. What are fibrous vegetables?

A. Nearly all kinds of garden vegetables are fibrous. The potato and the sweet potato are almost the only exception. Some fruits are fibrous also. The potato is a constipating food and so one should eat coarse vegetables with it.

Q. Is it advisable to drink while eating?

A. The ordinary patient can take a glassful of water while eating. It should be taken a little at a time.

Q. What would you do for a boy nine years of age suffering from hay fever?

A. For immediate relief the only thing is to take the boy away to some other locality where the particular weed that produces ~~this~~ the pollen which produces this fever does not occur. A good deal progress is being made in ~~saxxas~~ curing this disease at the present time. If a person goes into a cold room he is almost sure to be immediately relieved. We have had this summer a number of persons suffering with hay fever who were made entirely comfortable by going into a cold room. A person sits in there for half an hour in the evening and then goes to bed and sleeps all night in perfect comfort. It has also been discovered that the vaccine can be prepared from the pollen of plants which produce the hay fever and this can

be injected under the skin and will relieve the paroxysms of the disease in a wonderful way. By extracting the pollen with alcohol it is possible to obtain a substance which, injected under the skin, will give almost immediate relief from the paroxysms.

Q. What is good for phlebitis?

A. Rest in bed, warm applications and careful bandaging. Massage must be especially avoided because it may dislodge a little clot which may travel to the heart and produce fatal heart block.

Q. Will the bran and cellulose needed for a laxative diet irritate the inflamed membrane of the colon in a case of colitis?

A. No, but just the very reverse. It produces no irritation at all. It is the decomposing fecal contents of the colon which produce the irritation.

Q. What position is best for the body while sleeping?

A. It doesn't do much good to try to tell people what they should do when asleep. It is more than I can do to get people to do what they ought to when awake. It is a good plan, however, when one goes to sleep to lie toward the right side. If one has a weakness of the left lung, for example, it is better for him to lie on the left side so as to give the right side perfect freedom of movement. If one has pain in the right left leg it is a good thing to lie upon the left leg. The pressure will relieve the pain and the extra warmth will generally relieve the pain. There is no definite rule. One should sleep in the position in which he is comfortable. He should not sleep in such a position that the chest is flattened. It will be a great advantage for the majority to sleep on the face over a pillow to compress the abdomen and keep the blood in better circulation.

Q. Do intestinal and colon troubles cause the food to ferment in the stomach?

A. No, but they do cause the stomach to make too much acid and that is what makes the pain and distress in the stomach. It is swallowed. It is not formed by fermentation.

Q. Can one have serious adhesions from an abdominal operation of twelve years standing?

A. Yes, it is possible.

Q. Is lower Florida too low an altitude for one suffering with anemia?

A. Anemia is not materially affected by altitude.

Q. What is the cause of low or weak acid in the stomach and the cure for it?

A. When one has typhoid fever the amount of acid formed in the stomach is diminished. Babies always have hypopepsia as fever patients do. Persons who are exhausted by overwork and loss of sleep generally have too little acid in the stomach. Persons who have inactivity of the bowels to such a degree as to produce any loss of appetite sometimes have deficient acid but in the majority of cases such persons have an excess. Persons who have had gastritis so that the gastric glands have degenerated have a deficiency of hydrochloric acid. Those cases in which there is a deficiency of hydrochloric acid are in the majority of cases those in which there has been once an excess of acid and the glands had to do so much work they became worn out and exhausted. In such cases or in cases of apepsia there is really nothing much to be done. The most important thing for persons who have too little acid and a slow stomach but still have some acid, they should chew the food very well. Persons who have no acid at all may take hydrochloric acid in the form of acesone a combination of the acid with protein, a very valuable remedy in such cases.

Q. What is the best way to reduce the blood pressure of

a man 38 years of age with a pressure of 138?

A. Probably this patient has been in the habit of smoking or using tea or coffee or even meat. These and inactivity of the bowels are the usual cause of too high blood pressure in such a case. Sometimes specific blood disease will produce high blood pressure. This is quite a common cause in young persons.

Q. Is it a condition of the system which causes the crystalline lense of the eye to harden in a cataract or is it from local causes?

A. It is a condition of degenerative changes. It is one of the inconveniences of old age. Another inconvenience which comes from old age is stiffening or hardening of the lense which does not amount to cataract but it becomes hard to such a degree that it does not yield to the action of the muscles which change the thickness of the lense in accommodating the eye. A girl of sixteen came in for examination. Our Dr. Colver examined her and found her eyes were presbyopic, that is, she had the eyes of a woman of fifty-six years of age. Her eyes were thirty years too old. She was suffering from chronic intestinal toxemia and was placed upon a proper diet and in a few weeks her eyes had become of proper age. This is one of the tests for intestinal toxemia. By the adoption of a non-flesh dietary, an antitoxic diet, it is wonderful how the eyes do become young again and the senile symptom disappears. This is a very good proof of how the skin can be made younger. If the eyes can be made younger the whole body can be made younger. This oldness or senility of the eyes is simply an evidence which can be easily gotten at of the senility of the whole body. If the eyes are ten years too old that means in general that the body itself is ten years too old. It means something should be done right away to <sup>combat</sup> prevent this old age process. It can be combated in the most effective way. I have seen people made ten years younger and twenty years younger in the course of a few weeks by giving Nature an opportunity to recuperate. It

is the handicap the body is laboring under that makes changes and old age. By adopting the simple life and co-operating with the natural forces of the body, this old age process may be arrested and a wonderful rejuvenation can be secured. That is worth while. You can be youthful as well as healthy and we will find the fountain of perpetual youth in obedience to Nature in simple living.

END.