

OUR NATURAL DIET

A Stereopticon Lecture at the Sanitarium Parlor, Battle Creek, Mich., Thursday

May 9, 1912, at 8:00 P. M., By

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Some time ago, a San Francisco man got a prize at a food show for producing the best sausage. A few months later, the neighbors in the vicinity of his sausage-making establishment were very much disturbed by a series of cats early in the morning; and some of the neighbors, looking out the window, saw between three and four o'clock in the morning, numbers of boys coming from different directions bringing bags and baskets in which were cats, and these were turned over to the sausage maker; and in this way it was found that the peculiar flavor which everybody liked so much, and which was secured for this sausage-maker the first prize at the food show, was due to cats.

But we will turn to a more agreeable subject now, and we will talk about fruits, if you please. Fruits are mostly water, so we have water represented in the first column here. You see all fruits are very rich in water with the exception of raisins and a few other of the dried fruits. Figs, dates and raisins are the only ones which are not very rich in water. In general fruits contain three fourths to four fifths their weight, sometimes as high as nine tenths and even more their weight of water. The solid matter in fruits is very small. Fruit is really a very valuable source of water. The watermelon is very valuable indeed. For many localities it is the only potable water. Travellers sometimes in the forests of Africa find pine apples growing wild and are glad to resort to them as a source for water.

Now, the protein content of fruits, when you come to look at that, you find the protein to be very small. In prunes and raisins it is two percent or a little over. Strawberries contain one per cent of protein. If the straw-

berries were dried we should have very much more protein in strawberries than in raisins. There is another interesting thing I might mention of the strawberry, and that is it is very rich in iron also.

Fats we find are very, very scarce in fruits. Fruits, so far as fats are concerned, are very lean. Carbohydrates are abundant. The carbohydrate is, in fact, almost the sole nutritive element of fruits. The fats and the proteins together constitute scarcely more than two or three per cent, in many not more than one per cent, while the carbohydrates, make up the difference between the water and 100, and constitute anywhere from ten or twelve per cent away up to as high as 78% in the date, which is more than three fourths the total weight of the date; and 75% in the fig; 73% in prunes, and 76% in raisins. So you see prunes, dates, raisins and figs are practically three fourths sugar. That is a good thing to remember. Such fruits as the apple, you see--one seventh of sugar. The apple, the apricot, the cherry, the huckleberry, nectarines, pears, plums, prunes--these are from one seventh to one fifth made up of carbohydrates. The carbohydrates which we find in grains in the form of starch, in fruits we find in the form of sugar. Now, this sugar of fruits is a different kind of sugar from that which we find in the sugar bowl. It has the same nutritive value, that is, the same number of calories in an ounce, practically, and these are practically equivalent to the starch, just a trifle less, but the relations to the body are very different. Cane sugar is a sugar which comes from grasses. It is not found in these fruits to any extent with the exception of the date; there is cane sugar in the date, but outside of that there is practically no cane sugar in any of these fruits, but a different sugar which is made up of about equal parts of two sugars that have separate names, chemically, although they look and appear very much alike to the eye, they are chemically different--dextrose and levulose. These sugars look alike, behave alike, react to the same tests in the laboratory to a very large degree; but when looked at ² polarized light, they cause the ray of light to go to the left, and the other to the right; so one is called levulose, and the other is called dextrose,

because of this fact. This difference is really a difference of very considerable importance, because cane sugar requires to be digested before it can be absorbed and utilized, whereas grape sugar, or the sugar of fruits, these fruit sugars is the proper way to designate them, I think, for convenience; ~~and that~~ I think it is better to designate both under the one name of fruit sugars--these fruit sugars are already digested, ready to be absorbed immediately, taken into the blood and utilized. They can be injected right straight into the blood and used. Cane sugar injected into the blood is passed out of the body in the form of cane sugar, is not used at all, can not be used, but when these fruit sugars, the sugars that are found in the juices of sweet fruits and sour fruits too, for that matter--when these ~~gum~~ sugars are injected into the blood they are utilized immediately and are of the greatest value.

The food substance which is of the most immediate use, and the loss of which is felt by the body the soonest is carbohydrates. One can live for a long time without protein; one can live without fat for a considerable time; but carbohydrates are absolutely necessary, every minute of our lives, and if the body can not find carbohydrates in any other place, if it is not furnished in the food, if its stores in the body are exhausted, then the body will actually tear itself down and manufacture carbohydrates out of its own flesh, muscle tissue and lean tissue and fat tissue of the body, all kinds of tissue that are found in the body; and that is the reason why we have fat tissue and lean tissue; both fats and proteins can be by the body itself converted into carbohydrate, converted into tissue starch, or glycogen, liver starch it is sometimes called. So carbohydrates are very important. One can fast for a long time, dispense with meats and never have any trouble as long as he lived, can get along without meats. It is not a natural diet. One can dispense with protein and get on very well; but one can not get on without carbohydrates; we must have that; but the carbohydrate of the sugar bowl, as I said, is a different carbohydrate from what we find in fruits. It is an incomplete carbohydrate

that has not yet been perfectly elaborated. How do we know that? Well, now, we take, for instance, the case of the cherry. That is a good illustration of all the fruits. In the cherry we find 16% of sugar. Now, if you examine a green cherry, there is no sugar in it at all. There is no sugar in a green apple. Green fruits in general contain no sugar at all; but if we could get in side of that cherry and watch what is going on, we could find the cherry when it approached the period when ripening must begin, when it began to put on its red cheeks, we would discover that there was a new substance developed there, a ferment similar to the ferment which is found in our own mouths, in our own digestive organs; a ferment which can invert sugar, found in the mucous membrane of the small intestine; it is not found to any considerable degree in the mouth, or in the saliva, but is found in the small intestine, the mucous membrane there, and a ferment which has the power to change cane sugar into fruit sugar. The cherry tree has a large amount of cane sugar in its sap, and this sap comes up into the trunk of the tree, comes out into the limb, and finally into the twig, then into the stem of the cherry, and just as it comes into the cherry, it is converted into fruit sugar; so the cherry contains no cane sugar, but fruit sugar.

This same thing is true of all kinds of fruits, but sugar is found in the sap of trees; it is found in the sap of grass, in the sap of corn, and the corn deposits it. In the ripening corn this is deposited in the kernel. It is present in large amount in sweet corn, in extra large amount. It is found in many roots; a large quantity is found in the sugar beet; ~~at~~ six or seven per cent or even more may be found in the sugar beet, and in large proportion, but this cane sugar can not be used by the body without being digested. "Well," you say, "what is the harm as long as it is well digested?" Many people do not possess the power to digest cane sugar to any considerable degree. This power has been lost in the case of many persons. In babies the power to digest cane sugar is often present in such small quantity that the feeding of cane sugar to babies, candies and other substances which contain cane sugar, becomes exceedingly

detrimental and does a deal of harm. Babies are often made sick, and they sometimes die, without doubt because of the large amount of cane sugar that is given to them; and a warning cry has been uttered by the scientific men of the world against this feeding of candy and of cane sugar to young children. Prof. Bunge, of Basle, Switzerland, one of the greatest chemists in the world, was one of the first to do this eight or ten years ago; and in the last year or two, the United States government, through the Agricultural department, has sent out to the world a warning ~~against~~ the use of cane sugar by children.

It is also important that the public should know this because every once in a while the sugar trust gets somebody to publish in the newspapers an item to the effect that cane sugar is the most valuable of all foods; that it contains the largest amount of nourishment for the price which is charged for it, and does not require any digestion but is all ready for immediate assimilation. The truth is the very opposite. Cane sugar is digested with great difficulty. ^{of} In the majority ~~of~~ persons cane sugar can not digest at all for hours after it is eaten, because the proper ferment does not exist in the alimentary canal at the time the cane sugar is eaten; but Nature seems to come to the rescue. It finds cane sugar present in the alimentary canal, and it manufactures a ferment for the purpose of digesting that cane sugar which is ~~naturally~~ not naturally found to any great extent in the natural food of men.

Now with cows this is quite different, for the cow has one stomach in which there is a ferment which digests cane sugar, so that a cow has no trouble with the cane sugar of the grass, and she can make good sweet milk from it. The sugar of milk comes from the sugar of grass. It is changed in passing through the body of the cow, and comes out in the milk as milk sugar. This stomach of the cow is provided for this purpose, but we have no such stomach. We seem to have no regular provision made for the digestion of cane sugar; so it is an emergency method by which it is dealt with, and this emergency method does not always succeed. In many persons it fails altogether, and then cane sugar lying down there in the alimentary canal can not be absorbed, at least unless it has

been digested first; so the cane sugar lying there in the intestine undergoes fermentation and gases form. This is not the whole story. Cane sugar is irritating to the stomach. Being an unnatural sugar, it is very irritating. If you had a sore surface on the hand and put some cane sugar on it, you would find it very painful. If you should put a strong solution of cane sugar in your eye, it would smart and burn almost as though you put pepper into your eye. It is a very irritating substance. So when it is put into the stomach and put in contact with the stomach it is found to be very irritating. Prof. Ogata, an eminent investigator, put into the stomach sugar in various dilutions, and two per cent solution was found to irritate the stomach, the mucous membrane of the stomach, caused it to have a sort of bloodshot appearance such as your eye has when it is inflamed. When he applied a solution so strong as ten per cent, it produced an appearance of inflammation within a very short time, and when he made the solution stronger than ten per cent, that is, stronger than ten parts of sugar to one hundred parts of water, it produced such intense irritation and such terrible pain that the dog suffered so he was obliged to desist from the experiment. That is his report of it. So you see what happens when you swallow candy by the quarter pound or half pound,--just think how much you require in your stomach to dilute that candy so it would be less than a ten per cent solution. For instance, you eat a quarter pound of candy, four ounces. Now, if you want to dilute that to get beyond the point at which the dog's stomach was inflamed, you must multiply that by ten. You must have ten times as much water along with the candy, which would be forty ounces of water, which would be a quart and a half-pint. If you want to ~~take~~^{eat} a quarter of a pound of candy, you must do penance, don't you see, wash your sins away, don't you see, with a quart and a half pint of water. Now, if everybody was condemned to do that, I doubt if so many people would eat candy. The candy eater is always sooner or later a miserable dyspeptic. I recall at just this moment, a lady who some years ago came to us for treatment for gastric catarrh, a young woman

with splendid physique who had been a most robust, vigorous person, but she was a miserable, pale, wretched dyspeptic, had terrible attacks of distress in her stomach, vomiting enormous quantities of mucus; in other words, she had terrible catarrh of the stomach. I investigated the case as far as I could, ~~xxxxxxx~~ to find the cause of it, and one day I happened to call at her room, and I noticed on the table a large box labeled "Peppermint drops XXX". "Well," I said, "you don't deal in peppermint drops, do you? You seem to have a box full of them." "Oh," she said, "that is my weekly supply. I eat a three pound box every week." And they were triple strength peppermint drops, and she ate a three pound box full every week, or half a pound a day. She had been doing it for years, she confessed. It was no wonder she had gastric catarrh of a most intractable character, and she could not possibly get well without reforming her habits.

The use of candies by children is a most pernicious practice. Candy should never be eaten at all unless it is taken as a part of the meal at the meal. Eating candy between meals is an extremely pernicious thing. The sugar is not digested, but it requires digestion, and it interferes with gastric digestion. It is often a source of serious injury.

Now, let us begin at the top and run down this column here and see something about the properties of these different foods. Apples contain a considerable amount of malic acid, also a considerable amount of sugar. Sour apples even contain almost as much sugar as the so-called sub-acid apples; but the sugar is not conspicuous because the acid overshadows the sugar. The ~~acid~~ sugar does not neutralize the acid. When you add cane sugar to sour fruit, the sugar does not neutralize the acid at all, but only hides it. From a chemical standpoint ^{sugar} ~~whiskey~~ ~~xxxxxxx~~ is an acid. Acids will combine with alkalis, you know. For instance, malic acid, citric acid, acetic acid and other acids will combine with lime, for example, and with other alkalis. Sugar will do the same thing. We have saccharate of lime just as we have acetate, citrate, sulphate of lime, etc. From

a chemical standpoint it is allied to acids. So sugar intensifies the effect of acid. Wherever acid will irritate, sugar will irritate. If you have ulcer of the stomach, then when you add sugar to the acid to prevent the acid from irritating your sore stomach, the sugar simply adds to the effect of the acid, and it does not in any way diminish it. You say, "Oh, very sour fruit will set my teeth on edge, and if I put sugar in it does not.." That is wholly a nervous phenomenon; it is not a chemical action at all, it is simply the result of the stimulation of the nerves of taste. The apple contains a large amount of malic acid and a considerable amount of sugar. You see the carbohydrates amount to 14%. Apricots also contain a large amount of sugar and very little acid. The banana contains a very considerable amount of sugar when it is properly ripened, and no acid, practically no acid at all, so it is a very useful fruit for persons whose stomachs will not bear acids, but one should never be satisfied to swallow the banana until it has been thoroughly masticated. That thing must be said about the banana. Many people who think they can not digest bananas are simply suffering from insufficient mastication. The banana should be mashed, it should be reduced to a puree, and should not be swallowed in chunks, and what I am going to say of the banana now is true of all fruits--the banana can undergo no digestive process in the stomach. Fruits can not be digested in the stomach; they are not digested in the stomach, because fruits contain, beside the water and a large amount of sugar which they contain, some cellulose. The protein that they contain is so small that it may be neglected entirely; the only nutritive elements which they contain are sugar. Their only value as food is in the water, and the sugar, and the cellulose which they contain, that I shall show you on another chart. The cellulose, the wood, is useful too, but it is not a digestible food element. Now, the banana makes trouble because people swallow it without masticating it, and these lumps of banana, lying in the stomach, remain there for a long, long time. The stomach tries to digest them and can't. It contains a little protein there, you see,

a very small amount of protein,--really enough so that people can live on bananas when they have to. In South America, you find natives traveling in the mountains there, working in the great forests of rubber trees, gathering the rubber, and they travel allday and carry a growing load of gum on their shoulders amounting, before they get back to their station at night, perhaps to 100 lbs. or more, and living entirely upon bananas. So one can live and work upon bananas because of the large amount of carbohydrates which they contain-- 22% you see, carbohydrates, and the protein and the fats together make up almost 24%, which is practically the same nutritive value as the potato. The potato has a nutritive value of practically only 24% or 25% or 26%. So, weight for weight, their food values are practically equal, but the banana is the better of the two, because it contains more protein and is more readily digestible than the potato. So if you have any trouble with the bananas, it is because you do not chew them enough. The banana must be put through a colander or it should be chewed so thoroughly that it is a perfect puree with no particles in it. Sometime try this experiment. Take a banana with the skin brown. You never should eat a banana with a red or a yellow skin; at least a large part of the skin should be brown. In taking off the skin, be sure to take off those long, woody fibers also, those strings on the sides. The balance of the banana contains almost no cellulose at all; so that must be remembered if you care calculating on cellulose--it is simply pulp, and luscious food. Now, after you have taken off the skin of the ripe banana, cut it up into any size lumps you like, into a glass, and with a fork or a spoon mash it, and you will be astonished to find that inside of one minute you will find you are whipping up a mass of foam as though you were beating the white of an egg. You will be amazed to see how quickly it will go into liquid form. It is a very, very readily digestible food indeed if it is properly reduced, but it should be reduced to a liquid state before it enters the stomach, then it will pass on quickly out of the stomach into the small intestine where it encounters those digestive juices which are able to deal with it; but in the stomach there is no digestive work

that can be done upon it. The sunlight has already done for the banana what the saliva does for the starch. It has already been cooked in the sun, and it has been digested by the ferments which we provided for it in the ripening process.

Now, we come to the blackberry, a splendid fruit, that contains 11% of sugar, and it has besides a large amount of very useful cellulose. The blackberry, the raspberry and the huckleberry, and currents contain the largest amount of cellulose of any foods. No food compares with those in the amount of cellulose which they contain, as we will see shortly. The cherry and the date both contain a large amount of sugar, but the current contains a large amount of citric acid as well. The cherry contains malic acid and citric acid. Dates and figs contain no acid at all. I ~~had~~ ^{hope} hope the time will come when we can have the ripe fig supplied to us canned and ready for use. There is a cannery for preserving ripe figs in Louisiana, I found one or two there. Last year they lost the crop, but this year they expect to have a good crop of ripe figs, and they are most delicious. These figs are far superior to those you buy in the market, because they have very thin skins and are especially delicious when put up without sugar. The fig is sweet enough to be canned in its own juices, and when put up in this way, it is an exceedingly wholesome food. I trust in a few years it will be on the market generally.

The grape is another splendid food. Some grapes contain a large amount of acid, tartaric acid. The three organic acids which are most commonly met with in foods are citric acid, malic acid and tartaric acid. These acids are found in many different fruits in varying proportions. The citric acid is most abundant in the members of the citrus family--the sour orange, the lemon and the grape fruit. The tartaric acid is confined almost entirely to grapes. That is where it is found most abundantly, but both these acids are found also in other fruits to some extent. Malic acid is chiefly found in apples and in other fruits which belong to the family of Rosacea. The lemon contains quite a proportion of acid, but it contains more sugar than acid. The sourest lemon

you ever tasted had more sugar in it than acid, but the acid overbalances the sugar.

In the muskmelon we have very little protein and a large amount of water, and the sugar is present in considerable quantity. The nectarine has about 16% of sugar, and the orange is rich in sugar, having 12%; so orange juice is very nourishing.

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CHRISTIAN SCIENCE AND DIVINE HEALING

Lecture on the Sanitarium Lawn, Battle Creek, Michigan, Sabbath, June 1, 1912. at 4 P.M.

by

J. H. Kellogg, M. D.

Friends, I am very happy to see you here this afternoon. We have certainly had a very pleasant day. The air is very fine and and the sunshine very delightful and stimulating, and it seems as we are here enjoying all these pleasures of nature that it is the most excellent thing in the world that our minds and our hearts should go out to the Maker of all these good things.

I believe it has been announced that I was to talk to you this afternoon on the subject of Divine Healing and Christian Science. There won't be very much to be said about Christian Science, but a few words, perhaps, at the end. (In the first place, I am going to say to you that, from my standpoint, after giving the matter a good deal of thought and consideration during a good many years, that this question has been quite prominent before my mind, I am convinced that there is only one kind of healing, that there is no such thing as healing by any power but the same Power that made us.)

(Now, if we stop for a moment to consider what healing is, we will see that it takes the very same power to heal that it does to create. Healing, in other words, is creating. Consider the condition of a man who is sick. This man who is ill is not only to be restored, it is not only necessary that parts that are out of order should be repaired, parts that are worn out to be renewed, but it is necessary that the parts that are diseased should be gotten rid of.) So, the really sick man, from an ultimate standpoint, is equivalent to destroying an object and creating a new one in its place. If I had a chair standing here, and I were able, by a mere snap of the fingers, to cause that chair ^{to} vanish, disappear into nothing and a new chair in the place of it, that would be a miracle.

We would say "That is a miracle". (A Miracle is something that is done in some way that we do not understand. That is what we call a miracle. It is a thing that is performed by some force or agency that we are not familiar with and we can not explain, and if we can not explain it, we call it a miracle. From my standpoint, there is no such thing as supernatural things that everything is natural because the natural, itself, is supernatural, when you come to analyze it. The classification we make of supernatural and natural is an artificial one. Supernatural is what we do not understand and the natural is what we do understand, but when we come to understand it, why then it isn't any longer supernatural. The Scriptures were once supernatural. Now, we understand the laws of the Scriptures and they are no longer supernatural, but it is a natural fact, it is a natural process. So the growth of the tree that we look upon as natural and yet, when we come to look into it and study it, it just as mysterious and just as supernatural as anything we can possibly imagine, because we can not explain it.) I remember once I was talking with a doctor about healing and about the Bible. In fact, he applied to me for a position. We were starting out some missionary work in Chicago and this man wanted to join our missionary work, wanted to become a missionary and wanted to be sent to a foreign field sometime, and wanted to ^{be sent} out under our Board as a missionary. So I began to question him a little. I asked him what Church he belonged to. He didn't belong to any church but he was a Christian, he said. I asked him if he believed in the Bible. "O yes, I believe the Bible. Well, that is, I believe most of it." "Well, how about the miracles, do you believe those?" "Well, I believe some of them." "But," he said, "I don't believe them all, I confess." "Now, for instance, there is that miracle about healing the blind man. Christ took some earth, moistened it with a little saliva then rubbed it on the man's eyes and the man could see." He said "I believe that because there may have been something in that dirt that was good for sore eyes, that healed the man's eyes." "Well," I said "Won't you explain to me how something in the saliva or something in the sand or in the earth might have healed the man's eyes?" "Well," he said "You know a great

many medicines are good for sore eyes." "So?" I said. "Well, an is good for sore eyes." "Won't you explain to me how it is that when a man's eye is sick and sore, the cures it? "Why," he said "It acts— well, you know how it is. It acts upon the eye". "Well", I said, "I don't understand that, Won't you explain it to me? Tell me how it is that some medicine in a bottle can act upon an eye so as to convert the sore eye or a sick eye into a well one?" "Well", he said, "Of course, when you get down to that, we don't know how anything acts." That is the real truth of it. (When you get down to the ultimate, we find the things we call natural are super-natural. They are beyond us, just as much as other things that are most mysterious to us. It is only because we do not look below the surface of things, do not look closely enough into things that we think they are simple. You see corn growing in the field; it looks like the most natural thing in the world to plant the corn, then go off and let it grow, and by and by come and pick the ears and carry them home. The man carries a bushel of corn out on his shoulder into the field and in the fall it takes horses and wagons to haul it back again. Five hundred for one, perhaps. Instead of one bushel, it is five hundred or more, maybe a thousand bushels, if you have the right variety and a good, corpulent, properly prepared soil and carefully selected corn, you can carry back a thousand bushels of corn and every kernel in it just as large and with just as much food in it as each one of the original planting, so there has been added 999 bushels of corn from some source. It is perfectly natural, a natural process of growth. "Well, how did it happen"? "Why, Nature did it."

(Now, who is Nature? Where is Nature? What is Nature? Who can tell us what Nature is? When we talk of Nature as being able to cure everything and to create a thousand bushels of corn out of one bushel of corn, you see that we have ascribed to Nature, creative power. We have ascribed to Nature the same power that we ascribe to the great Being that made all things in the beginning.

(Now, as I began to say a little while ago, healing is nothing more than

creating because it is getting rid of the old and the diseased, the undesirable, and taking the new, the restored, rejuvenated, the healed in its place, and if there stood here a sick boy, pale, weazend, scrawny and sickly, dying and groaning and suffering pain, and we pass along and cause that boy to disappear and another boy to stand in his place here, with fresh, rosy cheeks and bright eyes, and full of life, vim, animation and vigor, we would say that was miracle. Now that is the very thing that happens.) When this sick boy gets well, that is the very thing that happens. (The sallow, sickly, unhappy looking man whocomes here to the Sanitarium, by and by goes away with a clear skin and bright eyes and color in his cheeks with strength and vigor in his limbs. That man has been recreated. He not only has been made a new man, but the old man has been gotten rid of. So you see, healing is really nothing more than creation. There is the tearing down of the old and the removal of the old and the establishment or reinstatement of a fresh, new man in his place. (Paul talked about putting off the old man, don't you know, and putting on a new man. Now that is just as true in matters relating to health, just exactly as true as it is in spiritual things. If a man has been a thief and a vagabond, he gets a change of heart, a change of mind, turns over a new leaf and becomes a different sort of man. We will say he puts off the old man and puts on a new man. Now that is what the poor dyspeptic has to do. He has to put off the dyspepsia and put on a fresh, new, vigorous man and to get rid of the old man) and (because this process of healing covers a period of weeks or months makes it none the less difficult, wonderful. It makes it none the less wonderful. It is all the more wonderful, because in this reconstruction process by which the sick man is made into a new healthy, vigorous man, the process is repeated many times. The old sick man is being put off by degrees and he is rebuilt many times. There is a change going on that is repeated many, many times, and each time approximating a little more nearly to the standard of health, so by and by we get him up to a standard of real vigor.

So healing does not differ from creating. In fact, disease does not differ materially from health, only in inconveniences and suffering and misery.

When we get down to the intimate processes of life concerned in health and disease, they are identical, they are just the same. The sick man is simply a person whose body is trying to do its ordinary functions under evil conditions, a body that is handicapped. Now, we find a horse that is pulling a load up a hill. Suppose we put bricks on the wheels so he has to struggle violently, he has got to exert himself strenuously, to use more energy than usual. Suppose the horse that is struggling violently to pull his load up the hill is the same horse as before. His muscles are working in just the same sort of way, the processes of life are just the same, only they are modified by the conditions under which they are working. That is exactly what it is with disease. Here is a man who has a sick stomach. His stomach does not do things very differently from what it does in health. Things are not exaggerated in one way or another. Sickness does not differ from health except in the fact that the body is laboring under horrible conditions.)

Now, in the olden times, disease was looked upon as an intity, ^{entity} - that The man that was sick was supposed to have the devil in him. You know old Dr. Abernathy said that every sick man was a rascal. A man that is sick is abnormal in mind as well as in body. He has not the full possession of his faculties, has not full control of himself. He acts different than he would if he were not sick. So it is no wonder the ancients thought the sick man had a devil in him, and that this devil must be cast out.

I met a lady the other day who was suffering with an awful pain in her stomach and she wanted to have a new stomach. I told her all we needed to do was to cast the devil out of her stomach, and her stomach would be all right. All we had to do was to change her state of mind, to get it off from her stomach, and get it away from her stomach, because she was interfering with her stomach so that it was impossible for her stomach, under those conditions, to do anything well. The poor stomach didn't have half a chance. I told her we would cast the devil out of her stomach and then it would be all right. ^{If} /The devil were personified, it certainly must be in the form of disease. When a man was in pain in the olden times

he was supposed to be possessed by a demon so the casting of the demon out, left the man in his normal state. Now that idea still exists to a very large extent. The man who is sick thinks he must take a medicine, or get some kind of remedy that will drive something out of him. That is what is wanted. It is very rare that it is necessary to destroy anything or to drive anything out of the man he is sick. Sometimes a man has tapeworm or some other kind of a parasite that it is necessary to dispose of. Ordinarily, the thing that is necessary is ~~to-get-something-out~~ the habit that needs to be corrected. It isn't anything that needs to be taken out of the body itself, but there needs to be some correction made in the habits of life. That is where the real fault is and when that is done, then the body sets to work to cure itself; to correct its own difficulties.) So the healing power is really in the body. The disease is simply a morbid action of the body. It is the body trying to do its duty under unfavorable conditions. That is what we call disease. When food is taken into the stomach, for instance, the stomach here works upon that food, pushes it down. Under certain conditions of what we call indigestion, the action of the stomach becomes so violent that the food comes up instead of going down, the man vomits, in other words, and we say then the man is sick. He is sick at his stomach, we say. It may not be the stomach that is sick, at all. There may be nothing matter with the stomach. The trouble is what is in the stomach. The stomach is behaving in just the proper way. Its purpose is to get rid of that poisonous food that is in the stomach. The food has undergone decay or fermentation or is taken in excess, perhaps, and it is abnormal. It will do the man harm to remain there and the best thing for the man is to get rid of it and the stomach acts so violently it pushes it out through the upper opening instead of through the lower opening and gets rid of it as quickly as possible instead of pushing it on down through the whole thirty feet of intestine.) Now the same thing is true of other conditions of disease. (Disease is, in general, the effort of the body to right things. It is the effort of the body to do its duty under unfavorable conditions and make right something that is wrong. When a man has a fever, we used to think the

fever was something that must be combated. (In the old days, when a man had a fever, the doctors attacked him with a lancet, with purgatives, with nauseous ematics, with the idea that they were going to weaken the disease. They said "This man has got a fever. He has got so much vitality, we must lessen his vitality." So they had to draw out a pint of blood and give him powerful ematics and refrain from giving him any water. They would starve him and subject him to the most drastic producing measures and the result was the man very often died of the treatment rather than of the disease.) (The great father of our country, George Washington, was unquestionably killed by the treatment he received. I am certain today if any man were treated as George Washington was treated when he died, the doctor would be prosecuted for malpractice, would be accused of killing the patient. I think there is no doubt about this. If you read the history, I don't suppose anybody here, unless it is a doctor, has had the opportunity to read the inside history of the medical treatment of George Washington, but if they had, they would find it was such an atrocious attack on George Washington that he was in greater danger the moment the doctor got into his room than he had ever been in battle in his life. The result was he was defeated. The doctor drew a quantity of blood, drew a quantity the next day and drew another quantity of blood the next day, and so the patient just about fainted and the next time he drew some more. So George Washington was treated in the most drastic fashion. That was the fashion in those days. That was more than one hundred years ago and doctors those days had the idea it was necessary to attack the patient. The patient was the battle ground and the doctor and the disease were having a fight and the battle ground got the worst of it. When he got through with it, he looked like some of the battle grounds around Richmond and Gettysburg. Things were pretty badly torn up.

Now, the great light that has come into the world in modern times, within the last century, particularly, is the fact that the power that heals the body is not outside of the man, it is not in the doctor, it is not in drugs, it is not in the baths, it is not in the treatment of any sort that is applied to

the man. The power that heals the man is in the man himself. There is a power in the man that heals him. The more closely we study the processes of healing, the more we look into the bodily operations, the more apparent this is. Now, let me tell you a few facts.

For instance, here is a man that is coming down with pneumonia. We think he is getting pneumonia. We examine a little blood under the microscope and we find he has ten thousand white corpuscles in a minute little drop of blood, ten thousand, and three or four/afterward the disease has been developing and the chill comes and the fever, and we make another examination and find he has got twenty thousand and in a few hours more fifty thousand and in a few hours more one hundred thousand of these little white blood cells. Now, what has happened to this man? He has got fifteen or twenty times as many of these little living cells in a given quantity of blood as he ordinarily has. Now that is one of the things that has been revealed in the last twenty years, or so. We have learned that these cells increase very rapidly. Now, at first we did not know why, but now we know why. The eminent scientist of the Pasteur Institute, Paris, by careful study, discovered that these little cells I am telling you about are created for the purpose of fighting the pneumonia germs. Pneumonia is due to a germ that gets into the blood. It multiplies in the body and produces poisons which produce the fever and all the various symptoms we suffer in pneumonia. Now the effort of the body is to capture those germs and destroy them and these little cells are the little agencies the body uses in capturing the germs. Examine one of these little cells in a case of pneumonia and you find pneumonia germs inside. Take some sputum a man coughed up when he has pneumonia and you find it all full of these white cells generally with pneumonia germs inside of them, that the cell has captured and destroyed. So we see a reason why we have these white cells in the blood, why they increase. It is so the body may be better able to make its defense. Six or eight thousand in a little drop of blood is not enough. When a man has got pneumonia, these germs coming on in great numbers, he has here an army of body defenders to be used for the purpose of defending the man. Now think of that, my friends. Think what

that means. I new army that was not there before.) (You know, Elijah once went out into the mountains with his servant, and they were surrounded by enemies, and the servant was very much frightened and by and by this servant's eyes were opened so that he saw the whole mountain was filled with warriors that were there ready to fight in their defense. Now, that is the very thing that happens in our bodies. When the different germs attack us, immediately there is created on the spot for our defense, an army of warriors that battle for our lives. That is the reason why we can recover when we have pneumonia. If it were not for that thing, the very first attack of pneumonia anybody had would kill him. He would die in a few hours, for the pneumonia germ is one of the most virulent germs that are known and this germ grows so rapidly and diffuses itself through the body so rapidly, that if it were not for the power of the body, to defend itself through these little cells that are created for that very purpose, the first attack would very soon end fatally. Now, what is true of pneumonia is true of every other infectious disease. When germs of any sort invade the body, the body at once begins to prepare itself to fight against the disease germs and we have another illustration of this in diphtheria, for example.) (In diphtheria, the Body defends itself in two ways. These diphtheria germs that get into the blood and travel all through the blood are attacked by the body cells and these living cells of the body are created in increased numbers to fight against the diphtheria. But there is another thing that happens. These diphtheria germs are very sensitive to poison. They produce the poison which kills the patient if something is not done for him. If the patient dies of his diphtheria, it is because something is not done for him. Now the body makes an antidote for that poison, not only creates living cells to fight against these germs, but it also creates an antidote for the poisons of the disease which are created by the germs.) See what a wonderfully interesting that is.

Now, of course, the ancients did not know that. The doctors who lived one hundred years ago did not know that and the disease was such a mysterious thing, it is no wonder they looked upon it as demoniacal, the possession of

something else, because the germs are mysterious and invisible to the naked eye, but under the microscope we are able to see them. It had not been discovered at that time and these germs are so very small that twenty thousand of them arranged in a row would make a row only one inch long. If as many germs as there are people in this city were arranged in a row, the row would be only about one inch long, so of course, they could not be seen with the naked eye. These germs, developing in the body, produce such astonishing effects with their poisons, it is no wonder that people thought there was some superhuman influence at work, something supernatural about those afflicted in this way, especially those people who believed in things supernatural.

Now, as I said, the body makes an antidote for the poison which is created by these germs. That is a wonderful thing, that is why we are able to cure diphtheria now with almost certainty. If we can get the patient early enough, we can almost, with absolute certainty cure the disease. Why? Because of the discovery made by Dr. VonBehring, the eminent German scientist, by which he was able to produce this antitoxin and to have it ready made on hand. The reason why the patient some times dies of diphtheria is because the body is not able to make antitoxin fast enough to antidote the poisons produced by the germs. The germs make more poison than the body is able to antidote. So Professor VonBehring made the wonderful discovery that, by putting a small dose of the poison into a horse, the horse would make the antidote, so that the antidote would be in the horse's blood, the antitoxin would be in the horse's blood, and after a few days, he put in a larger dose of poison and after a few days he put some more until by and by he put into that horse's frame one hundred times as much poison as would kill the ordinary horse, yet the horse suffered no injury at all, because his body acquired the ability to make antitoxin and his body made so much antitoxin that it was able to destroy a large amount of poison. Now, when the horse has got the right condition, so that ~~it-is-able-to~~ it's blood is charged with this highly active serum, so it has a large amount of antitoxin in it, then some of the serum is taken out and put up in a little bottle.

When a baby gets sick with diphtheria, we simply take that serum out and inject it into the baby. Then the baby has enough antitoxin there to antidote all the poisons these germs have made, you see. The wonderful thing is this—here is a new germ you have never encountered before. It comes into your body, takes foothold and grows there, begins producing its toxins. In a very few hours, the body begins to make an antidote for that poison. It is a germ and a poison the body never encountered before, yet here the body goes to work and makes an antidote for it. You don't make it, you can't make it in the laboratory, no man can make that antidote. There is no drug which is an antidote for it. It is impossible to make it. It has to be made in the laboratory of the horse, you see. You have to have the horse make the antitoxin for you and the horse's serum is used because it is less poisonous than the serum of other animals. The serum of any animal, unless it is the monkey, is poison to the human body and the serum of the horse is poison so there is some injury in taking the poison and in getting too large a dose. It might produce very serious injury. The serum of the dog would be impossible to tolerate. The horse lives on vegetable substances of various kinds, so his body is clean and his blood is not so toxic as though he were of the carnivorous nature. Why, nobody would ever think of taking a lion a dog or a pig to make antitoxin from. It is the horse that is selected because of his good clean diet and wholesome habits.) Now this antidote, then, the body makes itself. That is the thing I want to make clear to you, that (in the ordinary, natural cure of disease, as you call it, the body creates something that did not exist before and it creates something that is just fitted to the case.)

We have another illustration of it. A very simple, physiologic illustration. Take some of the saliva. Apply it to some cane sugar, and it will not digest the cane sugar, it will have no action upon it, that is, it will not invert it. It has no action on it. Saliva has no action on cane sugar, but take a teaspoonful of cane sugar in the mouth, swallow it, then wash the mouth all out very thoroughly, wash, wash and wash it until it is absolutely washed clean. Then collect a little of the saliva. That saliva will be found to have the

acquired the power to digest cane sugar. It did not have it at the start. It did not have it when you began, but five minutes later it has acquired the power to digest cane sugar, not in large amounts, I am bound to say, but in very small amounts, so small that it is of no consequence from a standpoint of digestion, but it is a scientific fact, and it is useful for illustration. The body has done something new, has created something in the mean time that did not exist before. So, in every case of disease, where a sick man gets well, there is power within the body that has done something and done something new that it had not been doing before.

(Now, in the case of an injury, you can see that very well illustrated. Here is a little piece of skin torn off, leaving a square inch, perhaps, of raw surface. In a few weeks, that is all healed over, it is completely covered over, and if we look at it through the microscope, we see a little row of cells all around the edge of the sore surface, multiplying and dividing rapidly and pushing out little projections and building a bridge on which the work could be carried on.) Now, suppose here is a case of a rent in the tissues. The tissues have been torn out. Now the first thing, that wound fills up with a clot, we all know that. If we examine that clot, we see that clot is made of little fine threads, running everywhere, minute little threads. Now, if we examine it a little while later through the microscope, we will see they are going out through the tissue on each side, little cells, and they are creeping along. On every one of these little threads are little living cells creeping along, and they pretty soon begin to build and they build and build and build until by and by they build a lot of threads which bind it altogether here. In other words, (when there is a damage, a little chasm made in the tissues, the body proceeds very much as a party of engineers would proceed to build a bridge across a chasm. First of all they build up a false work of wood trestles. Then the workmen creeping out, carrying out timbers, carrying out wires and by and by we begin to see the skeleton of the bridge, making its appearance and afterwhile we see the chasm bridged. Then the false work disappears. That is just exactly the way Nature goes to work to repair injury, to build in first a false work with the blood clot, all full of little

fine fibres. Then those cells climb out on those little wires or cables and bind the parts together, but one of the most wonderful things that ever happened, the repair of nervous tissue. Suppose, for instance, this represents a nerve fibre. This is the insulated part, the outside of the fibre, and inside we have a lot of very fine fibres, just one twenty-thousandth of an inch in diameter. Suppose a nerve has been broken or cut in two. The situation of that nerve is just the same as would be the situation of one of these great telephone cables. You see trunk lines running along upon the poles here, very large poles, and these trunk lines have inside thirty or forty telephone wires. One goes to Mr. Smith's house, another goes to Mr. Brown's house, another goes to Mr. Jones' so they are distributed all over this neighborhood. Now suppose, here, for instance, let this represent here a cable. This wire goes to Mr. Smith's house, this to Brown's house and this to the house of Mr. Jones', and so on. Suppose that cable gets broken in two. Now suppose, when you joined these together, this wire became joined to this wire, and then when we called for Mr. Smith, we would get Mr. Jones instead. Now a nerve trunk is just that kind of a thing. Here is a nerve that runs down the arm, that nerve that you have happened to hit sometimes and the boys have called it the crazy bone, and when you hit it your hand feels numb and the fingers all feel numb, and these two fingers especially. That is because the nerve is distributed to those different fingers. There are other nerves that run off to other fingers. Suppose, when that nerve was cut in two, and it grew together again, the fibres did not exactly match, then when you would want to move your little finger, it would be the middle finger that would move, don't you see? A person who has been accustomed to play the piano would have great difficulty, could not play at all, because the fingers would not strike the right note. The orders intended for one finger would go to another finger. So you see it is necessary that when the nerve is repaired, each one of these little one hundred thousand fibres on the inside of the bundle should match exactly the one that belongs to it. You can see that at once. Otherwise there would be a general tangle up. Now some time ago I did an operation in which it was necessary to remove a part of the surface of the body and patch it on at another place. I had to remove a large amount of ski

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up here and put it on away down here. When I touched this patient sometime afterwards, I touched the head of a pin down here and asked the patient to put the finger to the place I touched. She put her finger up here. The sensation to her was that that was the part that was being touched, because the nerve had been moved, you see. In such a case there would be entanglement. (Suppose, when a nerve had been divided in this way, these different fibres came together in haphazard way. Everything would be all tangled up, and one might be worse off than as if he were completely paralyzed. He would have terrible, horrible contortions, instead of having regular, muscular action. Now, it has been known for a long time that when the nerves unite, all these fibres are joined together, hundreds of thousands of delicate fibres, too small to be seen with the naked eye not more than one twenty thousandth or one one hundred thousandth of an inch in diameter, they are so very small, yet they are somehow matched together exactly, but it has only recently been discovered how it is done. Now supposing a telephone trunk line has been broken up here, and there were thirty wires in there and suppose you saw those two ends hang out in the air here and all of a sudden you would see one of those wires shooting out from one end, moving all around in the air and by and by coming up to the other end, and touching it. First one, then another, and another, feeling all around, then finally fixing itself there to one and sticking there. It would seem to you that that was something supernatural, wouldn't you? That is exactly what happens when a nerve is broken. One of its fibres, for instance, this one here, is seen to go out and come up into the air like that. Then it goes moving all about, up and down the line until it finally strikes the one that belongs to it, and there it stops, and so each fibre does that thing. Now there is nothing haphazard about that. That is intelligent, isn't it? That is intelligent. If you saw such a thing happen with the telephone wire over here, you would say that was a live wire, sure enough, wouldn't you? You would say that wire was certainly alive, and each wire was alive. This thing happens under the microscope and you can see the nerve actually hunting around and around for its mate and finally discovering and recognizing its mate and it adheres fast, so the repair is completed.

The chasm is bridged over) (Now all of the healing processes of the body are just after

this sort. There is this same marvelous intelligence displayed. Here is a very simple illustration of it. A baby swallows a pin, a stick pin. I remember a few years ago a doctor down in the city called me up at three o'clock in the morning and said "Doctor, come down to our house right away and bring your instruments for you will have to operate on a little girl". I said "What is the trouble?" "Why, she has swallowed a stick pin, two and a half inches long." I said "Are you sure of it?" "Certainly, we are very sure of it. Come right along and bring your instruments because you will have to operate right away." I said "I am somewhat doubtful about the child having swallowed the stick pin." "Well, we are sure of it we have hunted the whole house over and can't find it at all. We are sure the baby has swallowed the stick pin. "Now", I said, "Don't be worried, don't be worried, because there is a power inside of the little baby's body that will take care of that stick pin and you need not worry at all. Just have the baby eat a whole lot of potatoes and it will get along all right." Now this fact is what I depended upon. Professor Rogeir of Paris, the Professor of the great Professor Bouchard, made some very cruel experiments upon animals that I should not want to make. I should not care to make such experiments, but he made them and discovered this very interesting thing. Here is the intestine here. Now, if you put a stick pin down in that dog's intestine in this shape, for example, this is what happens. In the first place, the intestine begins to get thick there, so while this pin is sticking down into the mucous membrane here, likely to go through the wall, the wall is swelling up, getting thicker every minute so that it can't get through, don't you see? But that is not all. In a very short time, the wall on this side begins to rise up against the stick pin like that. Then it begins to push on that stick pin and pretty soon there is the stick pin standing right straight up like that and the intestine has got clear over there like that, pushing on the stick pin and it keeps on pushing, so pretty soon the stick pin is over here like that. The head of the pin is down stream and pretty soon it pulls out and here the stick pin goes, head down, down stream, and everything is all right. So

it happened with that little girl. I didn't have to do any operation. I said to the man. "Have the little girl eat a whole lot of potatoes". "Why?" "Why, because the potatoes would fill out the intestine, don't you see? A large quantity of bulky food would fill the intestine out so as to give room for the pin to turn over, don't you see, and this would help to facilitate the process. So I say there is intelligence in that.

Now, suppose when the baby swallowed the stick pin, a Christian Scientist had come and said "O no, don't be worried about that pin. Why, there is no such thing as a pin. There are no such things as pins. They don't exist. They exist only in the imagination. The baby hasn't swallowed any pin. There can't be such a thing as a baby swallowing a pin, because there is no such thing as a pin, and there is no such thing as a baby. There is nothing but ideas of pins and ideas of infants. There is no real, tangible, material existence anyhow." Now suppose the Christian Scientist comes along and the people have been induced to do that, to think that, and they sit right down there and do nothing. Well, without some assistance, things might not go on so well, but that is the thing that delivers the baby. It is not any occult process from the outside, it isn't any thinking by somebody at \$5.00 an hour in your behalf that is going to help turn that pin over, it is this part of us, the intelligent action of the intestine itself. Now that is true of all the healing processes of the body. There is no healing process. (Every single healing process of the body is the process of intelligent action.) It is always an intelligent action. (Old Dr. Cullen once made ^{one of} the most ridiculous remarks I think I ever heard of. Somebody was talking to him about Nature. "Nature" he said "I would drive Nature out of the sick room as I would a squalling cat" and he drove Nature out of the sick room and drove the patient out, too. The cat went out before it was carried out, but the patient was carried out. His patient was bled, vomited and purged to such a degree that he wasn't anything, and then he died. It is positively known at the present time, that is, it is my opinion, that if Dr. Cullen had never

practiced medicine a day in his life, there would have been more people alive than there were. If he had never been called in to attend a sick person and ~~the~~ sick person had been left alone, ^{with} the efforts of Nature, with proper care, more of them would have got well than did get well. There is no intelligent physician alive today but knows perfectly well that the old medical practice was of such a character that if the patient had nothing at all done for him, he would have gotten well, perhaps, much oftener than they did, but we had to climb up through those days of ignorance in order to get what we now call "scientific medicine". Through this groping in the dark, we finally came to the light. It was by the extraordinarily bad results that were obtained by the old methods of practice that finally doctors have come to recognize that there is a power independent of themselves, that the doctors were not doing the healing, that the medicines were not doing the healing, but that the healing was done by power resident within the body.)

When we come to inquire what that power is, we see it is not a new power, it is not a new process, it is not a new action set up in the body, but it is simply the natural processes of the body. What the intestine is doing for this stick pin here is simply what the intestine does to food, only it is an exaggerated example of it. It is the way it pushes the food along, it is doing that sort of thing all the while,. What the body does in making antitoxins to fight diphtheria is the thing the body is doing all the while .

The body is making antitoxins to fight the poisons that are produced by germs in the intestine that are pouring into the body all the while and the body has to make antitoxins to fight them. If it was not for that, we would all be dead, because we have inhabited by millions and billions, even several hundred trillions of these horrible germs that are produced within our bodies every day and the poisons that they generate are enough to destroy life if it were not for the fact that the body fights these poisons and creates antidotes for them.

Now, as I said, what is this power? This is not a new power. It is the power that is working within the body all the while, and, if we try to get back to original things, we see it is the same power that is working all about us, in this grass, and

in these leaves, trembling in the breeze over our heads. It is the same power that is working everywhere in Nature. We call this power Nature, but that is only a subterfuge. We say Nature, but that does not tell the real truth. We are afraid of arousing a theological discussion. Some people don't like to say it is God that is doing this. The reason why they don't like to say it is a reason that is not at all creditable to us. It is discreditable to society, especially to Christian society of scientific men who are afraid to use the term God. They don't like to use it. Why? Why, it is because there are so many different conceptions of God. Instead of retaining the one great conception of God as the great beneficent Father, men, by developing many different creeds, have evolved monstrous ideas of God. All the difference between creeds is different conceptions of God. The only reason why we have creeds, is because of men's different ideas about God and God's relation to man. That is the real essence of the differences in creeds, as I look at it, and all of the religious controversies of the world from the earliest time down to the present time, have grown out of the effort of one man to make another man believe in his idea of God, to make another man accept his conception of God. Now these wrong conceptions of God, the great, simple idea, with other minor conceptions tacked on that men have evolved, have not only been the result of controversies, discussions and diversities of various sorts but have resulted in giving a great number men a sort of contempt for the Christian conception of God. Now, I don't believe there is a really scientific man who lives who does not believe in a great Power, but he is so afraid of using this term God for fear someone will think he believes in this kind of a God or that kind of a God, or ther other kind of a God; Mr. Smith's God, or Mr. Jones' God, or Mr. Brown's God. They are so afraid people will think that is the kind of a God they believe in, so they won't use the term at all.

Professor Bunge of Basle talked about the thing that exists in itself. That is what he called this great power, and another great thinker called this great power the non-relative and another called it the power of self-existence, and another called it the un-knowable, so these various terms are used by scientific men. They all mean the same thing, and what the Christian says when he talks about God means the

same thing.) (The power that lies behind all this great exhibition of energy we see in the universe all about us. The sun shines now, and we can not see the stars above us, but they are shining there and every star is a sun and the nearest of these stars is so far away that it takes light traveling at the rate of 180,000 miles a second three years to get to us. If the nearest of our neighbors should explode and go out of existence, we wouldn't even find it out for three years and a half, because that ray of light that started there at the time of that explosion required three years to reach us, so we would not know that that explosion had taken place for three years and a half, and when the astronomers look up into the sky, and think this is happening, or that is happening, what they tell us is very stale news. They say there is a star up there shining out with unusual brilliancy, a star that is shining now three times as bright as it did last year. That means that that thing happened twenty thousand years ago. It did not happen lastnight, or this year, at all, but it is something ten, or fifteen or twenty thousand years ago and we do not know what has happened since. It may have disappeared, exploded, blown up and gone to pieces.)

Now, the marvelous energy that keeps the world going around the sun) and the great astronomical clock sticking with absolute uniformity, why (astronomers tell us there has not been a variation of one-twentieth of a second in twenty thousand years.) These astronomical observations have been made so exactly within the last few years, that the astronomers know there has not been the twentieth part of a second lost in these movements in twenty thousand years. (Now, this great out put of energy comes from some source. There is ^a fount pouring down energy on the earth at such a rate that there is half a horse power of energy produced every twenty-four hours on every square foot of the earth's surface.) Now just see what that means. Here is a square rod, two hundred and seventy-four and a fraction square feet in that square rod. Half a horse power of energy, one hundred and seventy-seven horse power of energy of just one little square rod of ground, almost an endless amount of it, and the recent discoveries that have been made about radium are simply marvelous. (Here is a small bit of radium, perhaps not so large as this little piece of chalk, a little piece of radium not any bigger than that, but has so much energy in it that if you put

it in your pocket it will burn a hole in you in just a few hours, it will kill the skin, so it will fall off and there will be an enormous great sore there and that little speck of radium is producing forty thousand horsepower of energy right along all the while, year after year, continually, forty thousand horse power of energy is being continually thrown off from that little quantity of radium. We can not utilize the energy as yet. We have not found out how to use it for anything except for curative purposes. Well, one man has finally made a perpetual motion machine from this energy. He has fixed up a machine that will run, and the estimate is it will lose perceptibly in its rate of motion in twelve hundred years.) It would be twelve hundred years before there would be the slightest discoverable change in the rate of motion.

(Now, this great source of energy that we talk about as being Nature, is an original source, don't you see? It is a source from which there is a continual outpouring of which there is apparently no end for force is one of the things that is infinite, that is eternal. A way out here beyond our own universe, so far away it would take twenty thousand years for the light to reach us, going at the rate of 186,000 miles a second, if there were a new planet born out there, a new sun brought into existence, this world would feel the pull of it that very instant, although the light of it would not reach us for twenty thousand years, we would feel the pull of it instantly.)

(So there is a power that is acting instantaneously through this whole universe and that is what keeps the great clock in order. This is the very same power that is working in our bodies and it is the power that keeps us alive. Why, my friends, it takes the same power to keep us alive that it did to make us in the first place. It takes the same power to make a man today that it did the very first man that was ever made. We hear how Adam was created out of the dust of the earth and that is how man is made) now. He is made out of dust. (The vegetable takes the dust out of the earth, organizes it into food and then our bodies take this food and form it into human flesh. It is but a transfiguration, and no scientist, no matter how learned he is, can tell you exactly how the food on our table is so transformed and transmuted and transfigured so we eat it today inanimate, and tomorrow

it is walking around and talking. The things we eat today are walking around and talking tomorrow, and it has been rationalized, rendered intelligent by some marvelous process. The process is just as mysterious today and requires the creative power to effect it today, just as much as it did in the case of the very first man.

Why, a little fellow who weighs ten pounds, we see him growing up, year by year, and, by and by, he weighs 150 pounds, fifteen times as big as he was when he was an infant. He is a grown up man, fifteen or twenty times as big as he was. Now that has been a process of creation. We call it the natural process of growth, but growth is creation. It is the same power working today that worked at the beginning and we overlook that fact, and that is where we get mystified, all tangled up, get confused, overlook the fact that the same power that was working at the very beginning of things is still at work. When God made man, he did not go off and leave him, he could not. Man is such an intricate machine that it takes the power that made him to keep him going, to keep the machinery in order.) (When a man makes an automobile, if is going to get any good out of the automobile, there has to be a chauffeur sitting right there at the wheel, with the hands on the wheel, working it, controlling it, manipulating it. That is the situation with a man. The man is a living, vital machine and it is necessary that the engineer should be right at his post every instant keeping him alive and keeping the machine going.) (We are dying every second of our lives. We do not appreciate it because we can not see what is going on within us. If we could see, we would see death, death, death, death everywhere throughout our body. We have in our bodies something like twenty thousand million million blood cells. There is that number of little cells in our bodies. There are several times as many living cells. Now, these blood cells have ^{been} studied. It has been found possible to take blood out of the veins, put it into a suitable place, watch it through a microscope and see it grow, and see it alive. We have found that a blood cell lives about six weeks. The life of a blood cell is about six weeks. Now when we know we have about twenty thousand million million blood cells and these blood cells are dying off at the rate of eight million every second. Eight million every second. At every tick of the clock, eight millions blood cells are gone and eight

million new ones are created to take their places.) There, my friends, is an evidence of creative power that is within our bodies. You lose a piece of skin and a new piece of skin has grown and the wound is covered over and protected as it was in the first place. There is another new creation that has been formed. (We say healing is natural, but we talk about healing salves, healing liniments, and all that sort of thing, healing applications, but these things can not heal. The healing power is in the body. There is a power within the body, an intelligence working within the body that does all these things for us.) (When you go to sleep at night, what keeps your heart going? Did you ever think about that? What keeps your heart going when you are awake?)

I remember some time ago a lady came into my office and she was very much worried. She had been disappointed in life, things had not gone right with her, as she thought they ought to go, but they were going just right, ^{and} because she did not know it, ^s and she was very melancholy and just burst into tears and said "O, doctor, my life is a failure. I am thirty-five years old, and all my prospects are blasted and my hopes have none of them been fulfilled and I feel miserable, I feel that my life is a complete wreck" and she said "It just seems to me that God does not care anything about me at all. I have not prayed for fifteen years. I was brought up a Methodist. I used to pray every day, but for fifteen years I have not prayed at all because I feel that God does not care anything about me. In fact, he is so big, has got so many things to look after, I don't see how he can think anything about me, any way." "Why, doctor," she said "If I could only believe that God had a personal interest in me, I would be the happiest person on earth." So I said "I can prove it to you." "Why", she said, "I don't believe that, but I wish you could." "Well, I will. By the way, let me feel your pulse." So she put out her hand, and I put my finger on her pulse. "Why, I said, your heart is beating." "Why", she said, "Of course it is beating." "Well, but," I said "Does your heart beat of course? If that is the way your heart goes let me ask you to stop it. Suppose you slow it up a little, make it go a little slower. Why, I don't see any change at all." "Why", she said "I can't make my heart go slower." "Then make it go faster," I said. "Well," she said, "I can't do that either." "Well", I said,

"You haven't got very much to do with your heart, then, have you? Your heart beats right along by itself, fast or slow, no matter what you think about it, and no matter what you will about it." Now how fortunate we were made that way for we might abuse our hearts if they were under the control of the will. The heart is so very necessary to our lives that we might end up foolishly, as an Englishman did.

There was a man over in England some years ago who went around exhibiting himself to medical societies before doctors and students and let them examine his heart, for he could stop his heart beating, he could make it beat slower and slower and slower until by and by it stopped entirely. Then he would gradually bring it back again. So he went around and exhibited himself and abused his heart, played tricks on his heart that way until one day he stopped it a little too long, and it didn't start again. Now that is exactly what we would all be doing if we had the control of our essential organs. Here are our lungs. We sometimes do abuse our lungs because we have partial control of our lungs. Yet nobody could ever commit suicide by holding his breath, nobody could, because when a man held his breath until he became unconscious, then the lungs would start going all right and would bring him back in a short time. It is impossible for a person to commit suicide by holding his breath. He has got to tie a rope around his neck, or put his head under water, or do some other thing to make it impossible for his lungs to work automatically. (So when we go to sleep, and wake up in the morning, we find our hearts beating, it is because somebody has been taking care of it. When we find our lungs working pumping air into the lungs to purify the blood, when we wake up in the morning and find the machinery of life going, it is because the Great Intelligence has been on duty all the while. As the Good Book says, "There is an Eye that never slumbers nor sleeps." How fortunate that is for us.)

By the way, did you ever stop to consider why we wake up in the morning? It is easy enough to see why we go to sleep. We get so tired we can not keep awake, but why do we wake up in the morning? When you once go to sleep, why don't you stay asleep. (A lady told me the other day she had not slept a minute all night. She said "I never closed my eyes all night long." I said, "You didn't deserve to sleep if you didn't take the trouble to close your eyes. You shouldn't expect to sleep."

to
 When we want/go to sleep, we shut our eyes. We sometimes shut our ears, too. We shut out all the external noises that disturb us so we can compose ourselves to sleep. How can we wake ourselves up? We are unconscious. We haven't a thing to do with waking ourselves up. I have read a great many physiologies on that question to see if I could find some explanation for sleep and waking up. I found explanations for going to sleep, but I could not find any explanation of waking up. There has never been a satisfactory explanation given for waking up, from a sound sleep, but there was a wise man of old who understood it. In one of the Psalms of David we read this "He wakeneth me morning by morning, the Power that watcheth over Israel." There are so many beautiful expressions in the ^{Bible} body that show us that those philosophers of ancient times recognized the fact that there was a great Power that was keeping us, caring for us, working for us, and it is the same Power that made us.)

The idea, as I said before that some people have, that when God made man, he went off and left him to take care of himself, is the greatest mistake in the world, my friends. When God made man, he put himself into him, so ^{we} he must stay with him, ^{we} he must live with him. The Power that works within us is the same creative Power that made us. Imagine an artist, if you please, that set to work to make a body like man, and when he has made that body inanimate, he puts himself inside of that body, so that he becomes really alive and a real image of his Maker. I don't know how large God is, I don't know what he looks like, I don't know anything about his form, because he is infinite, he is beyond us. We can not form any possible conception of Him or His personality. We know He has personality because we see evidence of it everywhere, design, purpose, power, ~~adaptation~~ of means to end, and we see it right in our own bodies and every step of our lives. Just the moment that God takes himself away from the special interest of the material releases our bodies from special control of it and action in relation to it, just that very moment we are dead. We can not live a single second without this life that is within us.

I remember at this moment a little conversation I had with some of my

children when they were little folks. We sat one early spring day in the sitting room and we were talking of various things, and we were repeating various texts of Scripture that we knew and finally I looked out of the window and pointed to a tree. I said to the children "Who made that tree?" They made the ordinary, routine answer "God made the tree". Well, now, I wanted to make that idea real, absolutely real, in the minds of those children so they never could possibly forget it. I said "Let us look at that tree. Are there any leaves on it? No, but there will be by and by something appearing on the tree. What will we see first?" "Buds". "Now, where do those buds come from?" "They come out of the tree" a little girl said. "Well, who makes the buds?" "God makes the buds." "Now, where does God make those buds? Where are the buds made? Are they made on the tree, on the outside of the tree, and put on the tree, or are they made in the tree?" Well, they all saw the point that the buds were made in the tree and come out of the tree, so this Power that makes the buds must be working down there in the tree. It is a Power that is working in the tree. Then I said "If the buds are made in the tree, are made down there in the tree, and come out of the tree and God makes them, where is God working, then? Where is God?" "Why, he is in the tree." They could all see that.)

(I met a little boy on the cars once and he wanted a pencil and he began making pictures. By and by he made a picture that looked something like a watermelon. I asked him what that was and he said "It is a watermelon" and showed me the stem on it. I said "What is inside the water melon. He said "There is water in it." I said "What else?" "There is sugar in it!" "How does the water get into the watermelon?" "It comes in through the stem," he said. "How does the sugar get into the watermelon?" "Well, that comes in through the stem, too." "Are you sure about that?" "Well," he said "It must be". "Well,,did you ever find any sugar in the ground"? "O no, no, but there must be sugar in the ground because there are salt mines in the ground and there must be sugar in the ground, too." He was a very bright little chap, four or five years of age, and I had to think pretty hard to keep up with him. I said "Are you sure sugar comes out of the ground?" "Well, I am sure it comes along through the stem and gets into the watermelon." I said "If the sugar comes in through the stem, then the stem ought to be the sweetest part of it.

Wouldn't you think so?" "Yes", he said, "That is so". "Well, is the stem sweet?" "O no," he said, "It is not sweet at all" and he gave up. He couldn't tell where that sugar did come from. I said "Who made that watermelon?" "O", he said, "God made the watermelon." "Who, made the sugar?" Well, God must have made the sugar too. "Where did God make that sugar?" It was made right there in the watermelon. The little fellow saw the point. He saw that God had been doing something right there inside the watermelon and God's power was there, the great creative Power that made the first watermelon was making sugar right down there in the watermelon, and he could see the point. It is just a simple illustration. It is just the very same thing, on a larger scale, in our bodies, in all these wonderful processes of growth, repair, digestion and healing. It is a Divine Power, the Power that made us, that is working within us and for us.

Well, if God is good, why does^{n't} he heal us all, right away quick? That is a question that has been asked me a great many times. If God is good, why doesn't he heal us all right away quick? God is subject to his own laws. Not, I should say, subject to his own laws, but obeys his own laws. He must do it, Don't you say God can do anything. That is a misconception. God can not do everything. God is infinite and He can do everything that is good, but He can not do anything that is evil at all. He can not do one evil thing. Not only that, but God can not do anything that is inconsistent. He may do things that look inconsistent to you or to me, but He can not do a thing that is absolutely inconsistent.

To illustrate what I mean, here is a calf, a three-year old calf. This calf has had three summers' experience. It has browsed on the meadows at the brookside. It has heard the babbling of the brook and the singing of the birds and it has nipped the sweet herbs and it has had three years' experience, that calf. Now God can make in a minute, a calf that looks like that three year old calf, and we say He can make a calf that looks just like that three year old calf, but it would not be a three year old calf. God can not make a three year old calf in a minute. It takes the three years' experience to make a three year old calf, you see. It would look like a three year old calf, but he would not have had the experience, you see. He would not have been down on those grassy meadows, he would not have heard the singing birds.

He would not have heard the babbling of the brook. God can not make a three year old calf in a minute. So we see there are certain things in which God is limited in his actual operations by the law of consistency.) (God Himself works in harmony with Himself, and with what we call the laws of Nature, which are the laws of God. I do not mean to say in harmony with our knowledge of the laws of Nature but in harmony with the great laws he has Himself established. Now, to make it concrete, here is a man that is smoking tobacco and he has got smokers' heart and his heart intermits, his pulse is not regular and he is short of breath, and he has a pain sticking in his left side, in his ribs, and he goes to a doctor, and the doctor says "You have got tobacco heart." Now, the cause of that tobacco heart is the poisoning of nicotine, the same thing that he has been taking in day after day, perhaps for many years. Every time that man smokes, he takes a new dose of nicotine, and that nicotine is doing more harm, accumulating harm. It is developing in his body until by and by it will be sufficient to kill him. He is not dead yet, but he is on his way to the grave. Tobacco is taking him down to his grave. Now that man says "God is good. If He is a good God, he will heal me." He goes to a Christian Scientist and the Christian Scientist says "There is no such thing as tobacco, and there is no such thing as poison, tobacco can not do you any harm. It is all imagination. You stop thinking those evil thoughts and you will be all right." But the man goes right on with his smoking. That man might pray, might beseech God and do everything else that it is possible for him to do except to desist from his smoking and his tobacco heart will still remain. The thing that man wants to do to get rid of tobacco heart is to stop his smoking. Get rid of the tobacco, because the smoking is what made it. If God should cure that man of tobacco heart while he is still smoking, His own law would be set aside, and He would be ^{Inconsistent} because He has said that tobacco is poison. Every dose of tobacco that is administered acts as a poison, ^{behaves as poison} and is poison all the while.) (Now God can not consistently with Himself, just to please somebody, to answer somebody's special petition set aside that great law, and he won't do it. A man must, first of all, cease to do evil, as the old prophet said, and learn to do well. That is where the

Christian Science philosophy is short and deficient. It does not recognize causes. Causes do not exist. There are no causes of disease. There is no such thing as disease except evil thoughts. There are no such things as evil acts. It is impossible. There is no such thing as tangible existence of any kind, so the philosophy does not account for the facts as we see them.) (Of course, we believe in Divine Healing. Then, as you see, I believe in prayer. I believe it is a good thing for people to pray. I don't believe God heals people just to accommodate them. I don't believe that. I don't believe there is any class of people, any one man or any dozen men or any number of men that have such an influence with the Almighty that they can persuade Him to do something for a man that He did not want to do and was not going to do. I don't believe that, but I believe prayer is a mighty healing agency, it is the real faith cure. It is the real Christian Science cure, if you please. It is the Christian faith, because it puts a man into such an attitude that he is prepared to co-operate with this great Power that is always seeking to do its best for us.) (When the baby swallowed the stick pin and the stick pin was taken care of, it was not by special request. There are many people who believe that God never does anything for anybody without a special request. Now, if God did not do anything for us without a special request, we would all be in a bad situation right away, because we have to have Him working for us every minute of our lives, making new blood cells, and doing all these wonderful things that are all the time necessary to keep us alive, keep our lungs active, and so on. We depend upon this Power beyond ourselves but not outside of ourselves, but working within us all the time. We depend upon this Power for all these things that are so absolutely essential to our existence.)

Now the Christian Scientist says "God is good, and a good God could not make any evil things." Disease is an evil thing, and hence disease does not exist. Again the Christian Science philosophy is at fault. Disease is not a thing at all. Of course it is not an evil thing, it is not a good thing, and it is not a thing. Disease is not a thing. Disease is the relation of things. Now there is a difference between a relation and a thing. God made all things, that is, all existing things, but God did not make all relations of those things. God made Cain, God made Abel, but God did not

kill Abel. Cain killed Abel. Perhaps the Christian Scientist would say that he did not kill him, that there is no such thing as killing. It was only an idea that killed him, but (I notice all Christian Scientists, when they themselves are attacked and there is a lawsuit, they do not treat it as a nonentity but make a very vigorous defense. But I suppose, if they really had faith in their doctrine, when they had a lawsuit or anything of that kind, they would get together and affirm that there was no such thing as a lawsuit, that it did not exist, that there were no courts, no juries, no laws, hence there could be no possible law suits.) But however that may be, Christian Science says there is no such thing as a disease, because God was a good God and could not make an evil thing, and disease is an evil thing. The absurdity of the reasoning is right there at that spot. (Disease is not a thing, it is an abstraction. Disease is a bad relation of good things. Man puts bad relations between good things and makes evil as a result. Disease comes about in just the same way through evil conduct, through wrong habits.) Christian Scientists make another mistake. Christian Scientists admit the fact that God is the great source of all power. That is the one attractive thing about the Christian Science philosophy, and I think a vast number of people are drawn to it by that thing, but here is a mistake that Christian Scientists make. They say to themselves "God is all in all, but I am a part of God and I am God, and I can create and I can heal, ^{because} ~~which-shows~~ I am a part of God, so I can heal" and that is where the Christian Scientists make a mistake. God has never delegated to us this power of creating, of making life, controlling life, which he makes for us, and he has never allowed anybody to get a corner on it., and charge \$5.00 a piece for retailing it. That is certainly going a little too far. This great healing power is just as free as the sunshine and it is accessible to everybody. You don't have to go to the Christian Scientists to get this great healing power exercised in your behalf. All in the world anybody needs to do is to put himself in harmony with it, just put himself in harmony with it and that is what a man does when he prays. (Does it do any good for us to pray? Most assuredly, it does. Why, my friends, if I did not know that there is a great God that I can look up to

for help, I would be in despair. Now I do not think I persuade God to do something for me that He is not trying to do, but I know when one prays he does not philosophize, he simply cries out for help and that very crying out for help puts him in a position to get the help because he puts himself aside.

I will tell you a little story and you will see what I mean about that. You will see how it helps me. One time I was doing a surgical operation in a very critical case. The lady had been examined by New York doctors and surgeons and they had declined to operate upon her, and it was a very, very bad case. She had gone on getting worse and worse and worse until it came to a time when she must have an operation and they brought her here. Her husband was a very pious man and while perhaps his idea of prayer may have been somewhat different from mine, it did not make any difference. It doesn't make any difference what our philosophy is if we really pray. Praying is when you feel your absolute need and help and you cry out for it. That is praying, and it doesn't make any difference what you say nor how you say it. I don't think it makes any difference how you pray, or who you pray to, for that matter. If one feels in need of help from a higher Power and reaches out in his soul, in his spirit, and cries out for help, he gets all the help that it is possible for him to have, and all he needs.

This lady came to the operating table and I had proceeded with the operation and I had removed an enormous great tumor that was grown fast to everything and when there remained this tumor was removed, a perfect mold in the body itself, of the tumor. It had been there so long and there had been such awful inflammation all about it that there remained there a cast, as though I had taken it out and the walls remained the same shape as before. There was a great big hollow place inside, and there were thousands of little venous mouths, and the blood was just spreading out, filling up the cavity very rapidly. Of course, I adopted the use of remedies for stopping it. I put in cloths, napkins, and while I held something against these openings, it was possible to control the bleeding somewhat, but it went on and on. I adopted every means I knew that was safe. These walls were made up of intestines, very thin walls, pressed up to-

gether, adhering together around it. We could not apply the ligatures because the ligatures would cut out instantly, the tissues of those parts were so brittle. The more I attempted to tie these things, the worse the bleeding was. Every time I put a needle in, there was more blood spurting out. I got to the end of my rope completely, did not know what to do, because I knew that in four or five minutes that woman would be dead in spite of anything I could do, or was doing, unless something radical could be done and be done right away. I was just in despair. I don't think I ever got quite so near the end of my rope in a surgical operation as I was at that moment. I had gone into the case with a good deal of anxiety, and we all bowed our heads and asked God to help us do that thing right. We were trying to do the best we could for this woman. We ^knew God was on our side and we wanted to be in an attitude to get all the help we could. In despair I just simply dropped everything at the last moment, after ^{trying} the last thing I knew to tie, and it didn't do any good, I simply dropped my hands, turned my face toward Heaven and cried to God to help me. For just five seconds I closed my eyes and begged God to help me save that woman's life. I opened my eyes, and, to my astonishment, the muscle I told you about had shut up tight, just like that, and the edges of it just exactly matched all the way around. All in the world I had to do was to put in a few stitches, ~~attach~~ the ends together, and the hemorrhage had stopped and the woman's life was saved and today she is a vigorous, healthy woman, and she would certainly have been in her grave if I had not prayed. It was not an angel who came and closed that wound up, but I was all the time doing the wrong thing, I was keeping it open by putting in napkins and sponges and when I dropped everything, the patient took a deep breath, and instead of being there to resist that deep breath, as I had been doing, it shut things up, changed things, and one side shut against the other side, closed, closed against all those blood vessels and the thing was done.) (You see, we get in God's way by exercising our own ignorant wills. Sometimes our obstinate wills and our helpless wills we are fighting and when we surrender, lay down our hands, turn our faces Heavenward, and ask for Help, then this great Divine Power that is working for our hearts to keep them going, working for our lungs, doing such wonderful things, It is just as able to work

the brain as it is to work other parts, just as able to make the brain work right as to make the heart beat right) and it has a chance, while our wills are saying and keeping up such a jargon that we can not hear what God is trying to say to us.

We have a piano here. Two persons can sit down there and play together on the same instrument. When they play together in unison, there is harmony and melody, but suppose one begins to strike discordant, inharmonious notes. Then it is all discord. That is the way it is. There is a Divine will and a human will working in our bodies and this Divine will is always right, doing right, but the human will is making mistakes. Now, when we pray, our wills cease. Then there is only one will in operation. The human will stops, steps aside, and allows the greater will, the Divine will to come and play upon the instrument, then it is all harmony, then it is all melody.

My friends, what a beautiful thing it would be to live that way, wouldn't it? To surrender our wills, to always be in harmony with the Divine will. That is the whole purpose of good life, my friends, it seems to me, to be in harmony, to be in tune, somebody has said, with the Infinite and that is what a sick man needs more than anything else, is just to get in tune.

We are sick because we are out of tune. Now, the best step one can make toward recovery, is to get in tune with this great Divine power, that is not only willing to heal us, but is doing all it can for us at this very moment, and all the time doing all it can and all it asks of us is co-operation.

I must thank you for your attention.

jhk-v-s-7-19-12.

QUESTION BOX LECTURE

at the Sanitarium Parlor, Battle Creek, Mich., Monday, June 17, 1912, at 8 P.M.

by

J.H.Kellogg, M.D.

I am sorry to have been detained by an accident case which I could not very well get away from without being inhuman.

Q. Should a person eat two starchy foods at one meal?

A. That is, would it be proper to eat oatmeal mush or Cream of Wheat and corn bread or bread and butter at one meal? I do not think that would be very dangerous. I believe I would risk it if I were really hungry. I do not know any reason why two or more starchy foods might not be eaten at the same meal. Bread and butter and potatoes are, of course, two kinds of starch. The saliva is able to deal with all these different kinds of starch. It is ^{only} the person whose starch digestion and assimilating powers are crippled that needs to be particular on this point. (Von Noorden, in his experiments, found that persons suffering from diabetes, a condition in which the body is not able to assimilate carbohydrates, or to utilize starch, can get along very well with one starch at a time, but are not able to deal with more than one starch at a time. Such persons, for instance, are able to make a meal on potatoes or live a whole day on potatoes, and get along very well, or can eat bread or rice or corn or bananas or apples, one kind of carbohydrates at a time, but can not take several. So this is a very important fact which is of very great use in dealing with this particular class of cases.)

Our custom, when a person comes here, suffering from diabetes, is this--we have a means by which we can find out just how much starch a person suffering from this disease can assimilate. We are

able to find out by analysis the patient's co-efficient of sugar utilization, that is, the per cent. of sugar which he can assimilate, and utilize. So we let him eat what he likes the first day or two and we find out how much sugar he can assimilate and notice just what he eats. Then we will give him a day on a green diet. That means a diet of vegetables which contains almost no starch at all. Parsnips, turnips, cabbage, ^{spinach,} and other things of that kind, and Beets and lettuce. Potatoes he must not eat because beets contain a large amount of sugar and potatoes contain a large amount of starch, but almost any other green vegetables he can eat. Then after that we give him an oatmeal day, two oatmeal days, perhaps, and determine the co-efficient. Oatmeal soup is a good thing to use for this purpose. Then another green day. Then a couple of potato days. Then another green day, for a change. Then a banana day and a banana and rice day, watching the results day by day. At the end of ten days, or two weeks, we are able to know just how much sugar this patient can assimilate, and digest, and what kind of starch he can use. Then we can establish a dietary for him, which will probably answer very well for a considerable time although occasionally it is necessary to have a change in these cases.

The old idea was that diabetics must not eat starch. As a matter of fact, we all know that starch is just as necessary as air for the diabetics,—that a man who is suffering from diabetes must eat starch. It is the most important thing of all for him to eat. He must have it. It is just as necessary as air, almost. Why? Why, because starch is converted into glycogen in the body and glycogen is the energy producing material that keeps the heart going, the brain going, and all the bodily organs. It furnishes energy to all these organs. Starch is the fuel of the body, the most important of all, and if the patient does not eat starch, and so

get a new supply of glycogen, then he must steal it away from himself. In every protein molecule, there is a little starch, or carbohydrate, so the body itself will be broken down. The brain, the muscles, the heart, the liver, every organ will be broken down by the diabetic to get the ²sugar which is stored up in the protein cells. There is a little ²sugar in the brain, a little in the muscles, in the liver, kidneys, and every other organ, and these are actually consumed by the patient in order to get the carbohydrate necessary for his own use.

Q.--Does the Sanitarium serve its fresh milk from its own herd of cows?

A.--No, we don't, but the milk furnished upon our tables all comes from a single herd of cows that are kept and cared for and fed and maintained for the special benefit of the Sanitarium. We take the entire product of this herd and we supervise it. It is, indeed, under the supervision of one of our doctors, who is interested in the dairy and the attempt is to make a model dairy and to furnish the Sanitarium with the finest milk that can possibly be produced, and I think that is the thing that is done. The cows are cared for with the greatest ^{is}care. The milk/produced under the same conditions that are required for the best certified milk. You have heard of certified milk. The milk served upon our tables is equal to the best certified milk and is produced under the same conditions exactly, although it is an independent enterprise, it is not a money-making enterprise so far. It has been a money-losing enterprise, but I trust it is a gain to our patients.

Q.--When do you expect a Good Health cigar will be discovered?

A.--Here is somebody that is away behind the times. The Good Health cigar is already produced. It is manufactured in Brand Rapids

Rapids and labeled Battle Creek and it is marketed all over the country under the name "Good Health Cigar". It is not guaranteed, however, but it is labeled "Good Health Cigar" and purports to come from Battle Creek, but it is made in Grand Rapids. This cigar has been on the market, I think, about ten years. I nearly turned brown, green, and all sorts of colors with indignation when I saw this put upon the market, that they had stolen two of our names, "Good Health" and "Battle Creek", and attached them to a cigar. It seems to ~~be~~ ^{me} the worst insult we could possibly endure, but it is not a Good Health Cigar, for there is no such thing as a good health cigar. When you take a cigar, and remove from it all its harmful properties, there will be nothing left but paper, and nobody would care to smoke paper. You would simply have a piece of brown paper, if you removed all the harmful things from a cigar. A cigar is one of the things you can not reform. The only ^{way} it can be reformed, is to be destroyed.

Q.--I think that I have a falling arch of the left foot. How may I be sure of this?

A.--Now, if you will come and see me, I will make you sure of it, if you have it, so I shall still hope you have not got it for it is a very bad thing to have. When the arch is broken down, it never is restored again. It is one of the things you can not be cured of. A simple remedy, however, that is practical, is to have an artificial arch to wear in your shoe. There are made now arches that are comfortable, that are adjustable, and will make your foot very comfortable. If you will come to see me, I will be able to tell you right away whether you have a broken down arch, or not, so-called flat foot. The flat foot is sometimes responsible for sciatic pain for pains in the back, ~~and~~ ^{and} for neurasthenic trouble. It may grow out of a broken arch, ~~and~~ a broken down arch, so this is a matter really, that requires some attention.

Q.--Does nerve-tire cause a daily rise of temperature to 100° when it was subnormal in the morning, a condition which has existed for a month?

A.--No, I never knew of such a thing as nerve-tire causing a rise of temperature. I don't believe it does. (Occasionally there is a rise of temperature due to nervous influence, but it is not common. I remember very well some years ago doctors used to have more faith in nervous rise of the temperature than we do now. A very remarkable case occurred out in Omaha. It was reported by an army surgeon that there was a lady in the hospital there whose temperature got up to 120° some times and a little later I saw a doctor from Omaha, whose wife was a patient here, and he said he was attending this hospital, and was well acquainted with this patient, and he was in to see her a little while before and her temperature had gotten up to 175° . In fact, the temperature had gotten above that. The last time they took the temperature, it smashed the thermometer and 240° was the last observation and still going up and finally the thermometer broke. The doctor had had several thermometers especially made because the thermometers in the hospital did not register high enough, and they had to have special thermometers made and these were smashed. I said to the doctor "Are you sure?" He said "Yes, indeed". He said "I watched that case very carefully. I know it is authentic. There is no doubt about it." I said "I should think it would be a good plan to employ that woman to heat the hospital and save the fuel." He said "I have not taken that view of it." The woman's temperature was so high, that is, 240° . That is almost baking temperature, away above the boiling point, and certainly it would at least warm a few rooms, I should think. The doctor thought I was making sport of him, and of course, I was. He found out afterward that this patient had acquired the knack of squeezing the

thermometer so hard under her arm that she succeeded in fooling the doctors.)

Q.--Do you believe experimental vivisection is being practiced on human subjects as is claimed by the Anti-vivisectionist?

A.--Well, I don't know of any such case as that. I have known some times doctors who offered themselves as subjects for experimentation, but I have never known of a doctor making experiments on his fellow men.

Q.--Why should deep, abdominal massage given to empty the cecum reduce bowel movement from three times a day to once a day on the same diet of spinach, etc.?

A.--Well, this is rather a long, complicated case, and I think the patient better come to see me. I do not see any connection between the two things. We should not always regard a thing that comes after another thing as being the result of it. We may have two things coming together or in succession, which are the result of some other cause, that is out of sight.

Q.--What should be done to make a girl straight? She is fourteen years of age.

A.--Well, first of all I should encourage her to be straight, and then I should exhort her to be straight. I would talk very earnestly to her to be straight and, if necessary, I would set her up straight, and if that was not sufficient, I would put her in a straight jacket. I would keep her straight any way. I remember a small boy I had trouble with. He was a little fellow I used to see in school and whenever I saw him, he was all humped over about his work. The little fellow's name was Freddie and I spoke to his teacher about it, and I spoke to him, but the more I talked to him, the more he doubled over. The next time I called at the school, I found the little fellow all doubled up, like a jackknife, and I spoke

to the teacher about it, and the teacher said "I have tried very hard to get Freddie to straighten up, but I don't succeed". So I took Freddie right up off his feet, took him across my knee, straightened him out, and put him back in his seat. He looked up at me at once and he said "O doctor, I am very much obliged to you. I feel so much better". The little fellow was ready for the emergency, you see. He had been stubbornly getting more and more crooked every day. When he found the time had come that he must straighten up, he made the best of the situation, and thanked me very much for making him straight. He felt better.

Now, the real trouble here why a child is not straight, and does not sit up straight and walk straight, is because he does not care enough about it to think about it. That is the reason. He has not enough self respect to want to be straight. He does not consider it a matter of sufficient importance and he must, somehow or other, be impressed with the importance of keeping straight and of caring enough about keeping straight to keep it on his mind and to think about it a thousand times a day.

Nobody can keep straight without giving the matter attention. Nobody can. When I see a man walking straight down the street with his shoulders up and his head up, it is because he thinks it is worth while to hold himself in that attitude. It takes some energy, it takes some thought, it requires some attention to do that thing. If you see a man slouching along in this sort of way, it is because that man does not care enough about his personal appearance to think it worth while to walk straight, in a dignified, graceful and presentable way. That is the real truth about it, when you get down to the fact. That is the real truth. I did not know that until I made a trip to Egypt some years ago and I noticed in Egypt and Syria that the Arabs were always straight as arrows. You see,

the Arab, sitting up on his camel and the camel swaying back and forth as he lurches along, and you see that Arab sitting up there straight, just moving back and forth like a door on its hinges, but just as straight and erect, swaying with the camel's movements. He is always straight and you see an Arab walking down the street just as straight and erect and making a splendid appearance.

I said to Mr. Lloyd, an American whom I found out there, with the Arabs, who had been there forty years, and had lived with them in a tent, I said to him "How is it that these Arabs are so straight? Are they naturally straight?" "O, no", he said, "O, no. You ought to be down in their camp about night fall when they have gathered into their tents and the lights are out, see them there in the twilight just before retiring." He said "You will hear the old Arab saying 'Sit up, there Abraham, sit up. What are you doubled down there like a fool for? Sit up straight!' and pretty soon he will be shouting out to Isaac and Ishmael to sit up." He said "The parents are talking to their children all the time from the time they are so high, to make them sit up straight".

I was walking down the Nile one day and passed a mud hut and there was a woman cooking dinner out doors with buffalo chips, over a little tin in the very depths of poverty, as poor as it is possible to be. Nothing but a mud hut to live in and a few tin things to live on, and a mere pittance for sustenance, and there was that mother and two or three children were running around the front yard, some little tots, two or three years old, and some five or six years old, and they were playing together, and each one of those little children had a little tin plate or a little block of wood on its head, and they were playing about, getting down to the ground, and up again, hopping and skipping around, but they always

kept that little plate or block of wood upon their head. It was not an easy thing to do, but I never saw them lose it off once. I said to my dragoman "What sort of game are those children playing, there, with those things on their head?" He said "Their mother makes them keep those things on their head so they will stand up straight". Now, just think of that thing. We civilized people don't think it is worth while to sit up straight. We haven't enough self respect to keep ourselves in good, presentable form. We allow ourselves to drop into a state Mr. Cleveland would ^{have} call ^{ed} innocuous desuetude and, by carelessness, by our utter neglect.) So when you have a girl fourteen or sixteen years old who does not walk straight, it is simply because she does not care enough for her appearance. You have got to lecture her, talk to her, make her see how she looks.) I would show her into my office and ask her to look at me, and I would show her how she looked. Think of a girl with a chin stuck out in the air like that. Why, you ought to be ashamed of yourself to go around in that way. You come down to my office and I have got some mirrors in my office that I have there for that very purpose and when I find some of these crooked people that don't think it worth while to stand up straight, I stand them up there and let them see themselves. They don't know how they do look, that is the trouble. You get these people straightened up just a little bit, and they think they are too straight, and they are not half straight enough, you know. (Now, this matter of walking straight or standing straight, people don't understand about it. That is one reason why a child does not straighten up when you tell them to. They don't know how. You say to a child "Put your shoulders back" and the child puts his shoulders back and there he is. He doesn't look any better than he did before. He feels kind of awkward about it and that does not help the thing very much, I suppose, but say to that child, who

is all doubled over in this sort of way "Raise your chest up just as high as you can. Get your chest away up. Imagine your nose is going way up, lifting you up, and pulling you, and pulling your chest up, too." That puts them in the proper position at once, but when you tell them to put their shoulders back, that does not answer the purpose at all. It is to put the chest up and that settles the whole thing.) So there is something in knowing how, don't you see? I find most people, when they really understand the thing, are glad to take the little trouble necessary to be straight. Nearly everybody can straighten up, no matter how old you are, you can make a wonderful improvement, if you try. (If you are round shouldered, just a little thought in the matter, if you know how to do it, will help you immensely. (It is only necessary to put the chest up so you can balance on your toes.) When you are depressed in this way with round shoulders, usually the hips are forward and the chest collapsed and the shoulder blades are sticking out behind. Now then, suppose I want to stand on tip toes. See what I have to do in order to balance. You see, I have to get away up forward in order to get balanced, because my hips are forward, so I have to sway forward. (Now when one is in a correct position, his chest is up and his hips are back where they belong. Then if you want to go up on tip toe, you go, don't you see? You can go right up and down in a line.) (People don't understand how much difference the poise of their body makes in their appearance. You will see a person going down the street and you form some idea of their character by the way they carry themselves and it is/a just estimate. A person who has a depreciating, cheap sort of appearance, there is something cheap about him. He does not think enough of himself to think it worth while to put himself in a correct poise.) I was very much impressed with this twenty years ago, when I was traveling out in the

mountains, I think, of Idaho, or on the Oregon short line, somewhere, I think. I don't remember exactly what state it was in, for it was in the middle of the night and there was a train off the track, and I had to wait in a little mountain town where there was no place to stay but a poor, miserable, old hotel and that was full and I was walking on the street and as I was walking along, I saw, ahead of me, an Indian with his blanket and I watched that Indian, a magnificent great fellow, who was just as straight as an arrow, and he walked with a poise and dignity that would have been becoming to a king, and he did not notice me as I went by him. He never turned his head. He saw me, of course, before I saw him. He heard my steps. He knew everything about me, I presume, that was possible to know without making inquiries, but he did not appear to. He was not the least bit disturbed. With measured tread, he was walking along the sidewalk like a king. He did not know there was anybody there but him. It was in the middle of the night. He didn't know there was anybody there watching him. He was walking as a king walks. He had self respect enough to hold himself erect and straight. Now, I have seen the same thing with other nationalities. (Wild, people, primitive people, carry themselves straight. It is we civilized people that have lost respect for our selves. We look upon our bodies as poor miserable things, to get as much as we can out of them, then throw them aside and let them go. The general idea maintained by civilized people about the body is being modified somewhat, I am glad to say, in recent times. The old idea has come up through the middle ages and is well expressed by an epiteth on a tombstone in Kansas "Under the sod and under these trees, Lieth the body of SolomnTease. He is not in this hole, but only his pod, He shelled out his soul and went up to God". You see, the idea is that the body is a pod and the real thing is the soul and that is perfectly true, but in addition

to that, the old idea was the body is of no account at all, it is nothing but a pod, so get out of it as quick as you can. Throw it away, tread it under foot.) (Why, the old fathers away back a thousand years ago actually thought the only way to become really good and really spiritual and really pure was by abusing the body. I read some time ago in an old book that had a good many things in it, I am bound to say, but it had many other things and among them it said "The purest souls are to be found in the dirtiest bodies" and the bodies were allowed to get dirty in order that the souls might be sweet and pure.) (We have more respect for this body of ours; It is the duty of every man and every woman to make the body—and every boy and every girl ought to be taught, and know, that this body is the most splendid piece of property they can have, that is the most important asset they have got in the world, or ever will have, and they must make the best of it, to preserve it, to develop it, to cultivate it and built it up and to develop it into the best possible body they can have.) (The schools should inculcate this idea. A man should be ashamed to go out of college with a degree attached to his name without knowing how to take care of himself. (Applause)).

Now just think of it. People come out of school without knowing the principles, the fundamental principles of physiology. Why? At the present time, the things most needed in the world are hospitals and sanitariums for college maimed and university crippled men and women. That is really one of the crying needs of the world today. That is one of the things this institution is for. There are a whole lot of people coming here straight from college, broken down men and women "Sicklied o'er with the stale crust of thoughts" as Shakespeare says. Not sicklied o'er, but sicklied in, too. It is more than skin deep. You ought to make a study of the question. You ought to make a study of human life, the study of the human body and physiology, the central educational theme and the principal theme that every institution and the time will come when that will be true.) When we get civilized enough to think it worth while to make the most of our bodies, why, (I was down to old Port Yuma, among the Yuma

Indians about twenty-five years ago, to study those Yuma Indians, because they were then the most primitive people in the United States. They still lived there in their original primitive state, at that time, and there was not a civilized garment in the whole community there, nothing but little bark aprons for the women and "gee strings" for the men, as they called them. A pocket handkerchief made a whole suit of clothes for a man, and it didn't require very much more for a suit of clothes for a woman, and a most splendid looking people they were. Their diet was made up of roasted pumpkins, park seed, muscatt beans, and simple roots and grains. At that time, they were not furnished with any rations by the Government. They didn't get any Government corned beef, or anything of that sort, and they were still healthy, splendid people. They have become demoralized now. You find them there now, clothed and civilized, and all dying off with consumption. Now these splendid people, I found, at that time there was an effort being made to civilize them by some good, Catholic sisters. There was Sister Alphonse and another Sister who had gone out there and established schools, but they could not get but a few of the children to come to school. I saw these children in school on a very hot, winter day, for the temperature is sometimes 110° on New Years' Day down there at Yuma, one of the hottest places in the country, and in this school, on a very hot day, when I was sweltering with light clothes, those children had on woolen coats and pantaloons and stockings and shoes and the poor things were sweltering in school. Down on the river bottom, where the Indian camp was, their mates were all running around without anything at all on and were having a really happy time, and I asked the good Sisters "What is the trouble with the school here? Can't you get the children to come to school?" They said "Well, the old Indians don't like to have them come". "Well, what is the objection that the old Indians made?" "They say it is not good for their health to come to school." Think of that. The one thing those savages were afraid of was that these children would lose their health, would not grow up healthy. "Well," I said, "Do they?" Do they lose their health?" They said "They do get water brash and they get catarrh, and the Indians think it is

because they come to school." "Well", I said, "What do you think about it?" "Well", the good, honest Sisters said "I am afraid it is true. They do get water brash and they get catarrh when they come up here, have sore throats and catarrhal trouble when they come up here." I said "What do you think causes them?" "Well", the sister colored up, Well, I thought she didn't like to say and I said "What do the Indians think about it?" "Well," she said "Those Indians think the children have catarrh and have colds and sore throats because they wear clothes." Well, I saw through that right away. These children wear clothes, and they perspire and their skins are overheated and when they took off their clothes and went back to camp, of course they took cold, whereas, if they had not put on any clothes at all, they would have been warm and comfortable all the time and would not have taken cold as they did then. I said "What do the Indians think makes the water brash?" "They think it is the Government corned beef we give them." She said "They send ~~stortillas~~ tortillas and every Friday they have a happy time for we let them cook ~~stortillas~~ tortillas, and every Friday they make corn cakes and they bake them on the top of the stove, and they are just delighted with the corn cakes." Now, those Indians recognized that civilization was doing them harm and they thought it was better to sacrifice education than to sacrifice their health, and there was some sense in it.) It is far better, far better, I think, that a child should grow up with a good strong healthy body, without an education, than to go to school and come out a child with a poor, weasened body. The child will get a good education, any way. I had a good lesson in that one time. (A lady in Chicago wrote me that a friend of hers caught a bear, had a six weeks' old bear and would like to give it to me, and I had taken in a good many boys and girls in those days, and they thought I would take in a bear, too. So I said "All right, send along the bear". And I looked at the bear with a good deal of pity. I said "Here is this poor little fellow made captive, and I am going to bring him up in captivity and he doesn't know anything at all, and he has not got his mother to teach him anything and hasn't got the wit, and he won't have the opportunity a bear needs for education, and I felt really sorry for the poor,

little fellow. But in less in two weeks, I discovered he knew ten times as much as I ever supposed a bear could ever know. The little fellow was just brim full of the cutest, brightest, keenest tricks you ever saw. For instance, he wanted something that was out of reach. I wanted to see him play some pranks, so I put something purposely out of his reach. He would go across to his hole, and stay there, and then he would come out once in a while and reach out as far as he could, to the end of his rope, and I would put the object up just so he could not reach it, to see what he would do. It didn't take him very long to find out what to do. He would get me coaxed up so I would get it just fairly out of reach, and when I wasn't looking, he would turn around, and reach out one of his hind legs, don't you see, and he was two or three feet longer. "Well," I thought, "This little fellow won't know how to climb a pole because it hasn't any mother to teach him"; but I put up the pole and it wasn't more than a few minutes before he was at the top of it. I said "Of course, he can not untangle things, and do things of that kind, but you ought to have seen how quick he would disentangle his chain and untie knots. I didn't have to teach him wrestling or boxing. He knew that by heredity. He was a hereditary boxer and a hereditary wrestler. He grew up to be a large bear on the premises here, was cute, smart and intelligent and amused everybody with his tricks." (So you see there is a natural development of the mind entirely independent of universities, entirely independent of colleges and I am not discounting those, at all, but I am saying that if one could not have but one kind of education, he better have the education that comes from contact with practical things, from contact with Nature, practical things, to have good health, than to have all the education he could get in the universities without health.) We will see that by and by, if we don't we will degenerate, that is all. (We are coming to be a lot of degenerates, in spite of our university training. Think of it, in spite of our universities, feeble-mindedness has doubled in one generation. Thirty-five years ago there was only one feeble minded person in every two hundred in the United States and today there is one in every one hundred. One percent. of the

probably the most common of all causes. Putrefaction takes place in the colon; the poisons are absorbed into the blood, these poisons are circulated through the lungs and are thrown out through the lungs. That is why the breath of a constipated baby smells so bad. The breath of a constipated person, of a constipated baby, has a fecal odor. It is because the poisons formed down there in the colon are coming out through the lungs and these poisons thrown out through the lungs, irritate the little bronchioles, the small air tubes. Then the muscular walls contract so when the person breathes and takes the air into the lungs, these bronchioles contract, can not get the air out. He can get it in but he can not get it out. When he undertakes to force it out, the lung cells are dilated by the pressure and the result is asthma, or an emphysema, perhaps, injury of the lung. Most cases of asthma are cured by simply increasing the activity of the bowels and putting a patient on an anti-toxic diet .

Q.--What condition should govern the time limit of the electric light bath?

A.--The condition which should govern is the doctor's prescription. This prescription will be based upon the effect desired. If simply stimulation of the skin is desired, just enough stimulation to cause the skin to act well, then the bath should terminate as soon as the skin begins to perspire freely, in four, or five, or six minutes, perhaps ten minutes, but if the doctor desires to deplete the patient somewhat, to reduce his flesh, to get some of the surplus water out of his body, if he has dropsy, then it will be a prolonged bath, maybe half an hour or even an hour, according to the effect desired. If a person is too fat, the electric light bath will burn up his fat at the rate of half an ounce every half hour. No, it is about an ounce every half hour. A half hour electric light bath will burn up an ounce of flesh, so you can see about how many baths you ought to take in order to reduce flesh, if you reduce it that way. A walk of eight miles will burn up an ounce of flesh. Swimming in cold water for half an hour will burn up an ounce of flesh. So there are various ways of doing it, but the best way is

to get rid of that superfluous flesh, is to eat less. Then the forces of the body, which are burning all the time, will burn up the flesh at the rate of about one-eightieth of your weight every day if you don't eat anything at all, and a less proportion according to the amount of food you eat, provided you do not eat as much as the body requires for daily use.

Q.--What causes the feet to sweat?

A.--In many cases ^{it} is a process of elimination. The large sweat glands, in the bottom of the feet, especially, eliminate poisons from the body. When a person has autointoxication, there is a bad odor to these excreted substances.

Q.--Do you advise the use of bromo quinine?

A.--No, I don't advise the use of bromo quinine, because I don't know anything in which its use is necessary.

Q.--Are you an advocate of promptness? If so, explain why you were so late this evening.

A.--I didn't like to tell you that. The truth of the matter is I started out at quarter of eight to take a little ride in my automobile in order to get in some wind to supply me with what I wanted to pour out here to you. I wanted to take a little ride, to get a little fresh air, to brighten up my brain, and to enable me to answer your questions expertly. That is the truth, and, while I was riding along on my way home, the automobile just in front of me, about fifteen or twenty rods in front of me, ran over a couple of women, and I had to get out and stop a little while and see that they were properly taken care of, and that is what made me late. Otherwise, I should have been here on time. I am never late unless there is some serious thing that keeps me. I make an effort from the time I get up in the morning on my lecture days all day long I am laboring hard to save myself so that I will be sure to get here exactly on time. In order that you do not really suffer, I have an orchestra here to entertain you till I get here, if I have an emergency, so you see I ameliorate the situation as much as I can.

Q.--What is your position on vivisection?

A.--I don't do it, and I don't recommend it, but if somebody else thinks it is

necessary to do it, and does do it, and works out some very important principle that is made of use to other people, I don't raise a howl about it. I say "Thank the Lord we have found that out and I am glad I didn't have to do it". There is no question that some very great information of the most importance has been given to the world through experiments on animals. It is the only way some things can be found out. The Anti-Vivisectionists are very unfair in their argument. While their purpose is good, and I am heartily in sympathy with them in their purpose to prevent cruelty to animals, and unnecessary loss of life, while I am thoroughly and heartily with the Anti-vivisectionists in that particular, nevertheless, they overlook the fact that there are circumstances in which even men find it necessary to lay down their lives to save other men's lives, and I think it is perfectly proper to ask an animal to sacrifice its life to save human life.) (A doctor down in Cuba allowed himself to be innoculated with yellow fever and died of yellow fever, in order that we might have the absolute, positive knowledge of the real cause of yellow fever. There is no other way to get the positive knowledge He didn't ask some other man to do it. He said "I will do it. I will let that mosquito that has bitten a man that has yellow fever bite me"; so a mosquito was made to bite a man who had yellow fever and then that mosquito bit him and he allowed it to in order that the fact might be known. He had the yellow fever and, unfortunately, had it so hard that he died. He knew he was taking that risk when he did it.) (Every doctor who attends a small pox patient knows he is taking the risk of getting it himself. Doctors don't think anything about that. A friend of a friend of mine in Cincinnati had an interesting experience. He said "A friend of mine had a brother who was a preacher. He was a doctor and a poor woman came along who had spent her life in a shameful way and had got small pox and was up at the hospital, a woman who would be generally looked upon as a worthless creature, but he thought she was going to die, and he ought to have a chance for the salvation of her soul, at least. So he asked his brother to go up there, as he was attending the case,

to go up there and talk to this poor woman. His brother was a clergyman and his brother made a call. A short time afterwards his mother called him up by telephone, and she said 'Why, James, Why did you ask Tom to go up there to that small pox hospital?' 'Why' he said, 'Why shouldn't he?' 'Why, he might have caught the disease himself and died of it.' 'Well, Mother, but you don't seem to remember that I am going up there every day, several times a day some times.' 'O, but you are a doctor'." That made the difference. Doctors don't differ from other people. Doctors have to take their lives in their hands very often, more often than anybody knows, in order to save other lives. That is what a fireman does when he rushes into a burning building to carry people out. That is what life savers do when they go out in their boats to rescue people that are in danger of shipwreck, and I say, I think it is perfectly just, when a man is willing to sacrifice his life for the benefit of his fellows, is willing to do it, I think it is perfectly right and proper to ask an animal to do the same thing, if it is necessary, but not to subject that animal to torture, or to unnecessary suffering or cruelty.

There has been a vast amount of it, there is no question about that, and the efforts of the Anti-Vivisectionists have done a great deal of good in suppressing a whole lot of unnecessary and foolish experimentations upon animals that ought to be suppressed. So I very seldom say anything upon the subject. While I approve of scientific work, which is necessary, such as Pawlow of St. Petersburg has done, which has given us information that has enabled us to relieve thousands and thousands right here in this institution, where we have been able to relieve from suffering, thousands of people that we could not relieve before, by the aid of the knowledge which Pawlow has worked out, by his experiments on dogs. I went all the way to St. Petersburg to find out about it, to know about it, to make sure I knew all about it, and the same thing is true with reference to other lines of experimentation. But these people take extreme ground, yet I am thoroughly in sympathy with their main purpose.

Q.--What is metabolism?

A.--Metabolism is the use in the body of the food we eat, and the changes that take place in the tissues as the result of the work we do. There are different kinds of work done in the body and that is what is called metabolism. It is tissue work. When a muscle works, some of the food we use is burned up, broken down, and the energy set free and that energy is used in work. That is metabolism. When we eat starch, the starch in the body is converted into sugar and the sugar is burned up and makes heat energy and that is one kind of metabolism.

Q.--Is the electric light bath good for reducing flesh?

A.--Yes, it is one of the best things known.

Q.--Why has osteopathy no place among the Sanitarium measures?

A.--Well, osteopathy is an anomalous thing. I don't know as anybody knows exactly what osteopathy claims to be. When it started out, it consisted of setting dislocated bones. The osteopath has been claiming more and more and more and taking more and more and more until at the present time, osteopathy claims everything, that is good for a sick man, so the osteopath is making use of various things. I am very glad to see that that is taking place. I was talking not very long ago with a very intelligent doctor in osteopathy and he said he was sure the time would come when the term "osteopathy" would be dropped and osteopath would no longer be called "osteopath", but would complete their so they would be come thoroughly qualified physicians, and then nobody will have ^{any} occasion to find fault with them. (At the present time, a man with a little knowledge about bones, and massage, then puts up a little sign "osteopath" and goes to work doing all sorts of things by main force and ignorance. He sometimes does a great deal of harm. I might mention a case not so very long ago. A man was brought here who had a pain in his knee and he had been examined by an osteopath and the osteopath said his hip was out of joint, so he struggled away with his hip joint. Tried to reduce it, or replace it, but did not succeed. He put the man under an anaesthetic, finally, put his foot on the small of his back and with his hands on his back, wrenched and

total population of the United States is either a lunatic, idiot, imbecile or feebleminded. That is the report of the Carnegie Institution. Dr. Davenport, who is an expert on this subject, and is supported by the Carnegie Institute in making such investigations, told me that in a conversation, and he has published it, also, so I have not a particle of doubt of the truth of it. Down in New Jersey, it is worse than that. In Iceland and in England, one in every 64 is a degenerate. The older the country, the worse the degeneracy is. In fact, for all our schools and universities, we are not gaining in strength of mind at all. We have actually doubled our idiocy and lunacy in a single generation. So education is not the only thing. We must have a sound brain in order to have a sound mind, and we must have a sound body in order to have a sound brain, for the brain is baked up by the stomach.

Q.--Why is it unwise to lie down and rest directly after eating?

A.--Because the glands of the stomach are controlled by the automatic nerve centers of the stomach and of the great, sympathetic brain, but the muscular movements of the stomach are controlled by the vagus nerve, the great pneumogastric nerve that comes down from the brain. Now, when the brain goes to sleep, the stomach stops work, don't you see? That is, it stops its movements, but the glands go right on making gastric juice, so the food stays right there in the stomach and the gastric juice, that ought to be passed out of the stomach by muscular movements of the stomach, remains there. The contents of the stomach become abnormally acid and this high degree of acidity irritates the stomach, produces a hyperacidity and hyperhydrochloria, as it is called, and the acid attacks the walls of the stomach, by and by, so that not only hyperacidity is produced, but ulceration of the stomach may result. So persons ^{suffer} ~~suffering~~-from-serious-in very serious injury from eating and then going directly to sleep. The chemical part of the ^{digestive} process goes on, but the mechanical part ceases, and it is a bad practice.

Q.--What is the cause of asthma?

A.--Asthma has many causes. The common cause is auto-intoxication. That is

twisted and tried to make something crack, but he didn't succeed. This man was so much worse afterwards that he could not walk, and he was brought up here to the Sanitarium and I examined him and found he had tuberculosis of the spine and that was the trouble all the time. He had tuberculosis of the spine that effected a nerve that went down his leg, that happened to end in his knee, so he felt the pain in his knee, when the trouble was in the spine and he had tuberculosis of the spine, and you can imagine that that treatment did not do him any particular good.) I have encountered not a few cases of that sort. I presume there are, in this audience, at the present time, not less than twenty people who have had treatment by osteopathy and have gotten no substantial benefit from it. (Possibly, if a man is suffering from auto-intoxication, or if he has got a kink in his colon, that causes a stasis, a holding back of material that decays and fills the body with putrescent material, and produces pain in his back, possibly, it is possible for that man to be cured by wrenching and twisting his spine, even if you do make something snap.) You see that would be impossible. But (the osteopath has a lot of refined specialties by which he tries to make out that by some influence upon the lymphatic, the roots of the nerves, or something else, dislocated joints are going to be put in place, or kinks are going to be straightened out.)

I met an osteopath some time ago that I thought was an intelligent fellow, and I told him I was very glad to meet an intelligent man and we were discussing something about osteopathy, some things that were very good, and I said massage, and manipulation were good because they were simply the Manual Swedish Movements which we have here in the Sanitarium, and have had here for thirty-five years. I went to Sweden on purpose to study these subjects twenty-nine years ago so I had previously had a knowledge of it. And this Swedish system is really the foundation of all that is good in the so-called osteopathy. (Dr. Still in Missouri had some Swedes, who were educated in this system, come down there and teach him and he put the name osteopathy onto it. So whatever is good in this osteopathic system is simply the Swedish system

under another name. Whatever is in it that is new is not good, as far as I have been able to discover, and whatever there is in it that is good is old and has been used before, although not in general use, as I hope it will sometime be.) (On the whole, osteopathy is doing a whole lot of good by showing the importance of physical manipulation.) I never make any outcry against it in public, I never say anything in my journal about it, and what I say now will not be published because I think it is doing good, and (it is one of the things that is helping to break people loose from the confidence in drug and to call attention to the use of physical remedies and the/natural means and the removal of causes rather than the mere tinkering with symptoms.) (I said to this intelligent osteopath I was telling you about "I think there are some good things in osteopathy, but I never have been able to see how a child could be cured of diphtheria, that has diphtheria germs in its throat, in the membrane growing there, by simply rubbing the back of his neck." "O, that is easy", he said, "I have cured lots of cases". So I found this man was just as deep in the mire as the rest of them. He was ready to affirm that he was able to cure diphtheria by rubbing the neck. That goes a little too far.)

Q.--What about chiropractic, spinal adjustment, etc.?

A.--Well, a poor woman came to me a little time ago whose husband had been a patient here and got better, but was enticed to take treatment by a man who called himself a "chiropractitioner" and this man, put him on a table, supported one end of his body on a support, then put his foot on his back, pressed hard down upon him until something cracked and snapped and the man went away and died. She said "He killed my husband". From what she told me about it, it looked as though he did. Some of these practices are so rude that they are positively dangerous and certainly they are not to be recommended. The trouble is, these men are usually so ignorant, they do not know what the dangers are. They can not make an examination to start with. In the scientific pursuit of health, the first thing of importance is to find out what is the matter, to make a thorough investigation of the case, and know

just what the matter is and to know just where the difficulty is, and then remove the causes, and when we remove the causes, there is no hocus-pocus about it at all. The patient gets well as the result of the operation of the powers that are within his body. It is the body that yields itself. When we remove the cause, the body gets well of itself.

Q.--What effect does daily sweating baths have on a person?

A.--Daily sweating baths have the greatest value. The Lord told Adam he must earn his bread by the sweat of his brow. As long as Adam did it, he was healthy, but when he began to dodge the sweating, all kinds of troubles came along. Most all of our social troubles grow out of the fact that some people are compelled to sweat too much because some people don't sweat enough. If every man had to do his share of sweating, it would settle all the difficulties in society. Sweating is necessary, and the man that does the least sweating gets the worst of it in the end because that man, that is digging in the ground, sweating, sweating, every day, lives a hundred years, has a good appetite sleeps soundly at night, but the man that doesn't sweat, that allows the filthy emanations to remain inside, by and by he gets so there is a devil inside of him, kicking and scratching him, making him so nervous he can not sleep, so wretched he can not be happy at any time, any where, so melancholy life is not worth living) and (this sweating is an extremely beneficial and necessary thing to keep the body clean. It is one of the great avenues through which poisons are gotten out of the body.) (The two great avenues of escape of poisons from the body are the kidneys and the skin and they are wonderfully alike. The kidney is simply a folded skin. If you take the skin, turn it inside out and fold it all up into a little crumpled mass, it is like the kidney. It does the same kind of work the kidneys do and doesn't do so much of it and doesn't do it quite so well. The kidney is really the most important of all the poison removing organs. When the kidneys become disordered, the skin is diseased. When you find the skin is smooth and shiny and dry and scurfy, such a skin does not do its duty and it means the whole body

is in a state of disease, not a sound particle in the body, not a sound cell in the body. There can not be, because the skin is degenerated, and one reason why it is degenerated is because of the poisons have developed to such an extent in the body that they have destroyed, in part, the thyroid gland, the secretions of which control the skin, so when the thyroid gland has become crippled up, diseased, degenerated, then the skin becomes shriveled up, it is dry, dingy, shiny, parchment like. Then it is not half doing its duty. It is atrophic. It has lost its power to secrete. Sweating is one of the means of restoring the power again, bringing blood to the skin and you know the blood is the healing power, the power that heals and restores.

Q.-- Is licorice a good laxative?

A.--It is not very good. By and by it wears out and loses its power. No drug should be used systematically.

Q.--Is it weakening to lose flesh?

A.--I often lose flesh when I don't get much of any sleep, for a week, or anything to eat for a day or two, I lose. Then I make it up again in a short time. Little fluctuations are not of any consequence. Strength is the important thing, rather than the weight. I was examining today the strength of a lady who had been working in the gymnasium. When she arrived here, she was able to lift a load of 1300 pounds, so she was rather a weak woman and in two weeks' time, in fifteen days, she increased her strength up to 2200 pounds. She had gained over 50% in fifteen days. Now that woman had good zeal, you see. That is 50 pounds a day she had gained in strength. I don't care whether she had gained an ounce in weight, that matter is of no consequence at all. She had gained almost half a ton in strength.

Some little time ago a lady came who gained five hundred pounds in strength in one week. That means a wonderful advance to her vitality and her ^{stamina}stamany. I wish every woman and every man in this institution could appreciate the value of these strength tests and the walking exercises-- one of the best things we have in this institution--

Q.--What virtue, if any, has mentholatum?

A.--I don't know it.

Q.--What effect does the use of a face bleach containing lead or bichloride of mercury have?

A.--It is a bad thing. Use it once and it won't do any particular harm, use it very much and it will do a very great deal of harm, because more or less of the lead will be absorbed and it will injure the skin, besides. It is a hypocritical thing to do, to put that lotion on your face, just to cover up the miserable condition of things that exists within. The thing is to get clean inside, and then the face will take care of itself. Why do you want to take so much pains with the front part of your face, when the back part of your face is perfectly awful.

I met a lady today and had her put out her tongue. Why, it was so filthy, it looked as though it needed the city scavenger to get after it. I said "I am sorry to see you are neglecting to take care of your face". She said "Why, is my face not clean?" I said "The back side of it is awfully dirty." She had never looked to see how it was. The back side of the face is far more important to take care of than the front side. The inside of the face is a great deal more important than the outside. Somebody ^{has} of all said something about taking pains to clean the outside of the platter when the inside was dead men's bones, or dead chicken bones. Whited sepulchres. Does that mean ladies that powder their faces to cover up the pimples and the blotches and the liver spots, etc.? The thing is to clean them out, to wash them out. All these things are evidences of chronic poisoning.

Q.--Can hay fever be cured?

A.--Yes, by making a change of climate. Go where there doesn't anything grow that produces the hay fever exciting pores or pollen, rather. It can be greatly improved, by building up the general health. People come here suffering from hay fever generally have very little trouble while they are here under treatment. By simple local treatment and getting the body into perfect condition, the disease is generally tolerated. It is not entirely stopped, except by removing the exciting cause.

Q.--What is the best method of reducing weight?

A.--Work more, eat less, drink more, sleep less, perhaps, if you are sleeping too much. The important thing is to work more and eat less and sweat more and drink more and sweat more.

Q.--What is the best part of filter to use for water?

A.--Do not depend upon ~~filtered-water~~ a filter at all. You can not depend upon filters. They get unclean in a little while so that they pollute the water, instead of purifying it. There isn't any filter made that can be relied upon for more than a week. Within a week that filter has been a silt~~er~~ rather than a filter.

Q.--What are your ideas as to the best kind of underclothing, woolen or cotton?

A.--Cotton is the best all the time, all the year around, but wear just as much woolen clothing over the cotton as is necessary to keep you warm, but put the cotton next to the skin. It is better than silk, better than linen, better than wool. The best fabric we have for that purpose is cotton.

Q.--Is mercurial wax good for the complexion?

A.--Anything that has mercury in it is poison. It is not safe to use it indefinitely.

Q.--Is any progress being made in the cure of eye troubles by hot and cold applications?

A.--Yes, hot and cold applications are of very great value in the treatment of eye trouble. Dr. Stevens Smith, the eminent New York surgeon, told me a few weeks ago, that some thirty years ago, he was told by an eye physician that he was going to have cataract. He began to look around and he thought possibly bathing his eyes in hot water might do some good and he tried it, and he succeeded in keeping his eyes in such fine condition that is still able to read coarse print without glasses, although he is 89 years old and he has been getting cataract for thirty years, but it hasn't grown any worse. He bathed his eyes three times a day with hot water.) He said he was some years ago down at Skaneateles, where he has a summer home, and a young lady came to see him. She said to him "Doctor, what shall my mother do for her eyes? She used to have splendid eyes. She could stand on the porch at her home and look down a mile away

and see men working on the wharf, but her eyesight is so bad now she can not distinguish people across the road. She was down to see the oculist and the oculist said she had cataract and would have to have an operation by and by." He said to her "If I were in her place, I would bathe my eyes with hot water three times a day." He said a couple of years afterward this lady came into his office and said "Doctor, I came here to thank you for that prescription". She said "You know, I have just been down to see Dr. Jones; (and that was not his name) the oculist, and had him look at my eyes and he would not believe I was the same person." She said "He looked at me, looked at my eyes, looked at his records, looked into my eyes and said 'You are Mrs. Smith?' Yes. He looked at my eyes again and then looked at his records. 'You are Mrs. G. W. Smith?' Yes. He looked at her eyes again and then looked at his records. He had a map in his records of her eyes and a map of big spots growing in her eyes, cataracts coming, and there wasn't any of it left. "Why, I don't know what to make of this. I never saw such a thing before. The cataract that I saw coming in your eyes has disappeared, has gone, and I am surprised. I never saw such a thing before. What have you been doing?" "Why", she said, "Dr. Smith told me to bathe my eyes in hot water and I have been doing it three times a day and that is all I have done." He said "I never saw anything of that kind before." So he was very much surprised.

So there is wonderful power in hot water. I would not suggest that hot water would cure every man's cataract by any means, but I am certain that hot water is one of the most sovereign remedies for almost every sort of eye trouble.

I remember a boy of 16, thirty-five years ago, who came here and he had such bad eyes he had not been able to go to school for three years, and had to give it up. I set him to bathing his eyes with hot water three times a day and the result was his eyes got entirely well. He is now a grown man, has a family and he is an elderly man, I should say a man between fifty and sixty, and has excellent health and his eyes are just as good as anybody's. He is very thankful for the hot water for that is the thing that cured him.

Q.--What do you think of the bacillus of long life?

A.--I don't know anything about it because I have not received any authentic information yet. I have only seen the newspaper reports, but Professor Tissier, who is Professor Metchnikoff's colleague in the Pasteur Institute, is consulting bacteriologist to this institution and as soon as I saw the announcement that Professor Metchnikoff had discovered a new germ, a new long life germ, I immediately wrote to Professor Tissier to give me the facts about it so that in a very few days more I expect to have the facts from an authentic source and then I will tell you.

Q.--Why is cheese harmful?

A.--Well, there are several objections to cheese. I think I will leave that for a moment and answer two or three other questions before telling you about cheese.

Q.--How can impure blood be cleansed?

A.--By eating clean food, drinking a large amount of water, living out of doors, breathing pure air and exercising. Those are the most important ways of purifying the blood. No drug can do it.

Q.--What can be done when one has taken baths, etc., for exhausted nerves and vitality and can not stand any more?

A.--I never saw anybody yet that had gotten so far gone they could not stand any kind of baths. There is some sort of bath that is adapted to every case. I remember only one case in which a bath really seemed to be dangerous. A number of years ago I met an old gentleman who wanted me to recommend a remedy for "rheumatiz" and I at once suggested the bath. I didn't have to feel his pulse to find out that he needed a bath. My olfactory sense was sufficient to tell me that. "A bath, a bath", he said. "Why, doctor, a drop of water has not touched my bath in forty years." Well, I am inclined to think it might have been dangerous to give that man a bath, all of a sudden. It probably would have been better to give it by degrees. He didn't get any bath, and I don't know what became of his "rheumatiz". If this patient will come to see me, I will tell him what he better do next.

Q.--Why did Nature create drugs if they were not to be used freely as medicine?

A.--Well, must we use everything for medicine that we don't know what else to do with I can not tell you what arsenic was made for, suppose I can not tell you what

strychnia was made for, or what asafetida was made for, because I don't know. I don't know all of Nature's secrets. Nature has done a whole lot of things that I can not explain and don't know anything about. Must we adopt the principle that if we don't know what to do with anything, we must use it for medicine? Some people have said "What are we going to do with animals if we don't eat them?" I am not bound to answer that question. Must we eat everything we do not know what else to do with? Must we swallow everything, either as medicine or as food, that we don't know anything else to do with? Certainly, it does not seem to be a logical conclusion.

Q.--A friend of mine has ulcer of the stomach of about six years standing, causing intense pain at times. Can it be cured without operation?

A.--Generally, yes. The trouble is, to make it stay cured. In general, if the patient will adopt the right diet and regimen to keep well after he gets well, he can keep well.

Q.--Is there any objection to the omission of the music during dinner?

A.--No.

Q.--If there is no/objection, a change would be greatly appreciated by many of the guests.

A.--Now, I want to put that to a vote. The question comes up sometimes. It is considerable expense to the institution to maintain this music and if it is undesirable, we don't want to have it. I want to know how many people here would like to have the music at dinner dispensed with. Hands up. Well, how many think it desirable to continue the music at dinner? Hands up. It seems to be pretty nearly unanimous, so I think we will have to continue the music, because it is generally demanded by our public.

Now, about cheese. Why don't I recommend cheese? One reason why I don't recommend cheese is because I don't know just what I am recommending. The Lord only knows what there is in cheese, there are so many different things there. Another very special reason is because I believe in a vegetable diet and I don't believe in animal food and cheese is very likely to have quite a menagerie in it.

There are the cheese mites, for example. They are the first cousin to those little mites that burrow under the skin in the miserable disease commonly known as the itch. The cheese is often swarming with those little cheese mites, that look for all the world so nearly like the itch mites, you could not tell the difference. Then there are some other little fellows there that are the maggots of a certain species of flies. Flies, you know, lay their eggs in decomposing material, in barn yard litters, manure, and things of that kind, and these eggs by and by hatch out into grubs and after while the grubs develop into flies. The grubs are put their in this decomposing matter because they are scavengers and the odor of the substance attracts the fly and the fly lays the eggs there because of something that belongs to the fly. Nature has arranged that the scavenger flies shall lay their eggs in this filthy spot, so the grubs shall eat it up. Now, there is a fly that smells the cheese and knows that the cheese is intended for him, so the fly deposits the eggs in the cheese, and these eggs develop into maggots, cheese mites as they are called. Sometimes you can see them without a microscope.)

Some of you perhaps remember the story of Charles Lamb, whose sister wanted toasted cheese just before she went to bed at night. One dark, stormy night when Charles got home from his work, rather late, his sister said to him "Charles, there is no cheese in the house." "All right," he said, and off he went about a mile down the street to the cheese mongers, as they call them there in England, and he was lame, you know. He was good to his sister and they lived together, neither married. He went away off down the street, nearly a mile, to get some cheese for his sister. The cheese monger tied a string around it and he said "Mr. Lamb, shall I send it home?" He said "No, give me the string and I will lead it home."

I thank you for your attention.

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TWENTY-SEVENTH ANNUAL COMMENCEMENT

THE BATTLE CREEK SANITARIUM AND HOSPITAL TRAINING SCHOOL FOR NURSES,
at the Sanitarium Gymnasium, Tuesday June 18th, 1912, at 8 P. M.

Overture by the orchestra.

Invocation by Elder G. C. Tenney.

Dr. J. H. Kellogg: This is the twenty-seventh appearance of the Sanitarium and Hospital Training School for Nurses in a public way. We are very fortunate this evening in having two speakers to address us and it gives me very great pleasure to introduce to you the first speaker of the evening, Dr. R. L. Dixon, Secretary of the Michigan State Board of Health and a member of the Nurses Examining Board, a Sanitarium of national reputation, and we feel very greatly obliged to Dr. Dixon for having come here to address us tonight, and I am sure you will be delighted with him. The subject is "Clara Barton, the Angel of the Battle Field". Dr. Dixon----- (Applause).

Dr. R. L. Dixon: Dr. Kellogg, Members of the Graduating Class, and Ladies and Gentlemen: In order that I may say what I would say and in order that I may not say what I would not say, and, particularly, in order that I may not say too much, I have presumed the privilege of committing my few remarks to manuscript.

I thoroughly believe in a sentiment expressed by Pope, when he said ^{Know then} "Ner allow thyself; Presume not God, ^{to scan} ~~but~~ Ban, The proper study of mankind as man".

The true student of history is, to a very great degree, a student of men and women. In fact, the world's important historical data can well be expressed in a series of biographies. An important element in the preparation for any special career, professional or otherwise, is an intimate knowledge of the work of the

people who have been associated with similar duties. It is almost as essential, too, to read the record of those who have made a failure as well as of those who have succeeded. On the basis of this principle, I desire to bring to your attention a few facts in relation to one, who, I believe, has truly represented the consummation of the best, that is, in what we are pleased to call the Nursing Profession,—Clara Barton.

No attempt will be made at rhetorical, or at oratorical elegance. Clara Barton was a plain woman and should be discussed in the simplest and the least adorned language possible. Any attempt at witty decoration would not be conducive to the portrayal of so commonplace, simple and unostentatious a character.

In Massachusetts, only two hundred years after the Pilgrim Fathers first undertook to plant the seed of simplicity and purity of life in American soil, Clara Barton was born. Her child life was no different than characterized that of other girls in her neighborhood. Her father and her grandfather had attained creditable record in the wars of 1812 and the Revolution. Neither had risen to enviable official position, but each had a record of duty done. Clara Barton's early school training was not extraordinary, yet can not be said to have been limited, considering the time and the circumstances. Early in life, she began to show evidences of ability to accomplish things. in fact to initiate and to carry out. From youth, she was a leader, always active, untiring, progressive, yet conservative. The first monument to the credit of her public spirited nature is shown in her establishment of a free school in Bordertown, N. J. She built up a school there which soon became self-supporting and was the starting point about which developed possibilities for popular education to a degree little ~~undisputed~~ then and there.

In 1854, she became a clerk in the patent office in Wash-

ington. The prejudice against her appointment was not little on the ground that she was a lady and not a politician. Then, as now, far too many people considered that the positions in public departments existed for the mere purpose of paying political debts and for taking care of party supporters. Although she became an efficient, capable and loyal employee in the Federal Department, she was discharged on account of the stress and strain of party politics. It must be said to her credit, however, and to the credit of the department officials, she was later recalled into the service, not because the parties and politicians owed her anything, but because ~~of~~ the true worth of her services was appreciated and the necessity for dependable persons, even in clerkships was made evident. This feature of her career, I should remark, as a second evidence of her work as a public servant. She did not long continue in this departmental work, because the great opportunity, which comes to all who would be really and truly useful and unselfishly so, came to declare itself in the human suffering and misery of the time of the Civil war. Clara Barton realized, as did no other, that sickness and death on the battlefield and in the camp was especially sad. She realized the anguish, the awful unsatisfied reaching out to the human heart in the last moment. She realized the clamor, the intense agony of the dying boys away from home, away from mother, and away from ~~mother's~~ care and blessing. Against tremendous opposition, she now entered upon the duties which have designated her for all time to come as the personification of human sympathy and fellow service. Clara Barton served on the battlefield, in the camp, and in the hospitals not by carrying ammunition to the guns, not by taking a position at the cannons' breach, in event of the death of the gunner, but by carrying comfort and sympathy to the stricken, wounded, or dying mother's boy, by taking a position by the side of the lad who had offered his life

on the Nation's altar and by touching to his fevered brow the cooling water, by speaking into his ears the comfort and the sympathetic words which can come only from a mother, and by taking from his quivering lips the dying message, which when sent to the loved ones back home, would help to mend the heartbreak and the sorrow. With untiring effort, she lived a life of service on the field and in the hospitals which has never, in history, been paralleled. Numerous accounts of her bravery and her daring might be emphasized. But Clara Barton would not that we think of her as a brave woman, as a daring woman, as a woman who knew not fear on the battle front, she had no ambition to teach by word or by example bravery. The boys among whom she worked did not need such instruction. It was hers to serve and hers to minister unto and to guide the departing spirit from the dying boy. It was hers to be the "Angel of the Battlefield".

After the war was over, and the soldiers had returned to their domestic pursuits, Clara Barton was privileged not so to do. Her opportunities for human heart service went out on demand. From all over the land came the cry, from fathers, from mothers, from sweethearts, from wives "Where is my boy?" Where were they? Among the eighty thousand missing and so it was Clara Barton yet who set about the search for missing men. No call was too feeble, no claim too slight, no petition too poorly written to enlist her anté service. She would not that we commemorate today her own inconveniences, her own self-sacrifices in this particular. She would that we commemorate her service, because service was her *message* to history.

The Master said "He ^{who} would be great among you must first serve". It would seem that Clara Barton intent and unselfish desire was to be great as only the Master of men knows greatness.

She knew and expounded the principle that service is its own reward. The work of the locating and identifying of the bodies of those who had been slain by bullets and by disease was tremendous, but by it she was able to relieve, in no little degree, the human desire to know where rested all that was earthly of the dear ones. Many a body she laid at rest waiting the Judgment Day. Many the marker she put in place, under the one, the blue, under the other, the gray.

Not content to leave a record of her acts as her only monument, Clara Barton used the last years of her life to establish in the country an institution which would stand for, ~~which~~ would have for its fundamental policy the very principles of her life, unselfish spirit. Finally, overcoming many obstacles, which can not be considered at all creditable to our governmental principles, she succeeded in bringing into the United States the Red Cross Society. She became its president and so served for twenty-two years. When it became evident that, as an active leader, she was incapacitated on account of age and physical weakness, she resigned to become again a private in the ranks.

Some of the principles characterizing Miss Barton's life and deeds may well be subjected to a passing thought. One of her first principles to attract our attention is her character of independence, not at all a spirit of rudeness, but a firm policy of self help. She illustrates the value of individualism. Every day we are impressed with the fact that it is energetic individualism which produces the most potent and the most enduring effects upon the lives and actions of others, and really constitutes the best possible education. Schools, academies and colleges give but the ~~merest~~ beginning of culture in the comparison with it.

Far more valuable to you and to those whose servants you are to be will be your life education largely learned in the homes of these same people. With them, your ability of self help will be time and again put to the test. Experience serves to illustrate and to enforce that one perfects himself more by work^{than} by reading, that it is life rather than literature, actions rather than study and character rather than rhetoric, which tends perpetually to impress mankind.

Clara Barton's humbleness of birth and lack of cultural environment did not prevent her from attaining culture "Honor and shame from no conditions arise, Act well thy part, there in all honor lies".

I know of no professionⁱⁿ which so much actual individualism is possible as in the profession of nursing. The success depends as much upon the how as the what of the administration. How often ^{the} a harsh, irritated, complex features of a sick person may be soothed by the tenderness, the evident sympathy, the more than perfunctory care on the part of the nurse. It is more than half of the really good nurses' equipment. Unfortunately, it can not be taught in the class room. It is with great difficulty developed in the individual. It can attain success only as the development of but seldom observed in professional nurses.

One other principle of Clara Barton's career is not to be overlooked. We are accustomed to measure the success of our undertakings of any professional training by the promptness and the completeness ~~by which~~ of its financial return. This is unfortunately true of the large body of the medical fraternities ^y and the allied nursing profession. The greatest negative principle of the medical profession is its commercialism at the hands of various ^{grades} ~~ways~~ of un-

scrupulous individuals. There is the same tendency in the nursing profession. There is too much looking forward to the \$25.00 per week. The public sees this and frequently comments upon it, and justly so. I have had no small experience with nurses, practically ^{studied} trained, graduated, registered and non-registered and I tell you it is sad to have to realize that one looks upon the performance of their duty as a means to \$25.00 a week, rather than to joy and comfort for the afflicted. Clara Barton knew not any definite amount of compensation, in fact, she never knew any compensation until she had shown that she was rewarded by having done her duty. It is a significant fact, however, that she received ample reward ^{even} in money.

One of the lessons I would leave with you who are entering into this important, necessary and ever-to-be-honored profession is to avoid commercialism. If you, registration is only a means to get into the \$25.00 or the \$30.00 per week class, you will do all a favor by not registering. I have heard it argued by nurses that only registered nurses, ~~and~~ only registered physicians, should be allowed to practice. If anyone in this class has that idea, I wish he or she would report to me so that I can do the public a service by declining registration. There are few nurses and physicians who earn a living and fail to get it. On the other hand, many a twenty-five cent nurse is on the twenty-five dollar list, which would not be so bad if it were not for the fact that she does occasionally get a case. I see no stronger principle in Clara Barton's life than this absolute ^{lack} ~~life~~ of professional commercialism. With her, the duties were service, With her service and realization of duty done was its reward. Even then, ^{the financial} ~~a commensary~~ reward *did* come. Too much emphasis can not

be given to the essential elements of Clara Barton's activity. The fact that she personified duty, service—I would commend to the young people to whom I have the privilege of speaking, that you take for your life's motto the sentiment ^{"Ich dien"} "I serve". To do our duty in this world toward God and toward man frequently and steadily requires cultivation of all the faculties which God has given to us and he has given us everything. This is the highest law that instructs and guides are will. It is the knowledge of good and evil, the knowledge of what is right and what is wrong ^{makes} that ~~us~~ responsible to men here and to God hereafter.

The fear of duty is infinite. It exists in every station ⁱⁿ of life. We have it not ~~from~~ our choice to be rich or poor, to be happy or to be unhappy, but it becomes us to do the duty that everywhere surrounds us. Obedience to duty at all costs is the very essential of the highest civilized life. Great deeds must be worked for, *hoped for, deed for now as in the past.* We often get the idea of duty of a soldier's trust. We remember the pagan sentinel at Pompeii found dead at his post during the burial of the city by the ashes of Vesuvius two centuries ago. This was the true soldier. While the ashes fell, he stayed at his post. It was his duty. He had been set to guard the post and he never flinched. His body was dissolved to dust, but his memory survived. Duty in its purest form is so constraining that one never thinks of performing it of one's self. It is to be done without any thought of self-sacrifice. Many noble illustrations of this principle might be cited but none can be found which outmeasures in practical service or self-sacrifice the simple deeds of Clara Barton.

I exhort you to read and to reread biographies of Clara Barton. Note carefully her deeds, not as acts of valor, not as

elements ^{grating} ~~waiting~~ upon their members ~~(*)~~ nor as yet as tasks to be rewarded financially, but as acts of simple service, acts destined to be rewarded in themselves.

After the close of the Civil War, thousands of the boys in blue were gathered at Washington for a last grand review. Along both sides of the streets through which the soldiers were to make their final march, were erected numerous reviewing stands. In these booths were great generals, the President and his Cabinet, statesmen of high rank and foreign diplomats. In one of the booths sat Clara Barton. As the soldiers marched by, sheer after cheer went up for favorite generals as certain regiments fronted the reviewing stands. I am told by one of those who was in the ranks that when the first column came in front of Clara Barton, cheers such as had not been accorded to any general or to the President himself filled the air. As the news traveled backward along the lines that Clara Barton was there, the cheers were taken up by one company after another until they had reached the very rearmost end. No soldier was too weary, none too sore to remain in the march until her reviewing stand was passed. This was Clara Barton's greatest reward. How much more fitting to her simple spirit than any mere pittance of gold could be.

Immediately after the war, attention was given to the establishment of pensions for the soldiers, but no thought was given for pensioning the army nurses, so Clara Barton appeared before the Pension Committee in behalf of those who had done so much to reunite the republic. The Army Nurses' Bill was passed and Clara Barton, during the last few years of her life, received a pension of \$12.00 per month in financial recognition of her services.

Perhaps you are wondering what has this all to do with

nursing. How will this historical data help me to give a better anaesthetic? How will it better prepare me to help a typhoid patient or to dress a new-born babe? I only answer to you that the spirit of self-help, the unalloyed generosity, the undaunted courage, the absolute unselfishness, the almost worship of the fact that service is its own reward, of personification of human sympathy, and that all-meekness of Clara Barton, are the principles, which, if combined with your present and future attainments, in a technical way, will render you a credit to your school, a loved member of your profession and a blessing to society.

Clara Barton was not a trained nurse, although the biographers make much of the fact that she devoted almost three years, while a young girl, to nursing her invalid brother. Clara Barton was not a registered nurse. She perhaps could not have qualified before the august Board of ~~Natural~~ Examiners of this state, but methinks, that when a few months ago she entered the realms above, her credentials had gone on ahead. had been carefully scanned, and that she received, over the signature of the Master, a certificate with which none compares, setting forth to the whole world, and for ages to come, that she, Clara Barton, was endeared the "Angel Nurse of the Battlefield".
(Loud applause.)

J. H. Kellogg: I esteem it one of the greatest privileges of my life that I had the honor to meet Clara Barton and to spend an hour or two in her home with her, by her invitation, and had a very pleasant chat with her. It may be of interest to this large company of people who are here at the Sanitarium and nurses to know of the occasion. I happened to be in Washington at a Battle Creek Sanitarium banquet that was given by a grateful patient and Clara Barton was one of the guests of honor at this banquet. I met her there and she listened with very much interest, apparently, for an hour, when I gave the people, who had gathered there, most of them people of considerable note, members of the foreign industries, and others, who had been invited by Mrs. Henderson. I told them about Battle Creek Sanitarium principles. It was at this meeting that the Chinese Minister, Mr. Wu Ting Sang became converted to Battle Creek Sanitarium ideas, and Miss Barton invited me to call upon her the next day. She was so much interested, she spent a couple of hours inquiring of me all about our work here, and about our nurses, and particularly about our methods of training and our principles, in which she was especially interested, and I believe she herself adopted some of the principles which we stand for here, and adhered to them quite closely to the end of her life. I do not know that I have ever mentioned this before to the public and I thought it would be of special interest to the nurses to know something about this.

It certainly was a very great privilege to meet this wonderful woman. I shall never forget the hour I spent in her office with her and have a picture in my mind this moment, of ^a ~~the~~ little, rather meagre looking woman, rather frail, with a wonderfully intelligent face, as she showed great interest in the things that we were doing here at Battle Creek and seemed to take

a very kindly interest in our work.

I am sure we have all been very greatly interested and ~~the-~~tructed by the delineation of her character to which we have listened tonight.

We will hear next from the orchestra.

Humoreske by the orchestra. (Applause).

Dr. Kellogg:- I am sure I ~~do not~~ need to introduce the next speaker to the audience. Dr. Morse has been, for many years, connected with our Training School for Nurses, and I am sure he has made himself very much beloved by all the nurses that he came in contact with as well as by his ~~colleage~~ and the faculty. Dr. Morse, after obtaining medical honors in Europe, has been spending the last year in Porto Rico in doing Medical Missionary work on a self-supporting basis, yet on a very substantial basis. Dr. Morse happens to be in this country on his vacation and we were very glad to enlist him in this program here tonight. Dr. Morse will speak to us on the subject "Unconscious Influences". (Loud applause).

Dr. J. E. Morse:- The term influence originally referred to some sort of ethereal fluid which was supposed to fall from the ~~skies~~, and to have power over the thoughts and actions of men. It may not be amiss for us to recall this apparently Heavenly origin of the term in our present day consideration of its meaning and, as we think of it today, we mean that it is a power exerted because of strength of intellect, force of character, wealth or eminent position. Unconscious influence, that power exerted without thought or apparent direction. The influence of the sun upon all creation and the vegetable world is perhaps as good an illustration as we have in the natural world of the immense power that may be exerted

apparently without thought or direction. The force of gravity which maintains ⁱⁿ proper positions, all the things upon this globe, as well as all ~~their~~ relations between all the spheres of our universe is another illustration of an unconscious influence.

Each of us has an unconscious influence from the cradle to the grave. The Good Book says "None liveth to himself" and no one dieth to himself. The first day of the arrival in a household of the little rosy-cheeked body of humanity, that influence begins to manifest itself in the subduing of the harshness, the noise and the strife. Each member of the family yields a little and is the better thereby and it even extends to the outside, and the street, and ~~that~~ romping boy on the street is not a bit quieter if he sees a baby cab with the baby asleep? I think there is no more wonderful illustration of the power of unconscious influence among men than the influence, the transformation of the individuals of the home in the light of love from those baby eyes. The mother, a nobler woman, the father a better man, and ~~if~~ the demon of drink has had hold of him, it releases its clutches and now may be passed off. The ~~sordid~~ selfishness, ^{though} sometimes unfortunately the business man may plead for his extortions the fact that he must lay aside money for the little one, finds poor comfort in the innocent, searching gaze of that baby face. If the little one is unfortunate in any way, the constant attention required seems to accentuate the influence upon the household that is gradually being molded to better things and to live upon a higher plane.

Do you ask what conditions that I mentioned as among the causes for unconscious influence that the baby has? I would answer eminent position—a bit of the fingerwork ~~of~~ the Creator of the universe, which just so far as is possible with the human collaborators is unsoiled, untouched by the

It may be a manor's cabin, it may be a native hut—the transforming influence is just the same. Do you ask how your unconscious influence may be felt, may be exercised to its greatest? Do you ask what of the conditions for the power of unconscious influence you may have? I would answer all of them strength of intellect, force of character, will, eminent position, devotion to a high ideal.

Your vocation, the work of your life, is to follow the doctor's orders. There is much of routine. Such and such and such to be done or to be given every hour, every two hours, every three hours, record the pulse and temperature three times a day, record symptoms and report to the doctor if anything unusual occurs. You are expected, in other words, to be the assistant, the indispensable assistant to the physician in relieving the suffering of humanity. This, however, is merely the professionalism, it is merely routine. The greater success, the larger influence, can be attained only as the intellect is daily strengthened by taking to yourself all that even the few moments can give you of the best that the world contains of literature, ^{of art,} of science and of music. The force of your character must be daily increased by the appropriation to yourself and the incorporation into your very being of every principle of truth which it is your good fortune to encounter. The wealth of experience which your daily duties bring to you must give to you the lagoon in which all bits must go to make up a perfection far more valuable than the sea for the daily service.

You must realize your eminent position. Next ^{the} to the laboring as co-workers together with God in relieving ~~them~~ suffering ~~of~~ those who come to you. More than this, there must

be a devotion to an ideal which has been formed in your mind, which shall ^{aid} lead you to ~~overcome~~ any obstacle, so well illustrated in the wonderful life which has been portrayed to us this evening. Thus, and only thus can your lives be successful and the unconscious influence which shall influence the ruffian on the street which shall be equally potent palace and in the cabin. Thus, and only thus, I say, can this influence reach the highest perfection and your work be a success. (Loud applause).

Dr. Kellogg: We will hear next from the representative of the class, Mrs. May Kinder, who will speak on "The Progress of the Nursing Profession". Mrs. Kinder--- (Loud applause).

Mrs. Kinder: NURSING,—the oldest occupation of women, and the younger branch of medical science.

It must have been co-existent with the first mother, who performed for her little ones all those services which made it possible for them to live and thrive. The daily and hourly details of feeding, warming and protecting from harm, the watching by night, all these maternal cares as old or even older than the human race, laid the foundation from which our profession of nursing has evolved.

Let us consider the last hundred years and see what progress has been made. In the first quarter of the century the condition of affairs was crude and primitive. The hospitals were merely pest houses, not only of physical horrors, but of moral iniquities. The nursing was left to untrained women of inferior type. But a revolution was slowly coming on. With the advent of such people as Elizabeth Fry, whose noble work done in the Hospitals and prisons meant sacrifice and toil for suffering humanity.

Charles Dickens, with his graphic pen, awakened two con-

tinents to the need of reform in the care of morally and physically broken down men and women whose condition cried out for intelligent sympathetic care.

Then Pastor Fleidner, the founder of the German deaconesses, did much in the establishing of hospitals and skilled nursing. And last, but not least, our own beloved Florence Nightingale, to whom we owe so much.

Their's was a difficult undertaking, getting the physicians and people to feel the need and co-operate; the consent of the hospitals to allow the nurses to study there; inducing the desirable class of women to enlist in the work; and the financing of all. These were some of the greater, while the smaller,—yet important ones—were numerous.

Today the physician regards the Trained Nurse as an assistant. The public looks upon her as one who has knowledge and is worthy of respect.

Coming to the present day with our modern hospitals and scientific medicine, nursing is recognized as a legitimate profession, having for its sphere the care of the sick. The term profession implies more responsibility, more serious duty, higher skill, needing more thorough education than many other vocations.

The requirements of a nurse are many, and each one very essential. She should have good physical health, broad education, common sense in good measure, pleasing manner, genuine goodness, an obliging disposition, habit of observation, stick-to-it-iveness, ability to control temper and tongue, spirit of obedience, honesty of purpose in all things, and a wholesome ambition to render faithful, whole-hearted service to the sick.

In her ~~hair~~, her dress, her carriage, she should show an

appreciation of what is fit and becoming to a nurse. This is the modern progressive nurse of today. As examples, allow me to present my Classmates—forty-four strong, healthy, men and women, eager to launch forth on their own resources, ready to enter into one of the various branches that are today open to the progressive trained nurse.

It may be of interest to know just what progress has been made. Fifty years ago we have the Hospital Nurse, hair in long curls, heavy trailing dresses with bunglesome overskirts, fingers laden with rings; ornaments consisting of necklaces, bracelets, etc., were much in evidence; shoes that were not in keeping with the profession; rustling, silken petticoats. And do you know that I fear that we are not modern in some respects today? Most of us having felt the pang of injury at being deprived of our puffs and curls, our rings and ornaments, and being asked to don shoes with the low, noseless, rubber heels in place of those designed by Dame Fashion as being "the season's very latest".

Generally speaking, these were petty deviations, and were quickly righted under the surveillance of our estimable superintendent, who was determined that we should progress and not retrograde.

Next came the sending out of the Hospital Nurse into the homes. This was the establishing of what is today recognized as Private Nursing, and having its advantages, appeals to many graduate nurses. All along the need was felt whereby the sick poor could be attended in their homes. This was followed up, and the founding of visiting nursing was accomplished. The visiting nurse is assigned to one district. Her duty is to call on the sick,

giving daily attention to the patient, instruct the family in sanitation and prevention of disease, cheer and comfort the unfortunates, and do the many little things that are so greatly appreciated by those unable to help themselves. In the campaign against tuberculosis she is invaluable.

Then we have the School Nurse. She is a teacher to the parents and the children in applied hygiene. She gives practical demonstrations in the homes where treatment is required, and often discovers the source of trouble in the home that would render useless the work of the Medical Inspector. Her work prevents contagion, and loss of time from school by the pupils. She is also a source of comfort to the parents of sick children. Again, she is useful in the reduction of infant mortality; she goes into the homes of the poor, where there are sick babies. She opens the windows, removes superfluous clothing, instructs the mother in various ways by giving object lessons in bathing, the sanitary preparation of infant's food, and many other services that mean LIFE. This work has led to the establishment of dispensaries and milk stations where the milk is scientifically pasteurized, and baby food prepared and distributed.

Then the Red Cross field is open to a limited number who desire this kind of work.

There are other fields of work, such as inspectors of markets and tenements, inspectors and teachers under the Boards of Health, for the prevention of contagious and infectious diseases, welfare workers in the shops and factories.

All these give opportunities for the qualified nurse. And who is better qualified than the Class of 1912? (Loud applause).
Dr. Kellogg:- We will now listen to the orchestra.

"Sextette from Lucia" by the orchestra.

Presentation of Diplomas by Dr. J. H. Kellogg:-

Dr. Kellogg: The only time ~~when~~ the management of this institution feel really proud of the nurses connected with it is when ^{they} ~~we~~ have an opportunity to present their nurses as we have here tonight. I presume I have been asked a thousand times by people coming here from various parts of our country and other countries "Where do you find such a splendid class of young men and women? to do your work here?" I am sure there is no more grateful surprise to the people who come here for relief from suffering ^{than} in the character of the young men and women who do the actual work of caring for the sick with whom they come in contact. It is the most common question that is asked us. "Where do you find so many fine young people?" I am sure that those who are present in the audience here tonight, who are patients in the Sanitarium, who are here as guests, I am sure they have asked themselves this question, every one, many times. Now there is this one thing that makes it possible to bring together this large body of young men and women of exceptional character and that is the principles of this institution. The management deserve no thanks for this unless it is in the special care that is taken—it is the principles of the institution. The reason why these young men and women are here is because they wished to be here. They come here and they come here because they have an interest in the principles which are represented here, and because they desire to devote their lives to the promulgation of these principles and to the carrying on of the work, the extending of the work which is represented here.

You have already listened to three most excellent addresses

so I am not going to occupy your time at any length, but I must say one word with reference to the character of the training which these young men and women undergo here.

I never meet a class, such as we have here tonight, on a graduating day, that I do not think of that expression in Scripture "Here are they that have come up through great tribulation". (Applause). There is no jest about that. It is a very real thing, the training of a nurse in a nurses' training school. It means more in the real training of the whole man, of the whole woman, than any other course of training that the world affords.) (I think, if a young man or a young woman could not have but just one course of training, if he only had three years to devote to this training for general preparation for life, for a life of usefulness to the world, and of advantage to himself, the nurses' course of three years' training would give him more advantages than he could possibly get in any other course. I do not think that, in my mind, there is the slightest question of the absolute correctness of that statement. This training is not simply a training in books. If there is any practical training in the world, it is the training of the nurse. He must acquire a very large amount of knowledge. He must master a very great number of subjects. This is particularly true here in this institution where such a multitude of versatile means are used for the treatment of the sick. A training here means a great deal more, means more than twice as much, I believe, than training in the ordinary hospital, because there is a very great number of methods which are not in use in the ordinary hospital. Hydrotherapy alone, for example, includes more than two hundred different procedures, and every one has to be learned. The technique of the method, the

application of the method in the variations for different cases, and under different conditions, and electricity in all its varied moods and methods, and massage, and gymnastics, the Swedish Movements, so-called the Manual Swedish Movement and the Mechanical Swedish Movement, and dietetics, which is made something of a specialty here and is carried, perhaps, to greater length, than in any other ^{medical} institution in the world. I think it is not at all boasting to say that in this one spot there is to be found a larger number of medical appliances, medical methods, in actual use, in actual daily employment, than in any other place in the world, and the nurses are the ones who make use of these remedies, who actually apply them, and they must be posted in relation to them all.

It is coming to be pretty well known throughout the country that the Battle Creek Sanitarium nurses have had a very versatile training, and we find the demand for these nurses is so great that the only trouble we have is to keep enough for our own use. Our only trouble is to keep enough for our own help to carry on our work. In fact, many times we have been very greatly crippled because, although we have trained hundreds, the demand outside for them was so great that it was impossible to keep enough to really carry on our own work without overworking many. And this training is not simply training in methods and in matters in relation to the care of the sick, but it is a training, a discipline of character of the most excellent sort, I might say of the most exacting and strenuous sort. Nobody knows what that means who has never had a training as a nurse. The nurse has a double training, I might say, a triple training, for the nurse

has at least three trainers. He has the teacher who instructs him in his classes; then he has the doctor who is another master on some things, who gives him orders; then he has the most imperious master of all, the patient. Nurses know what that means, and some of these are acting as teachers, as trainers, as educators, and the nurse must know how to reconcile the conflicting orders that are given to him by all his different teachers and trainers. The Bible says that no man can serve two masters, but the nurse has to serve three, and so I think the nurse must have a sort of training that gives him a marvelous command of himself, if he can succeed in getting through in this institution, ^{three years} in which he is all the time trying to serve three masters and keep them all content and pacified. If he survives, when he gets through, I certainly think it is proper to say he has come up through great tribulations.

We feel very proud tonight in showing this large company of nurses, those who wear the black band, which indicates that they are already graduates, and those who are in dark clothes does not indicate that they are felons, by any means, but that they are by and by to be occupying the same places. They are candidates for graduation, and the next year another company will appear, and the next year another. Three years of time in which to task and this severe discipline being over, it is certainly proper that these nurses should be rewarded with their diplomas and have recognition, and it affords me very great pleasure this evening to show to you this new class, one of finest classes, I am sure, I am voicing the sentiments of teachers

and all who have come in contact with them, one of the very finest ~~classes~~ we have ever graduated in this institution. (Applause). And we feel especially proud also,—I am glad that you approve of them, also, that you endorse my sentiments— I will ask these nurses now to arise while I read their names. I will ask them to stand up so as to make sure you can all see them. We are glad to have you look into their faces and see that they are wholesome people. They have been selected with the greatest care. It is hard work for a young man or a young woman to get into this institution, into this training class. Young men and young women who can enter any other training school in the country can not come to the Battle Creek Sanitarium Training School, because they can not measure quite high enough. Great numbers of those are declined every year, but these young men and women have been accepted, they have passed their probation and gone through their various courses of training, and now they are ready for graduation. I will read the names as follows:—Marie L. Abler, Horace F. Pennett, Dorothy Pauline Binder, Grace Corning Burdick, Olive Blanche Butlin, Nils Olof Byland, Ellen Rose Carlin, Mae Charlotte Cate, Leila Sterling Connor, Frieda Cramer, Hannah Marie Cramer, Alice Ruth Dunn, Clara Mathilda Ellefson, Mary Elizabeth Gerlach, Alice L. Gregory, William T. Gunraj, Cleo Frances Haley, Clio Kermit Hooper, Luthera Jeffries, Polly Lulla Jenne, Alice Day Jones, Katherine Kalaita, Alice Kay, Marie May Kinder, Katherine Barnes Kitchel, S. Frank Knapp, Maude Combs Layman, Jennie Mathilda Leveaux, Raymond W. Litchfield, Isabel Mackeracher, Elizabeth Mae Martin, Royal H. Mayhew, Louis E. Mueller, Emma Daisy Reitz, Ida Rice, Cora Belle Scott, Edyth

Mildred Scott, Frances M. Simmons, Pauline Steck, Gertrude
 Richie Steckel, Edward Thompson Ware, Eva Allene Warren,
 Melva Louise Warrington, Isabella Learmonth Watson, Mary
 Elixabeth West, Mary Louise Wieland, Adelaide Smithson Wilson,
 Lulu Wilson.

These nurses have passed their examinations in every particular but one. In the old days, when ~~Socrates~~^{Hippocrates}, one of the great teachers of medicine, had finished the education of his pupils, and they were ready to be sent out into the world, he made them stand up and swear a solemn oath to all the Gods and all the Goddesses that they would be true to the principles that had been taught to them and to their profession. The essentials of that ~~Hippocratean~~^{Hippocratean} oath has been formed into a nurses' pledge, which I will read, and ask that each of these nurses will listen carefully and note whether he or she is able to take this pledge "Realizing the serious nature of the duties and the grave character of the responsibilities of the professional nurse, and especially appreciating the solemn obligations of the Christian nurse, I hereby solemnly pledge myself, by the help of especially God, faithfully to perform the duties of my calling, /to regard its obligations and responsibilities, to keep inviolate the professional confidences which may be reposed in me by those under my care and to labor earnestly and truly for the relief of human suffering and the amelioration of human woe, and especially for the moral and physical uplifting of those of my fellow mortals who may be in need of my assistance wherever duty may call me to labor".

I will ask these nurses who are willing to take this pledge, and do take this pledge in the presence of this audience,

to raise their hands. I see that every hand is raised. Now, it affords me very great pleasure by the direction of the Board of Directors of the Michigan Sanitarium & Benevolent Association—the corporate name of this institution, which is incorporated under the statutes of Michigan—to present these well-earned diplomas. (Presentation of diplomas).

These nurses are now entitled to wear the nurses' badge, the emblem of their profession. Mrs. Foy, the Superintendent of Nurses, will please present these badges.

TO THE CLASS OF 1912

Mrs. Foy:- It is a pleasure as well as a privilege to have the honor of presenting to you the badge of the Battle Creek Sanitarium and Hospital Training School for Nurses.

As you wear it, my wish for you is that you may appreciate its significance. The cross of blue and white is an emblem of service in our profession - the wreath of gold the reward. May you always be "true blue" and as loyal to your Alma Mater and profession as the blue in your pin - as pure in the sight of God and mankind as the white - as able to withstand the refining process of character building and still be as pure gold as the gold in your badge.

May you ever remember the Alumni Motto

"Knowledge unused for the good of others,
Is more vain than unused gold".

or your own motto "Deeds, not words".

Our profession is a noble one, and demands the highest and best in us to make true womanhood and manhood.

I now have the pleasure of presenting to you this pin
(Applause). (Presenting the pins)
which stands so much to the wearer.

Mrs. Foy:- There is one in this class that one of the departments of the institution wish particularly to honor. The Chief Engineer of the department, with his assistants, wish to honor the nurse who was the first one to know when the drainage was closed, why it was closed, and report the matter. I now have the pleasure, by request of the Engineer's Department, to present to Miss Alice Kay this beautiful bouquet. (Loud applause).

Dr. Kellogg:-That is an object lesson to the nurses to keep their noses open as well as their eyes and ears.

The audience will now please rise and close by singing the Doxology.

QUESTION BOX LECTURE

1912 (?)

At the Sanitarium Parlor, Battle Creek, Michigan, Monday, June 24th, at 8.00 P. M.

by

J. H. Kellogg, M.D.

diathemmy 17
obesity 20
vinegar 23
sweets 23

↓ Jemo for meals 1
↓ post med. 7.
↓ rhubarb 13
↓ rheumatism 14
↓ Cancer of stomach 15

Q.--How much time should elapse between meals?

A.--If a person has a slow stomach, he needs a long time between meals. If a person has a rapid stomach, it takes a shorter time. It depends also upon what kind of food you eat. If the food you eat requires long stomach digestion, it requires a long interval before one eats again, but if one eats food that require very little stomach work, a moderate quantity, so that it passes quickly out of the stomach, then the meals may come closer together. So, by regulating the kind and the quantity of food, we may take the meals almost any time we like. For instance, if a person has a tablespoonful of gruel at a time, or some other simple food, no fats, no cream, we will say oatmeal gruel or fruit juice, or something of that kind, he can take a tablespoonful every hour and he would not overload his stomach at any time, and the stomach would not consider it as very hard work and would not get weary. Sometimes, when a stomach is very feeble, it is necessary to do this. ^{If} one should eat only half a pint of food, he might be able to dispose of it every three hours, or in two hours and a half, without any inconvenience at all, but when one eats a square meal, made up of such things as Saratoga Chips, fried oysters, ham and eggs and griddle cakes or flannel cakes, as some people call them, they should be called buckskin cakes, rather than flannel, if one eats such a sort of meal as that, he ought to wait until the next day before he eats again, because the stomach that has been abused by that kind of food ought to have a good long time for recruiting.

Now, in general, the length of time between meals ought to be about six hours. It takes the stomach four to five hours to empty itself, and then it ought to have an hour's rest. The stomach is a muscle, just as the biceps is a muscle. So the stomach is a muscle. It is a hollow muscle, and it has muscles that run around and muscles that run lengthwise and muscles that run cornerwise.

There are three layers of muscles, and these muscles are all working together churning, churning and manipulating the food, working it on after a meal, so after the stomach has been working four or five hours, the length of time generally required for the digestion of a meal, it ought to have an hour's rest.

Now, let us see how this would work out. Suppose we have breakfast, we will say, at eight o'clock in the morning. Now we will eat breakfast and we masticate it well, and we will say that it takes five hours to chew and to digest that breakfast. That will bring us to one o'clock in the afternoon. Now if we have an hour's rest, it will be two o'clock in the afternoon, before we could eat dinner, don't you see? So that would be breakfast at eight o'clock and dinner at two o'clock, P. M. In other words, six hours at least should be allowed for eating a meal, digesting a meal, and then getting a little rest, and getting ready for the next meal. Then the same thing will be true of dinner. It will take a little longer time, because we usually eat more for dinner. So, before we should be able to eat again, it would be about eight o'clock in the evening, wouldn't it? Eight P. M. for supper. Then we ought to have at least four hours before we go to sleep, after we eat supper. (After we eat a meal, we ought to have four hours so that the stomach shall get its work done before we go to bed and go to sleep. That is a rule it is well always to follow. Take the last meal not less/ before you go to bed, if you want to have good sleep and keep good digestion, for if one goes to sleep when food is in the stomach, the stomach is semi-paralyzed by the sleep, and works slowly during the sleep, just as the rest of the body works slowly. The rest of the muscles rest and the stomach muscles rest to some degree. So food remains there too long a time and the stomach is damaged by the long contact with the gastric juice,) so it would be midnight before we should go to bed, and we should have eight hours sleep, and in the morning we would have to have an hour to get up and get ready for breakfast, get the morning bath, take the morning walk, so the necessary time before breakfast would bring us to nine o'clock, don't you see,

and the next day dinner would come at three o'clock in the afternoon, and supper would come at nine o'clock in the evening and the next day it would be ten o'clock for breakfast, four o'clock for dinner, ten o'clock for supper, eleven o'clock, five o'clock, eleven o'clock again, and the next time we would be eating breakfast at dinner time. We would have breakfast at twelve o'clock and dinner at six o'clock. That would be a regular six o'clock dinner, wouldn't it? And then supper at midnight. That would be very fashionable indeed. But now then, if we should keep this thing up a little while longer, we should find that breakfast would come at one o'clock in the afternoon and dinner at seven o'clock in the evening and supper at one o'clock in the morning, so we have clear over beyond the next day, don't you see? That is too late. So you see it is impossible to eat so frequently. (Three meals a day are not physiologic unless you take good care to regulate the quality and the quantity of the food. It is very, very necessary to be particular about that. Otherwise one will be taking one meal right upon another meal, taking food into the stomach while there is indigested food still in the stomach, and that is the most unhealthful and unphysiologic thing to do. The best way, if one wants to be good to his stomach, is to take breakfast at eight o'clock and dinner along about two o'clock in the afternoon, and then to eat no supper at all, or, if you eat anything at all, a little fruit or fruit juice.) I am telling you the best way. I do not suppose half of you will do it, but that is what I would do if I were you. That is what I do do. I eat a meal and a half. I eat no supper. I have followed the practice of eating only twice a day for forty-six years and in that time, I don't think that on three different occasions in the whole time I have ever taken food more than twice during the day. In forty-six years, perhaps on three or four occasions, when I had to, I have taken a very small morsel at a time, I have taken food three times a day. I take for breakfast, a very light meal of fruit. I will tell you what my breakfast is. Some people are curious to know, sometimes, whether I take my own medicine or not. My breakfast this morning was an apple and two cakes of Colax, or agar agar. That is a very popular food about here. I like to keep in fashion.

I had two cakes of Colax with a little tomato broth, and that was my breakfast. Then for dinner, I had the same as you had, only I took my dinner at three o'clock instead of at one o'clock. Now, I didn't suffer a particle from hunger or any inconvenience at all. (I find I am able to do more work to take a very light meal in the morning, a little fruit and Colax, I add the Colax for bulk. If I didn't have the Colax, I should, perhaps, take some lettuce, cabbage or cucumbers or something of that sort. The Colax is simply for bulk. I took another cake of Colax for dinner. That is my ration and I never take more than a meal and a half, under any circumstances, in a day. Three square meals, I don't know how in the world I should ever live through them. It doesn't seem to me I could possibly eat three square meals, as I see many people doing.) (Unquestionably we overtax our digestive organs with too much foods. There is no doubt that that is one of the greatest sins of humanity, is overeating, eating too much food, more food than is necessary.)

A Chicago politician some time ago, a Senator somebody, I think, got convinced of this and sat down to figure out how much food he had eaten that he didn't need to eat, and he found he had eaten 86 wagonloads of food more than he needed in a life time.) (Now we eat a great deal more than we think we do. You sit down and figure up how much you eat, and you will find you eat your own weight every month. ^{of your life} You eat your own weight every month of your life. You eat your own weight 12 times a year. The average man eats not much less than a ton every year, and a good many ^{men} eat a good deal more than that, a ton of food a year. That is a pretty big load for a poor stomach to carry, for one poor stomach. It takes so much energy to digest food that if you throw anything away, we find it easy to say "What is the matter?") (Now energy is a very valuable thing.. Human energy is the one thing that is worth while in this world. It is the one thing that is costly, it is the one thing that is all important, and of value in this world, is human energy, brain energy and muscle energy. Without it, why, your life is nothing. If we throw energy away on dinners and breakfasts and unnecessary suppers, we are squandering our most important and most valuable asset, and I want to say to you that the average business man, I think I might say a good deal more than the average business man, not a man out of one hundred of all business men,

^{but} expends more energy digesting dinners and smoking cigars than they do in actual work. That is a positive fact, in my opinion. The energy required to dispose of the beef-steak, cigars, the tobacco and the extra food that is taken that is not needed, is a great deal more than all the energy ~~that~~ is expended in work.)

Now, here is a man who says "O, I work so hard, I am all run down. I am all tired out with work." It isn't work that has tired him out, at all. Sometime ago there was an interesting experiment made down at Littleton, Conn., by Dr. Benedict. Dr. Benedict had a big iron box about 8 ft. long and six ft. tall and four ft. wide, an iron box in which he would put a man and seal him up hermetically, then by analyzing the air, he would find out just how much energy this man was producing. The body throws off carbonic acid gas, and carbonic acid gas, and the heat thrown off by the body is a measure of the energy produced by the body. So this man was put in there, made to work on a bicycle as hard as he could work, working with all his might, and the energy was measured. It was a very tremendous output of energy. He was a very strong man, an athlete. Then this man was made to loaf, to sit down, fold his arms, do nothing at all. His energy was measured but was very much smaller in amount. Then this man was made to study as hard as he could study at problems in physics and to work ~~at it~~ at it very hard, intensely, for hours, the energy was recorded and the amount of energy this man produced, ~~threw~~ off from his body, that he used in his body in the study of physics, studying as hard as he could make his brain work, was no greater than when he was loafing, than when he was simply musing, or doing nothing at all. The amount of energy required for brain work is small. This was a new idea and quite a revolutionary fact, revolutionary information. It had been supposed before that a man used up an enormous amount of energy in brain work, but that is quite a mistake. Very little energy is used in brain work. When a man sits down at his desk and makes his head work, dictating letters and doing things of that sort, he is using no more energy than as though he were simply reading a newspaper and loafing about, not a bit more.) (So, when we use energy, it is when we are at work using our muscles. The man who is digging ditches, or working as a harvest hand, that man is producing an enormous output of energy,) but when we are doing ^{sedentary} ~~secretary~~ work, sitting quietly

using our brains, we are using very little energy. We don't need so very much food, you see, and when we fill our bodies up with food, especially with nitrogenous food, especially with beefsteak, chicken and things of that kind that require an enormous amount of energy to diggest them, ~~When~~ one takes that kind of food, he is simply throwing away an enormous amount of energy. (These big dinners are as dangerous as cannon balls, they may not kill you right on the spot, mash you to pieces as a cannon ball would, but they will kill you just as certainly in the end.) Do you know, it takes 40% of all the energy there is in beefsteak just to digest that beefsteak. That is a fact published in one of the bulletins of the Agricultural Department of the United States Government. That statement was determined by Professor Guntz of Berlin, that it takes 40% almost half of all the energy there is in a beefsteak, to digest the beefsteak, so it is a very expensive kind of food, you see. That is not true, of bread, corn, rice and things of that kind. If it were, you could readily see that it would be very expensive to feed a horse or an ox. The amount of work we would get out of them would only ~~be~~ be about double the amount of energy that we had to give them in the shape of corn for food. We would have to feed them twice as much food, the equivalent of half the energy they produce.) But I must hurry on.

Q.-- In the case of a man 45 years old, with cataracts over one eye, and the sight of the ~~other~~ eye fairly good, would you advise an operation for removal now, or wait further developments?

A.--Well, I ~~am~~ not an optician. I should certainly turn that case over to an oculist. The oculists differ in that and I would rather not get into their quarrel at all about that. Some oculists say it is better to remove it right away and others say it is better to wait until it gets ripe. I think it depends a good deal upon the skill of the oculist. If the oculist is able to take the whole thing out, he is willing to do it, but if he is not able to do it nicely, he advises you to wait until it gets ripe and will come out easily.

Q.--What is the test for tuberculosis?

A.--There are several tests that are all good. The tuberculin test is one thing that is good.

Q.--What means do you advise to defeat the so-called patent medicine cures of this country?

A.--Well, I think the best thing is education, and the only thing is education. Educate men and women with reference to the real principle of cure. Medicines do not cure, ~~whether~~ whether they are patent medicines or not patent medicines, they do not cure. There never was a medicine that cured anybody in the world. Well, if a man has got tapeworm, perhaps a medicine may cure tapeworm or kill it, provided he doesn't take such a big dose that it kills him, too. It is simply a question of which is going to be killed when you give him a dose of medicine for tapeworm. Fortunately we know some medicines that will kill tapeworm without making the dose so big as to kill the man, so the importunate lodger is gotten rid of, but with rheumatism, neurasthenia, chronic stomach trouble, chronic liver troubles, these are not cured by medicines.

Pages not

Available

for filming

everybody to know about it, and if it is true that drugs will cure disease, nobody can find any fault with the fact being proclaimed from the house tops, in the newspapers, on the billboards, and in every other way, ~~but if it is not true, it is~~ ~~actually a lie~~. But that is not true, it is a lie, a lie. Drugs do not cure. This fact that I have been stating to you has been known for centuries, it has been known for centuries, in fact, and it has been known to doctors for half a century, at least to almost every doctor, that drugs do not cure. It is the body itself that cures, it is the body that heals itself. Only a few years ago, Dr. Senn, at that time president of the American Medical Association, in his presidential address at the American Medical Association meeting at New Orleans made this statement just as strong as he could make it "Drugs do not cure". There are only two drugs of all the thousands that are named in the Materia Medica, that cure. One of those is quinine which cures malaria. Quinine does not cure malaria, we all know that. It kills the malarial parasites which the mosquito introduces, it kills the plasmodia, The malarial parasite is killed by it and the body heals itself, but the quinine does not really kill the malarial parasite, it only makes it sick, and enables the white blood cells of the body to attack these parasites and destroy them before they recover. That is all it does. So quinine, while it is a useful remedy, really does not cure, after all. It is the body that does the healing, and a general acquaintance of the people everywhere with the causes of disease, with the nature of disease and causes of disease is the only antidote in the world for the patent medicine mania.

Q.--What would you advise being done for a person whose whole alimentary canal is highly inflamed?

A.--I should advise him to give his alimentary canal a little rest. If there really is a case of inflammation of the alimentary canal, let it have a rest two or three days, but not a month, it doesn't want to rest a month. Two or three days, then take a little food at a time, very bland, simple, easily digestible food.

Q.--Last Monday night you recommended warm water for the eyes.

A.--No, that is a mistake, I recommended hot water, not warm water. There is a difference between hot water and warm water. Warm water is good for the eyes, too, sometimes, for merely cleansing the eyes. ~~Before~~ But for the conditions named, for chronic

and
inflammation of the eyes, for cataract, /chronic sore eyes that stick together in the morning when you get up, bathing with very hot water is a very good simple remedy. It is not a panacea. Sometimes there may be causes back of the eye trouble that must be searched into. A good oculist should be consulted in every case. A little cold water should be applied afterwards. The hot water does no harm if it goes into the eye a little bit.

Q.--Where can I purchase an electric light bath cabinet like those used at the Sanitarium? Would other members of the family be benefited by its use, as well as myself?

A.--These bath cabinets are manufactured for the Sanitarium by the Sanitarium Equipment Company of this city. You can get information about this company by inquiring at the Medical Office. They will tell you how you can see the cabinets. I think there are some on exhibition down at the end of the corridor of this first floor, or will be a little later.

(Every home ought to have one of these cabinets in it. The electric bath cabinet is almost as necessary as a bath tub. In this climate, where we have so little sunshine, we need more light. The only antidote for our shaded lives, we may say, for our overshadowed lives, is to get in contact with the light and air just as much as we can.) ~~and-to-we-~~ Away back in the ages somewhere our ancestors moved into caves, into holes in the ground. When the Ice Age came down from the North, the glaciers came rolling down, there was nothing to do but to get into a hole in the ground, get away from the cold. So people began living in caves. We have never gotten out of that hole. We are still down there in a hole. Instead of getting out into the sunshine as our ancestors and the primitive man lived, we are still living in a hole. We first built a roof over the hole, then put on one story and moved upstairs and used the hole for a cellar, the original hole, but we are still under cover. We are still shut away from the sun and light, which are elements absolutely necessary for life and for vigor, for health. (The electric light bath is an excellent substitute for sunlight because the light that comes from the electric light is just the same thing as the sun light, it is just the same light, in fact that shown on the earth and was captured by the roots of plants, organized into organic structure, and then was buried up under

the earth, and under pressure, under the influence of pressure, and heat, was by and by converted into coal and oil, and now it is burned, the dynamo is turned, the electrical current is produced, and the electricity is finally converted back into light again; the same light which shown upon the earth ages ago is shining out again, resuscitated sun light. When you take an electric light bath, and the light is shining upon the skin it is not simply the skin it shines upon, it goes clear through the skin deep down into the body, illuminates the interior, and that is why it is better than ordinary heat. The electric light is a most excellent tonic. People suffering from Bright's disease, arteriosclerosis, that have inactive skins, tawney skins, pigmented skins, and dry skins, persons who are suffering from chronic billiousness, intestinal auto-intoxication, neurasthenia, ought to take some kind of sweating bath two or three times a week, followed by a short cold bath, and the electric light bath is the best of all means of producing this sweating bath, because it sweats not only the skin but the tissues under neath the skin as well.

Q.--After taking your diet for three months, there are still pimples all over me, although I take the baths and the diet and take care of myself. How can I get rid of them?

A.--Now here is a good chance for the electric light bath, again. The X-ray and the arc light are particularly good. This means simply low resistance. These little pimples on the skin are simply due to the fact that the germs that are always on everybody's skin, always present everywhere, some of these germs have got down beneath the skin because the resistance of the body is low. They have been permitted to go there, to develop and produce little inflammations around the roots of the hair, in the hair follicles, the sweat glands and the fat follicles. A little inflammation is produced there and that is what makes the pimple. This is not a contagious disease, because it is a thing everybody has. It is simply the germs from the skin, the everyday germs that are living with us all the time, and when the resistance of the body is lowered by inactive bowels, by improper diet, by not drinking water enough, and by not taking exercise enough, by living indoors too much and in various other ways, the vital resistance is lowered, lowered by smoking and drinking tea and coffee and by many

other things that ought to be mentioned with them, these germs penetrate the skin, the skin is not able to resist them, they take root and grow and produce these inflammatory conditions. Skin diseases of various sorts are due to the same cause.

Q.--How do you recognize Bright's disease?

A.--One of the first symptoms of Bright's disease is increased blood pressure. When a person's blood pressure is about 100 to 110, as everybody's ought to be, when it goes up to 130 or 135, you can begin to look out for Bright's disease. You haven't got it yet, but you are going to have it. That is one of the symptoms of Bright's disease. Examination of the urine in such a case will generally show indican or indolacetic acid, that is, poisons produced by putrefaction in the intestines, and these poisons, when they circulate in the blood, cause a contraction of the blood vessels, and when they circulate through the kidneys, they cause contraction of the kidneys and by and by produce degeneration and Bright's disease. That is one of the early symptoms. Now the first thing to do is to correct the diet. Stop eating foods that will putrefy in the intestine, stop the use of meat, and probably you had better exclude eggs, also. Cut off everything that can decay, that will produce putrefaction in the intestine, shut these all out and drink a great deal of water, so as to eliminate the poisons just as much as you possibly can. Now the next thing is to get the skin active as you can, because when the ^{kidneys} ~~skin~~ becomes diseased, the skin becomes diseased with the kidneys. The skin becomes dry, inactive, and that is one of the accompaniments of Bright's disease. Common headache is one of the common symptoms of this disease, because the same poison that makes headaches also makes Bright's disease. That is the reason for it.

Q.-- When one can not take fruit and fruit juices, what foods have the same cleansing and aseptic properties as fruit?

A.--Well, there are perhaps no foods that exactly take the place of fruit, but I think it is very rare, very rare indeed, that a person that can be found that can take no fruits at all. The only reason why fruits are found objectionable in some cases, is because of the acids present, but there are some fruits which do not have acids present. The pear, for example, has practically no acid at all in it. One fruit which is

free from acid is the banana, which is another most excellent fruit, if it is eaten when ripe and if care is taken to chew it thoroughly, or if it is taken in the form of pulp. By putting it through a colander or beating it up to a pulp. In this way, the banana agrees with almost anybody. These are excellent fruits, and there are other very sweet fruits. There is the fig and the raisin grape, which are excellent fruits, and very sweet, and prunes are very sweet also.

Q.--What is the status of buckwheat among cereals?

A.--Buckwheat is wholesome all right, but generally, in the form of buckwheat cakes, it is bad because of the burned grease used with it. It is raw, uncooked dough in the center, and the outside is burned grease, a most unwholesome article of food.

Q.--Why is rhubarb not good food?

A.--Because it contains oxalic acid. Oxalic acid is a poison, and whether it is found in the laboratory or in the pie plant, or in the rhubarb plant, it is a poison just the same. Everybody knows oxalic acid is a poison. The acid of rhubarb is oxalic acid. It is not a food, it is a poison. It differs entirely in its properties from the wholesome acid of fruits. It is a poisonous acid which can not be utilized in the body and when taken into the body is eliminated through the kidneys. ~~First~~ Of course, the amount one would take in pie plant is not large enough to produce acute poisoning. There is not a poisonous dose in the ordinary quantity, ~~which~~ as a person usually eats it, but if they eat it frequently and continually, they will be damaged. They will be damaged in the use of this poison as they would be in the use of uric acid or any other unwholesome chemical substance.

Q.--Does the diathermy method cure tuberculosis of the bone?

A.**No.

Q.--If not, is there a cure?

A.--The only cure for tuberculosis of the bone is the body itself. The body can cure tuberculosis of the bone. Sometimes the dead bone must be removed. The diathermy, along with other methods of applying heat is of very great service in the treatment of this disease. It is not a specific, however, and there is not. I might say that the same thing that will cure tuberculosis of the lungs will cure tuberculosis of the bone

The outdoor life, the simple life, proper feeding, building the body up in every possible way, these are the effective means.

Q.--What might cause muscular pain in the limbs, which is generally attended by a slight soreness of the throat?

A.-- It is probably a very slight infection, which began with the throat. There are certain germs which produce rheumatism, sometimes through the throat. Rheumatism and tonsillitis are very frequently associated. The throat is a very common source of infection of the body by rheumatism-producing germs. It is well known that acute rheumatism is due to germs, and there are several different sorts of germs which produce acute rheumatism. Chronic rheumatism is not produced by germs, perhaps, but by the poisons that are produced by germs. Germs growing in the intestine produce poisons, which, when absorbed in the body, produce changes in the joints, and rheumatism in its chronic form. Rheumatoid arthritis and chronic rheumatism are different phases of the disease which probably have a common origin in poisons derived from the intestine.

Q.--What is the treatment and cure of cancer of the stomach?

A.--Cancer of the stomach can be cured only by one means, that is, by removal. It can be cured by cutting the cancer out. This is fortunately possible. It was not possible, however, a century ago, but about thirty years ago, Professor Billroth, of Vienna, conceived the idea of removing cancer of the stomach, and devised an operation which has since been used successfully in thousands of cases. Suppose the cancer is growing here. It obstructs the lower opening of the stomach. This opening becomes smaller and smaller so by and by it is closed up entirely. Now Professor Billroth's operation consisted in removing this part of the stomach as much as might be necessary. Sometimes the stomach is almost entirely removed. In a few cases, the whole stomach has been taken out. This portion that is left here, of the intestine, is brought up, joined to the stomach at this point here, and an opening is made here. We have a patient now in the Sanitarium upon whom I operated some seven years ago, removed that much of the stomach so there was just a little pouch left, enough to hitch onto the intestine. The patient was very much emaciated, just ready to die when the operation was performed seven years ago, but he gained flesh became very strong and well, increased from 90

pounds to 185 pounds in weight, and enjoyed most excellent health until a very short time ago. Just a few months ago, four or five months ago, perhaps, he experienced some trouble about swallowing. Upon investigation, we discovered that the cancer had returned and right at this point, shutting off the esophagus, so that it was impos-



ible to get food or liquid into his stomach. Under these circumstances it became necessary to perform another operation upon him, so this portion of the intestine was brought up to the skin in this way and a tube introduced into the intestine so that he could be fed and now this gentleman chews up his breakfast passes it in through this tube and has left that part of his anatomy out entirely and he enjoys his meals and is getting on very well. It is a poor makeshift. I mention this case so you may see how hard it is to cure cancer. After seven years it has returned but he has had seven years of comfortable life. He would ~~surely~~ have been buried seven years ago if he hadn't had the operation done. So you see it is worth while even though it ~~is~~ is not always permanently successful. There are a number of cases in existence in which after the stomach has been removed in this way the patient lives on for a good many years, for ten or fifteen years, in fact and the cancer did not return again. Of course this is not the same cancer. This is another one. When one has once had cancer, the fact is evident that he is susceptible to cancer and if that cancer he now has is removed another one is very likely to come because his body is in such a state that it is soil for the cancer to grow in and that is why cancer returns. It is not the same cancer as I said before, it is another one, but it is because of the susceptibility of the body. So the important thing to be done when a person has cancer is not only to remove the cancer but to build the body up to the very highest point of vital resistance to cut out everything from the habit that is likely to be in any way favorable to the protection of cancer. Meats of every sort must be discarded. Everything that tends to produce an unclean state of the body must be avoided.

Question:- What causes moles and how can moles be cured or removed?

Answer:- There are several ways in which moles can be cured. One way is by the application of the X-ray and with the application of radium. Electricity may be used also for the purpose.

Question:- Is it essential that Colax be chewed.

Answer:- No, you don't want to chew it. It should be swallowed whole. The way to

ing. Patent medicines can not cure, So long as people have faith in ~~God~~ drugs to cure, the patent medicine business will flourish. There is no question about that, because if the doctor says, "Here is a bottle of medicine, this medicine will cure you" and the man believe it, he takes that medicine and if he gets well, he thinks the medicine will cure him, and just as like ^{by} as not he will get the formula of that medicine and go to putting it up in bottles with fancy labels on them and putting it on the drug store shelves, selling it to the people. If what the doctor told him is true, there is no reason why everybody should not believe it. It is right for

take Colax is, to take a cake of crisp dry Colax and to break it up into small pieces about as big as the tip of your thumb into a cup, then pour on some caramel cereal or a little hot broth of some kind and swallow it at once, after softening a little without chewing at all. An article is sometimes difficult to swallow when you pay attention to the thing. You try to swallow a pill and you can't get it down, but now if you are eating your dinner and that pill happens to be in with a mashed potato or something it would go down without the least bit of difficulty. I have seen people choke on a pill that swallowed pieces of beef-steak as big as your thumb. So when you are eating Colax, soak it up properly then put it in your mouth and forget all about it and let it disappear.

Question:- Tell us something about diathermy.

Answer:- Diathermy is one of the most interesting applications of electricity which is known. It is an exceedingly valuable application of the electricity. You know electricity, light and heat are mutually convertible. We have down there under the boilers in our power house a big fire. Coal is burning and the result of the burning of that coal is this light that is shining here. The heat from the coal is, by means of an engine and a dynamo, converted into a electricity. Electricity is here by means of the filament and the resistance it meets in the filament converted into light. Now the electricity you see may be converted into heat or heat is converted into electricity, and electricity may be converted into light and in the same way light may produce electricity and heat and electricity may produce heat as well as light. The diathermy is a method of transforming the electricity

The electricity is converted in the body into heat. Comes to the body as electricity, but when it passes through the body, it is converted into heat. This is a very rapidly operating current. An ordinary current of 110 volts, such as is used in lighting these lamps is used, and is passed through a transformer by means of which it is made through alternate 3,000,000 times a second, That is going some isn't it, as the boys say. 3,000,000 times a second. This rapid alternation gives it this peculiar property, so that when it is passed into the body it produces no electrical sensation whatever, but simply the concentration of heat. It is of infinite value almost because it enables us to apply heat to places and in ways that we never could apply before.) Now suppose for instance this is the trunk of the body, we will say. Let this represent the body. Now suppose this represents the cross section of the body. Here is the kidney, we will say, lying down here a little ways from the back. Suppose this is the pancreatic gland, and we want to simulate it right in the middle of the body. Now we apply an electrode there and another electrode here and we pass this current through from one electrode through the other and this point right ⁱⁿ here where these lines intersect is where the heat will be focused, concentrated, right in the center just where we want it. Now suppose it was a kidney up here and we want the heat to be concentrated there, then we will apply small ^a electrode you see and the lines run through ⁱⁿ this way, will concentrate the energy right here where we want it. So (by means of using different forms of electrodes, the energy can be applied, the heat heat can be applied right where we want it. In other words you can apply fomentations on the under side of the liver if you want to, because the tissues are all moist so when we apply the heat to a person we get the effect of moist heat, we get the effect of a fomentation in any part of the body we want it.) (It is extremely useful for reducing high blood pressure. High blood pressure is due in most cases to the fact that there is an excessive contraction or hardening of the arteries of the interior of the trunk, the splanchnic area. Now here are large vessels in the splanchnic area, a great

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number of large vessels. We will suppose this represents the large vessels. These vessels are contracted so they are too small and the result is the blood is forced into the rest of the body and the pressure is raised, or by the application of diathermy to the body in front and behind by large electrodes and a large current, these contracted vessels can be dilated. They can be restored somewhat to their normal condition. In that way the blood can be made to flow through this part of the body and the blood pressure will be lowered. (A patient a few days ago who had a blood pressure of 185 at the beginning of treatment, at the end of 15 minutes had a blood pressure of 165. The blood pressure was reduced 20 points in 15 minutes under the influence of diathermy. That is one of the great values of this method. We can reduce the pressure somewhat by the application of warm baths which dilates the blood vessels of the skin but this large area within the abdomen here is the largest vascular area in the body. There are more blood vessels there than any other place and consequently when these vessels harden and they are likely to harden before the vessels of any other part of the body because of their exposure to the poisonous substances that are taken into the stomach.) The great exposure of this part that is necessary, the vessels become exposed to the hardening process more than ⁱⁿ any other part of the body and (high blood pressure generally begins with the vessels of these parts. Arteriosclerosis begins in this part of the body. So diathermy is a very valuable method for combating high blood pressure and arteriosclerosis. It is also useful for a great number of other things, Relieving neuralgia, sciatica, headache, rheumatism, rheumatic joints and dissolving the tophi of gout, etc.)

Q. Is it not true that most people reduce their weight from one-quarter to one pound after an electric light bath instead of one or two ounces.

A. Yes, but that reduction is due to the loss of water, chiefly.

The reduction of weight comes through the water which passes out from the surface of the body, not from the burning up of solid matter. And after a person has lost a pound of weight in the electric light bath, he goes and takes a couple

of glasses of water because he is thirsty and he weighs just as much as he did before you see. So what we want is not simply to lose water, but we want to lose solid tissue, solid flesh, not water simply, but the solid material of the body, fat and protein, the lean flesh, the fat material. We want to lose that, and that is burned up by the oxidizing power of the heat and light and work and exercise. A very fleshy person, who cannot take very much exercise can reduce his flesh in another way. We have a very useful means of accomplishing this by having the patient sit down in a chair, put each hand in a bowl of water and each foot in a bowl of water and an electrical current put on, that has a little arrangement for making and breaking the current, and every time the current is made, the patient's muscles all contract and the muscles are made to contract about three or four times a second, so the patient's arms and legs begin a lively action and we can make a patient travel ten miles in the course of fifteen minutes easily without really getting tired, because the arms and legs go through the motions and all the muscles contracting without there being any effort of the will at all and without there being weariness of the nerve centers. ^{In} Persons who suffer from rheumatism who have been long confined to bed and who have lost the use of their limbs; persons who are so fleshy they cannot take very much exercise, or whose limbs are so diseased they cannot ~~take~~ exercise very much and for persons who are paralyzed, this is an extremely valuable method of taking exercise, you see.)

Q. How is cream sterilized, preparatory to churning.

A. By simply boiling it twenty or thirty minutes. It ought to be cooked at a temperature of 220 degrees for thirty minutes to kill the germs. The spores are not all killed even then.

Q. What is the cause of boils.

A. Low vital resistance. Germs of the skin are worked deep enough down so as to produce ^a nidus of infection and a boil is the result.

Q. Will wearing tennis shoes or sandals without heels cause broken down arches?

A. If your foot has been accustomed ^{to} snug fitting shoes, it is possible

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that if you were on your feet a long time and perspiring freely, it is possible there might be some relaxing of the ligaments so it would be well to be careful at first, particularly to avoid overdoing it. Do not exercise upon the feet for many hours at a time without rest. Bathing the feet with cold water is a very excellent means of overcoming this tendency.

Q.--I have known of the cure of hernia by an advertising doctor by local applications of electricity and ~~lypde~~ hyperdermic injections. What do you think of the cure?

A.--It is true that it is a very old method. It was used when we didn't have any better method. It was used by persons who were too ignorant to perform proper and ~~ne~~ necessary surgical operations. The operation of injecting an astringent like tan or something of that kind is a very old method and was abandoned long ago by scientific physicians because of ~~the~~ its uncertainty and because it sometimes does serious harm, though, once in a great while, it affects a cure.

Q.--In the event of a person having an ulcerated stomach, should the person take any exercise?

A.--It depends upon the amount of ulceration. If there is bleeding or hemorrhage from the ulcer, the patient ought to avoid exercises. If the ulcer gives pain, then he should avoid exercise. In general, a person who has ulcer should go under a doctor's care, should be put to bed and kept still two or three days, fast two or three days, take no food at all, then for several days keep quiet in bed and have special kinds of food at frequent intervals. These cases are generally curable for the time being, but they are very liable to return, especially if one goes back to bad habits.

Q.--Can a blood pressure of 150 be reduced to normal?

A.--It probably can be brought down pretty nearly to normal if the arteries are not yet very hard and can doubtless be considerably reduced at any rate.

Q.--Do you consider cider vinegar a healthful acid to use with food?

A.--Cider vinegar is a dilute acetic acid, and a whole lot of other things. There are various other things generally in the vinegar-~~edules~~. If it is really good

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genuine cedar vinegar, it ^{has} always/vinegar eels in it. If it is adulterated cedar vinegar, made out of sulphuric acid, then there won't be any eels in it, because the vinegar eel doesn't have anything to do with that kind of vinegar, but if it is really good, old fashioned cedar vinegar, it is very certain to have eels in it. You can sometimes see them without a magnifying glass. Get a specimen of old cedar vinegar and hold it up to the light and you can generally see the little eels running about in it. It is sometimes claimed that when such vinegar is used, these parasites take possession of the intestines and grow there, so they are not very comfortable things to have. It is not very comfortable to think that one is swallowing some hundreds of thousands or millions of these at every meal. Vinegar is an unwholesome article. Acetic acid is a poison like oxalic acid, though not so poisonous. It is very irritating to the stomach, interferes entirely with the action of the saliva upon the food, so it is entirely unwholesome.

Q.--Should a strong healthy child be allowed to take a considerable amount of sweets?

A.--Yes, indeed. Children are fond of sweets and their appetite for sweets is entirely

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but cane sugar is not a natural sugar, it irritates the stomach. (Cigata of Italy, an eminent Italian physician, made experiments on dogs, he made an opening into the stomach of a dog so he could look in. He gave this dog sugar in different percentages. A five percent. solution of sugar, one part in ~~sugar~~ twenty produced irritation of the stomach, caused it to be congested and a ten percent. solution of sugar caused such irritation that the dog howled and made such an outcry, suffered so intensely that he gave up his experiment.) (Think of what is happening to a little girl who eats candy in quantities; think of the strength of the solution of cane sugar that goes into her stomach. It is certainly a ten per cent. solution, it produces a diseased condition of the stomach. Many, many children have become sick and diseased as the result of the candy habit. It is a most pernicious habit, and ruining the health and teeth of the American people, there is no question about it.)

(There is another advantage of this natural sugar and that is it has associated with it the lime which is necessary to build up the bones, whereas when we eat sugar in the form of cane sugar we do not get the lime, which belongs with the sugar properly, so we get the carbohydrates without the lime and the bones are not supplied with the lime, and the teeth are consequently torn down to furnish lime for the nervous system, which needs it, so the teeth decay because they become tender and brittle.) Cane sugar is an unwholesome thing. (We have been trying to introduce malt sugar. It has been a very laborious process to make malt sugar. We made the syrup as much as ten or twelve years ago, but it is only within the last six months that we have been able to make ~~any~~ malt sugar in any really palatable form. We have it now on our tables, and I heartily recommend it as a wholesome sugar that may be eaten just as freely as you would eat bread because it is simply bread already digested. It has the advantage that it is peptogenic. If you have slow digestion, have no gastric juice, suffer from biliousness, it is a very great advantage, because it will cause the stomach to make more gastric juice.) If you have too much gastric juice already then you better not eat this malt sugar at the table, but you must not eat cane sugar, either, but at the close of the meal you may eat the

malt sugar at the close of the meal it helps to check the action of the gastric juice upon the mucous membrane of the stomach and so is advantageous.

I found that while in London last winter that Prof. Hirschell there and some other of the eminent London specialists were making large use of malt sugar or recommending it very highly for the use of persons suffering from gastric hyperacidity. It may be taken an hour after the beginning of the meal or it may be taken a little later. There is nothing so fascinating as this malt sugar because it is already assimilated and it helps the assimilation of other foods. It may be taken on fruit of all kinds. Strawberries eaten with malt sugar instead of cane sugar are very delicious indeed. The flavor of the malt sugar agrees beautifully with fruits of all kinds and with cereals of all kinds. It is not liked for cookery quite so well, although many people like it in the form of sweet things. It must be used in much larger quantity because it is not as sweet as cane sugar and you may use three or four times as much as you would of the ordinary cane sugar because cane sugar is harmful except in very small quantities while malt sugar may be used ad libitum. (It may be used as a cereal by itself. A quantity may be put into a saucer with a little cream added and used just as you would use oatmeal or any other cereal, for it is entirely wholesome and may be used ad libitum.)

Q.--Is jelly injurious to a child's stomach or to anybody's stomach when in a healthy state?

A.--Well jelly is only injurious because of the large amount of cane sugar which it contains. If it were malt sugar, there would be no harm in it.

Q.--What do you think of the forcible stretching of the body by mechanical means as advocated by Cleveland and perhaps others?

A.--It is a capital means of extracting money from the pocketbook. It is a splendid means for this. Somebody is ^{advertising} charging it as a means of making short people tall. I get such circulars quite often. I think perhaps it has gotten out somewhere that my idea of height is only 5 ft. 4½ in. so I have been victimized by these people for many years. However, I have never spent any money on the attempt

to get longer. (There isn't anything in this idea at all, not the slightest. It is absolutely impossible by taking thought to add one inch to your stature, but the Bible says you know, "You cannot add one single cubit to your stature by taking thought and by stretching deeply". If a person was kept on a stretcher he would not be likely to gain anything except temporarily for a few minutes or half an hour perhaps, a temporary increase in length. Notice the testimonials that are given by these people who claim to be able to secure such great benefit from stretching, they are all given by people who are 16 or 18 or 19 years of age, and these people are naturally growing, you see, so in the course of three months or six months they will be likely to grow an inch or two and this is the basis of the testimonial, their natural growth and not the stretching that did it.)

Q.--Should the pulp and fiber of oranges and grape fruit be eaten in the cellulose diet?

A.--If you feel inclined to swallow the pulp, it won't do any harm, but if you feel disinclined to do it, don't do it. Your instinct will tell you something about whether you can dispose of it or not. If you have had any inconvenience after eating the pulp once or twice, it should be a sufficient indication that you better not swallow it.

Q.--When I was here two years ago we had a large sign "Fletcherize" in the dining room. Why has it been removed?

A.--We had some decorators at work in the dining room and I suppose they took it down and forgot to put it back, but don't forget to chew. However, it is not good for everybody to chew, and it is possible even to overdo chewing. The food should be chewed sufficiently, enough so that when it passes down the throat, it won't scratch the palate, and so that it won't choke you, so that you won't have to swallow it like a pill. It should be made smooth, reduced to pulp or to a puree before it is swallowed. That is all that is required. Persons who suffer from hyperacidity should eat soft foods, that do not require chewing, not liquid food, however, soup or broths, but soft food, that does not have to be chewed so that it can be swallowed quickly, because long chewing will produce appetite juice, which is a thing to be avoided in these cases.

Q.--Somebody wants to send me an address and wants me to undertake the education of a man about autointoxication by sending him some literature about germs.

A.--I think a copy of the Battle Creek Idea will help this man's case. I think I have reached the bottom of the box. Now let me just say a word before you go about the outdoor gymnasium. The outdoor gymnasiums are now open ready for business. We have an outdoor gymnasium for the ladies and for the men, and we consider these two departments among the very best we have in this institution for helping people to get a great boost toward health. The exposure of the skin to the light and the air, the opportunity to get out into the light and the air under favorable conditions where you can get the whole skin tanned is one that ought not be missed. I wish that everyone who comes to this institution would go away as tanned as a mulatto. It would be a tremendous advantage to you. (The tanning of the skin is something more than skin deep, it means the blood vessels of the skin have become dilated and there is increased circulation through the skin, increased activity of the

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skin, and with this increased activity of the skin and increased movement of blood through the skin, there is an increased movement of blood through the liver, stomach, and other organs, that can not be done in any other way. Get your skin tanned all over and active, so it is able to take care of itself, then you are not likely to take cold, for you have then the effect of a fomentation all the time, don't you see?

People that have arteriosclerosis, people that have dingy skins, people that have autointoxication, people that have Bright's disease, or tendencies that way, and that have high blood pressure, have neurasthenia, every single such person ought to get out into the sun and get baked and roasted until the skin peels off and get a new skin. With this new skin, ^{and} shedding the old skin, you get other things new as well. There are newly constructed tissues all through the body. There is a reconstructing process set up by the vitalizing rays of the sun, which makes a new creature of you, and that is what you all want. You want to get rid of this old sick man or sick woman and carry home with you new health and vigor.

I thank you for your attention.

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