

CORRELATED PHYSIOTHERAPY.

The several methods and agencies which are incongruously grouped together under the head of physiotherapy include at least the following:

- Light
- Electricity
- Radiotherapy
- Exercise
- Massage
- Mechanotherapy
- Thermotherapy
- Hydrotherapy
- Aerotherapy
- Dietetics.

Water, sunshine, heat and rubbing have been employed as therapeutic means from prehistoric times. Animals as well as human beings led by instinct have made use of these natural agencies.

In old Egypt the sick man exhibited himself in the market place and waited until someone discovered him who had suffered in a similar way and told him the means by which he had found a cure. Solomon wrote the names of all known diseases and remedies in a book and placed it in the temple at Jerusalem where it was to be consulted ^{until} Hezekiah tried to reform the medical practice of the day by carrying off the materia medica .

To the ancients every disease was a mysterious entity ~~a~~ demon to be cast out, and each ~~malady~~ had its approved formula and so therapeutics was necessarily at first empirical. Disease was an attacking enemy and remedies were bullets aimed at the invader.

Modern science has given us a new concept of disease and a new aim in therapeutics. The living body, in health or disease, is always under the guidance of the mysterious agency which we personify as life, but can never fathom. The therapist may assist and cooperate in the healing process, but he is as powerless to heal as he is to create. As a great pupil of the great Rokitansky said, "Nature creates and maintains, therefore She must be able to heal." This is the great discovery of modern therapeutics, although the full dawn of this great truth has not yet been reached. So great a clinician as the famous Cullen declared, "I would drive Nature out of the sick room as I would a squalling cat." And the polypharmacy of the last century which fought Nature with purgings and bleedings, emetics and sinapisms is not yet altogether dead. But fortunately, Metchnikoff showed us phagocytosis and Ehrlich illuminated antibodies, Charrin and Roger, widal, Wright, Kraus, Boudet and a veritable army of workers, have step by step uncovered and ~~un~~ elucidated the whole marvelous mechanism by which the body defends itself against disease, and so has made to stand out in appallingly graphic colors the bungling and often obstructive procedures ~~of~~ the old empirical physic.

Rational physiotherapy is the most thoroughly developed and perfected product of modern medical progress. Its foundations rest upon two great well established sciences, physics and physiology.

The resources of physiotherapy are for the most part the very agencies most essential for the maintenance of normal life. It is this fact which renders them the most potent and the most efficient of all therapeutic measures. Rational physiotherapy is the child of physiology and hence its procedures are

naturally suited to meet a great share of the diversified indications for therapeutic endeavor/ encountered by ~~the clinician~~ ~~in the multitu-~~ ~~dious forms of disease which the clinician encounters.~~

The remote and independent origin of the more important of our physical curative agents, such as water, sunshine, heat, etc., naturally led to the development of independent and rival systems. And so, up to about fifty years ago there were "water cures" or "Hydros" "Cold Water Cures", "^{Thermal} ~~Internal~~ Cures", "Movement Cures", "Electropathic Institutes", "Milk Cures", "Grape Cures", and various other monotherapy systems. Patients drifted about from one to another of these ~~sole~~ "cures", sometimes finding help, more often failing to receive benefit, because of the routine methods employed.

This solo method is still to a large extent in use in European health resorts, perhaps because of the dependence of these establishments upon specific natural features, such as hot springs, saline wells, radio-active mud, or some similar resource. _____

Patients visit various places in succession, taking a "course" at each and repeating the round every year when the season arrives.

In this country there has been developing during the last fifty years an organized ~~on~~ systematic physiotherapy which differs radically from the old system, imported from continental Europe in the early decades of the last century, in three important particulars.

1. The correlation or adjusted combination of curative agents in their simultaneous application to meet therapeutic indications.

2. The use of water, air, light, electricity, diet, and every other agent employed in a strictly rational way, that is, in accordance with its known physiologic effects.

3. The control of every therapeutic project, by scrupulously

careful preliminary diagnosis and frequent checking by the best known methods.

When in Europe three years ago, I called upon my old friend Dr. Strasser, whom I have often met during the last forty years on frequent visits to Dr. the clinic and hydropathic establishment of the late Dr. Winter~~tz~~^{tz}, whom he formerly assisted and whose several positions he now fills. I said to the doctor as usual, "Well doctor, what new *in* physiotherapy"? "Ah", he remarked, with a bright twinkle in his eye, "something altogether new, something very important, which I call "Combined Therapy", "here is a paper I have just published describing it." I was much pleased to see that an American idea had at last taken root on European soil, but refrained from telling the good doctor that his excellent new idea had been in active service for more than half a century on this side of the Atlantic.

The reasonableness of associating several measures in a simultaneous program is so patent, ^{an} elucidation of the point hardly seems required. Ten men lifting one at a time might each fail to lift a heavy weight when three or four, or all ten, lifting together might easily succeed. Failure to apply this simple principle to physiotherapy has been and is still today, the chief cause of failure in this branch of therapy, and of the disrepute into which first one and then another of our most useful

therapeutic measures has ^{often} fallen. Pastor Kneipp, the convinced apostle of cold water, when called to Rome to treat the pope for rheumatism, so shocked the papal knees with his cold douch, increasing the pain, that he was at once sent home in disgrace, and nearly twenty centuries before, a Greek doctor had a similar experience when called to treat an effeminate Roman emperor. *A preliminary hot bath might in both cases have averted a catastrophe.*

Correlated physiotherapy organizes its therapeutic artillery for a broad-side attack. Such a method requires a definite aim, a plan and concert of procedure. A mere assortment of measures, is a therapeutic jumble, not a rational prescription.

In order to formulate a properly correlated program for his patient, the doctor must not only have available an efficient and adequate equipment, but he must possess accurate knowledge of the therapeutic values and potencies of his several resources. Unfortunately, most of the current information about physiotherapy has been derived from the agents of manufacturers of electrical and light appliances rather than from clinical teachers or practical experts. These teachers know their "physics" but little or nothing of "physic". There are tens of thousands of electrical appliances, "air-cooled" and "water-cooled" lamps, "baking" outfits, and sundry other more or less costly apparatus tucked away in office backrooms and closets because of the failure to realize expectations. In general the apparatus is efficient and capable of accomplishing all that could be expected if it is given a reasonable chance to do its part in a correlated plan of therapeutic procedure.

No doubt much good has been accomplished by the itinerant professors who under the guise of travelling salesmen, have traversed the country over from end to end many times in their diligent efforts to inoculate physicians with physiotherapeutic enthusiasm, for unhappily, the curricula of our medical schools do not yet include anything like adequate instruction in the therapeutic use of physical agents. The wide spread distribution of apparatus within the last ten years by enterprising manufacturers may ultimately lead to an insistent demand for such medical training as will provide practitioners with the information needed for the practice of rational physiotherapy and afford students of medicine opportunities

for clinical experience in the sort of therapeutics which modern laboratory research, as well as sound practical experience, has shown to be based upon solid scientific foundations.

In correlated physiotherapy the physician has at his disposal a group of agencies of varied properties and potencies which are as well suited to complement and support one another as are the instruments of a well balanced orchestra. Each one is adapted to play a certain part. In the adjustment of a program to an individual case the therapist needs to apply something of the same principles which the orchestral leader employs in producing his musical effects. Certain measures, like light, heat, exercise and diet, play major parts in the therapeutic symphony, while others, like massage, electricity, and mechanotherapy play minor parts. It is noteworthy that ^{complex} such agencies as hydrotherapy and phototherapy ~~are~~ *comprise supplementary procedures.* ~~in themselves correlations.~~ For example, hydriatic measures comprise means for producing not only an almost infinite range of thermic impressions, but a great variety of mechanical and chemical effects. Light, likewise, is a complex agent and places a variety of potencies at the disposal of the therapist, chemical, thermic, electromagnetic, and possibly others. The art in therapeutic correlation is to give to each agent a chance to do the thing which it can do better than any other. can do it. It was the effort to accomplish this that led us ^{forty years ago} to abandon the suffocating sweat box, Russian and Turkish baths of the last generation for the electric light cabinet when Edison made this possible by perfecting the incandescent filament.

~~and so~~ when we desire to increase metabolism to burn up surplus fat or help compensate for deficient thyroid activity, we ordinarily prescribe muscular exercises, as walking, swimming or bowling, instead of massage or farradism, but in case we have a patient whose weak heart or rheumatic knees will not permit him to walk, we resort to automatic exercise by the aid of electrical stimulation. And we do

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not ~~neglect~~^{forget} that the most effective means of all, ^{but} influencing weight reduction is ~~the~~ regulation of the food intake. Cold baths and contact with cold air, even breathing cold air as Dr. Roth has recently shown, also powerful stimulate metabolic activity.

However, individual preferences and other considerations have a bearing; and so we may make the patients' program more efficient, comfortable, and interesting by the simultaneous use of several agencies each of which contributes to the attainment of the desired end.

In the treatment of chronic invalids a most constant indication is to increase the patient's vital resistance. In acute diseases for the most part due to bacterial infection, ^a ~~the~~ constant indication is to aid the establishment of immunity. Neglect of these fundamental indications is often the cause of failure when success might have been attained by a broader therapeutic program. A man whose resistance is low as the result ~~of loss~~ of sedentary habits, is likely sooner or later to become a prey to muscular rheumatism or fasciitis, or neuralgia. He finds relief from a pain in the back by an application of diathermy or a hot water bag; but next week he has a similar pain in his left shoulder which likewise yields to some appropriate application. But in a few days the misery reappears in another spot and so the fugitive malady may be pursued over the whole vital domain and engage ^{successively} ~~necessarily~~ the attention of a dozen or more physiotherapists of different stripes, usually finding a measure of relief but never cured. The addition of hydrotherapy, hot baths and cold baths, appropriate exercise and fresh air sleeping to the therapeutic program might lift the patient to a vital level which would enable the natural healing forces of his body, the vis medicatrix naturae, to stop the disease process and restore normal conditions. How often we have to remind ourselves that our aim must be not to cure maladies but patients.

If vital resistance could be determined with the same ease and certainty with which we take the body temperature, there would be speedy and revolutionary changes in our therapeutic methods. Recent announcements in the scientific journals offer some hope that this great boon may some time be conferred upon us.

Many years ago, when spending a little time with the English physiologist, Waller, who had there just discovered the ~~use~~ Electro-cardiograph, he made me one day pluck a leaf and measure the difference in potential between the cut end of the stem and the surface of the leaf.

The cut surface was lower in ¹⁰
potential. Since then the study
has been extended and
it has recently been found that
seeds which, ~~aged and~~ ~~aged and~~
~~grasses~~ ~~that~~ ~~are~~, will not
germinate, may be picked
out by a similar means.
It is believed the age of a seed
may even be determined
with some degree of accu-
racy. It is deemed proba-
ble that vitality may some-
time be measured by some
refinement of this procedure.

It is an every day experience in our consulting office to hear patients say, when some measure is suggested, "O, I have tried that and it didn't do any good". And the answer usually is "But did you do this and this and this at the same time?" The right combination of mutually helpful and complementary measures is often the only key to success.

In the hospital and Sanitarium management of patients the importance of a varied and, and interesting as well as efficient program can scarcely be over emphasized.

This was one of the main features which distinguished the Sanitarium from the hospital of the old type which is gradually undergoing rapid transformation in recent years. The Sanitarium must have an atmosphere in which optimism will flourish. There is ^{no need} ~~necessity~~ for the factitious methods of the mind curist, the hypnotists nor the psycho-analyst; but there must be a sound basis for confidence established by the education and training of the patient in the philosophy and practice of right or physiologic living. He must be shown wherein his habits have been wrong and must be convinced that he has been started on a road that will lead him toward health provided he will travel the road and will give his physician his cooperation. To this end I feel that the intelligent patient

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should have **such** an explanation of his case based upon a thoroughgoing examination as will give him a basis for confidence. A bit of philosophy helps, even if it is'nt altogether sound. The superintendent of an insane hospital tells of a patient who thought himself possessed of a demon. Under the influence of cold baths he was beginning to improve when he wrote the doctor this note. "The cold baths are helping me doctor. The devil don't mind the fire because its his element; but he's awfully afraid of the cold."

QUESTION BOX LECTURE IN THE OLD SANITARIUM LOBBY, MAY 20, 1929,

By

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QUESTION: Do you find psoriasis is curable?

ANSWER: No, psoriasis is never curable. I never did cure psoriasis, but the patient is cured. It is not the disease that is cured, it is the patient. All you have to do is to let the psoriasis disappear. Psoriasis is a disease of low resistance; in fact, nearly all diseases are due to low resistance. The body has the power to stand up against disease and fight it off.

There was a time when there was no such thing as disease in the world. Geologists tells us if they go back far enough they find a time when the bones are discovered, the remains of animals show not the slightest evidence of disease. There was a time when all the animal world was so hardy and had such power of resistance that it could stand up against the attacks of all bacteria. There was no germ which could do anything any harm.

The only reason why germs are harmful--they are the cause of psoriasis as well as the majority of other maladies--is because the body has lost its power to resist bacteria. Nature or God never made the body subject to germs. It is because of degeneration that we have become subject to germs, because we have lost our power of defense. The reason why

a person has psoriasis is not because some new thing has gotten hold of the body, because some new enemy has attacked the body, but because the body has become so feebly resistant that it is not able to withstand the attacks of bacteria which are always present on the skin. There are always present on the skin bacteria that are capable of producing psoriasis and eczema and abscesses and ulcers and a dozen other things, all sorts of eruptions. As long as the resistance of the skin is good these bacteria cannot get in, but when ^{They are} the resistance is lowered ~~is lowered~~ when they work their way in a little farther and farther ~~is lowered~~ ^{This little creature has a very formidable name.} ~~is lowered~~ ^{It is called Demodex follicularum. I hope you did not write that down.} ~~is lowered~~ ^{Do not tell anybody about it because it sounds like a bad word. The} ~~is lowered~~ ^{Demodex has a large family. There is a grandfather Demodex, a grandmother} ~~is lowered~~ ^{Demodex, a father Demodex, a mother Demodex and any number of children.} ~~is lowered~~ ^{matter you are asleep these creatures run out on the skin and they gather} ~~is lowered~~ ^{bacteria and when the light comes they run in and they carry the germs on} ~~is lowered~~ ^{their feet down into the deep recesses in the skin, and if the skin re-} ~~is lowered~~ ^{sistance is low then these little germs grow and develop and they produce} ~~is lowered~~ ^{accumulations of pus. That is the way you get a pimple on the skin.} ~~is lowered~~ ^{This is the source of the pimple. It is due to low resistance of the} ~~is lowered~~ ^{skin. If the resistance is high enough then germs will not do any harm,} ~~is lowered~~ ^{but if the resistance is low then the germs that have been carried in in} ~~is lowered~~ ^{ordinary temperature and the result is it hardens and forms a little mass} ~~is lowered~~ ^{so that it fills the little duct as it is called, and then a little dirt} ~~is lowered~~ ^{accumulates upon the outer surface and when you squeeze the skin it comes} ~~is lowered~~ ^{through the small opening, a little cylinder of fat just like a worm. The} ~~is lowered~~ ^{little dirt that is on one end looks like the head of a worm and that} ~~is lowered~~ ^{are able to eat up the germs or to make antitoxins which destroy the germs} ~~is lowered~~ ^{or which neutralize germ poisons. This is a state of high resistance.} ~~is lowered~~

talks about skin worms. I think Job or somebody said, "My skin worms devour this body" etc. They supposed these were little worms that attacked the body. That is a mistake. It is nothing but a little roll of fat with a little dirt on the end of it.

If you take that little roll of fat and put it under a microscope and put a little warm oil on it so as to dissolve it and look at it you will see it is full of little creatures, little insects, or rather eight-legged creatures. True insects have only six legs. They are scrambling all about. This little creature has a very formidable name. It is called *Demodex folliculorum*. I hope you did not write that down. Do not tell anybody about it because it sounds like a bad word. The *Demodex* has a large family. There is a grandfather *Demodex*, a grandmother *Demodex*, a father *Demodex*, a mother *Demodex* and any number of children. When you are asleep these creatures run out on the skin and they gather bacteria and when the light comes they run in and they carry the germs on their feet down into the deep recesses in the skin, and if the skin resistance is low then these little germs grow and develop and they produce accumulations of pus. That is the way you get a pimple on the skin. That is the source of the pimple. It is due to low resistance of the skin. If the resistance is high enough then germs will not do any harm, but if the resistance is low then the germs that have been carried in in this way to the little pockets in the skin will grow and develop and begin to make trouble. So in various ways the skin is attacked by bacteria, but no harm comes so long as there is high resistance.

Now, resistance means a state in which the cells of the body are able to eat up the germs or to make antitoxins which destroy the germs or which neutralize germ poisons. This is a state of high resistance.

Clean living, living in the sunlight has the effect to encourage this state of high resistance. In the sunshine plants have high resistance, but in the shade their resistance becomes low, and so it is with the body. When the body does not have a proper amount of sunlight the result is that the resistance gets low and the body becomes subject to disease so it is in a state of starvation. There is not enough food. The vitality of the body is lowered and becomes subject to disease. Where there is famine there is always pestilence.

And so if the body is subject to poisons--if poisons are taken into the body in the form of alcohol or tobacco or any other poison of any other sort, the result is the body resistance is lowered and the body becomes subject to disease. When a drunkard gets pneumonia, for example, he is almost certain to die because his power of resistance is lowered.

The same thing is true if the blood becomes poisoned from any other source. The absorption of poisons from the colon, for example, loads the blood with poisons and the resistance of the body is lowered. That is why we get diseased teeth, that is why we get diseased tonsils, and that is why we have rheumatism. Chronic rheumatism and probably most chronic diseases come about in this way. People whose elimination is good, who get rid of their residues and wastes so rapidly that there is no time for putrefaction, such people have high resistance.

One evidence of low resistance is a coated tongue. When a person has fever he always has a coated tongue. The reason for that is that a person with a fever is in a state of low resistance. So with a fever he has a coated tongue. Why? Because normally the saliva is of such quality

that it is able to prevent the growth of germs in the mouth. When there is a state of high resistance in the body in general the blood has very high resistance. Bacteria put into the blood will very soon disappear, and when the blood has high resistance the saliva has high resistance for the reason that the saliva is made up of the serum of the blood. Blood that has high resistance contains substances which make it impossible for germs to grow in contact with the blood. These antitoxins make it impossible for germs to live, and so when the blood has high resistance the saliva contains these same substances and they make it impossible for germs to grow in the mouth. The saliva is a natural antiseptic that preserves the teeth and keeps the mouth in a clean and wholesome state. Whenever you find the tongue coated and the mouth in this unclean state it means low resistance. A bad breath means low resistance. Bodily odors always mean low resistance. A sallow skin always means a state of low resistance.

If I should wake up to-morrow morning and find a pimple on my chin or face I should immediately be hunting around very earnestly to find what I have done which put me in such a state of low resistance that it is possible for me to have a pimple. One can live above all this sort of thing and we must live above these evidences of low resistance if we expect to make a good fight against old Father time.

The same thing that put us into a state of low resistance so we are subject to these various evidences of the attacks of germs, that very same thing predisposes us to old age. Metchnikoff found that out more than 30 years ago. I happened to be in Paris just at the time he made his announcement of his discovery that these germs that grow in the

colon and produce these poisons, so-called colon germs, are the germs of old age. He proved it by experiments. He took the poisons that are produced by these germs and injected these poisons in minute quantity into rabbits, guinea-pigs and other animals and watched the results, and he found in every case these animals got hardened arteries. Many of them died prematurely when they were about one-third as old as they ought to be.

Then he made a very interesting observation. He found that animals with the longest colons had the shortest lives. He made a study of the longevity of animals. He put himself in contact with naturalists everywhere and learned the age of various animals. He studied the brains of old people and of old dogs and of old horses and other animals. He studied the brains of dogs with the greatest care. He got the brains of old people and studied these brains and he found changes that took place not only in the arteries in general but in the brain cells and kidneys and liver of these people. Then he took poisons produced by germs in the colon and administered these germs to animals and he found if he gave them even in small doses, such small doses they produced no immediate effect whatever, he found that their lives were very greatly shortened. So he concluded that the poisons produced by these germs in the colon are the cause of old age. No one has disproved this theory of Metchnikoff. Many people have scoffed at it and laughed at it and ridiculed the idea of auto-intoxication, but notwithstanding evidence goes on accumulating that the great quantity of poison thrown into the body from the colon is the fundamental cause of lowering of vital resistance that makes the body subject to all sorts of germ attacks, attacks from different kinds of bacteria.

That is the reason why it is of such great importance to take great care of the body to prevent the accumulation of wastes.

I was reading a day or two ago in a recent book just out by a physician whose name is very well known. He writes syndicate articles which are published in newspapers all over the United States. I saw a statement to the effect that the normal time which food remains in the body is two and a half to four days. He said this long time is necessary to allow the body to absorb all the nutritive elements of the food. This is a most ridiculous doctrine, for Dr. Cannon many years ago demonstrated that when food is taken into the mouth within 8 hours from the time that food is swallowed it finds its way clear down to the lower end of the colon, almost to the exit, and in three or four hours more these residues should be dismissed from the body. There is no reason why, as Dr. Cannon found, that the residues of the meal should not be dismissed from the body within 14 hours from the time the meal is eaten. Now, if these residues reach the lower end of the colon in 8 or 9 hours, certainly there is no excuse at all for retaining them for two or three or four days longer. All the nutritive value has been absorbed, has been taken out, and there is nothing but the residue left. If there is a minute quantity of nutritive matter there it is of no matter. It is better to waste it than to retain it, for while it is retained in the body it is undergoing decomposition.

What do you think would happen to your home if you had a garbage can in the corner of the dining room and emptied it every three or four days? You would not want to keep a garbage can in the corner of the dining room anyhow because it is not likely to be as wholesome as it ought to be. Just a little neglect and you would notice it right away, malodors rising from

it.

But in the human body we have this garbage can in the interior here and in such proximity to the digestive organs and to all the other important vital organs that it must receive the nicest care or the whole body will become more or less polluted. Suppose, for instance, the residues of the food were carried about in your pocket. Suppose you had a quantity of residues, the amount that accumulates in a couple of days, and suppose you carried it around in your pocket. You would be a terrible nuisance. It would be better to have the food residues in your pocket outside of your body where you only inhale the odors through your nose than to have them inside where all the material is being absorbed.

The average patient that comes to this institution is suffering from autointoxication. I dare say not one patient out of 20 is suffering from retention of these residues. The one-a-day habit, one evacuation of residues a day, is a state of constipation, chronic constipation. It means that these residues are retained in the body for two or three days, or, as Dr. Fishbein says, two and one-half to four days. That means chronic autointoxication. This is found to be the average length of time residues remain in the colon and because it is the average doctors think it is normal. As a matter of fact it is not normal at all. That is why people grow old prematurely. That is why the average man is dying off at 58 when he ought to live a hundred and there is no reason why he should not live to be 150 or 200 years. The liver, kidneys and heart of the body are wonderful machines. The heart is perfectly capable of doing its work for a couple of hundred years. The kidneys, liver and brain are capable of doing their

work 150 to 200 years.

I made an interesting discovery some years ago. An old gentleman came here and brought his wife and said, "Doctor, I brought my wife here for treatment, but I want to tell you I have not a bit of faith in what you are going to do for her. I do not take any stock at all in all this nonsense about diet. He did not object at all to saying what kind of nonsense he thought it was. He did not use a very polite word so I won't repeat it. He said, "My wife is daft on this subject. She is actually daft about it. She thinks there is nothing in the world like your health food, but I think it is all nonsense." He said it was a special kind of nonsense. "I brought her here because she was continually nagging me about it and pestering me about it, but I do not believe you will do her an atom of good."

He said, "This talk about diet is all ridiculous. Now, I never pay any attention to my diet at all. I eat everything that comes along. I sit down to the table and say, "Waiter, bring me something right away. Whatever he brings me I eat it. If it is yellow dog I eat that. It does not make any difference at all. My stomach will digest anything." And he said, "I smoke an old pipe pretty much all day long and I take a glass or two of whiskey every day of my life. I have been doing it for 70 years and here I am 84 years of age and just look at me. I am a better man than you are now. Just look at me. Why, I can walk a mile as fast as any man I know. I do not hesitate to catch a train or a street car. I am a very hardy man and I do not pay the least bit of attention to any of this nonsense about health that you are talking about."

"But," he said, "Doctor, there is one thing peculiar about me. I have mentioned it to a great many doctors and it is most peculiar. My bowels move three times a day. My bowels move regularly after every meal. I have never had the slightest trouble with my bowels."

Well, a year or two later I had another similar experience, an old man who told me he did not take any stock at all in my teaching about health and that he ignored all the laws of health and enjoyed perfect health. I had gotten a cue from the other man. I said, "How about your bowels."

"My bowels move three times a day just as regular as a clock."

I have met quite a number of these peculiar gentlemen and I confess I always felt annoyed. I did not like to meet cases of that sort. It did not harmonize with my philosophy at all. I was a great deal disturbed by Uncle Joe Cannon who persisted in living on and on and on and kept smoking his long cigars, and really it was a very great trial to me. But I finally got some consolation out of an experience Sam Jones had down in Omaha. He was preaching down there. He was holding sort of revival meetings and he preached one night against whiskey and the next night against tobacco and an old fellow got up and said, "Mr. Jones, I do not take a bit of stock in what you have been telling us. I have been smoking tobacco since I was ten years old and drinking whiskey since I was 14 and look at me now. I am 84 years old and I am a pretty tough customer yet. What do you think of that?"

Sam Jones replied, "All that means is that you are uncommon tough and if you had not smoked tobacco and drunk whiskey they would have had to kill you with an axe on Judgment Day."

I have met quite a number of these customers. They were a great annoyance to me, but I pretty soon discovered that every one of these men reported three bowel movements a day. I began to inquire whenever I met a man of that sort about his bowels and they invariably replied, "My bowels move three times a day." One man I met made a different report. He said, "My bowels always moved three times a day until the last year or two. They only move once or twice a day and so I do not feel so well. I have grown old faster in the last year than ten years before."

I made a note of that and I have continued to note it the last 15 or 20 years and have found invariably that these hardy men who have violated all the laws of health have been fortunate in being able to get rid of their bodily wastes in such a thorough way that the body has had a better chance notwithstanding the whiskey and tobacco. Other people who have neglected elimination have been less fortunate. So I have made up my mind that these colon poisons are the worst poisons in the world. They are worse than tea and coffee, worse than whiskey, and worse than tobacco. They are the worst poisons the human race has anything at all to do with.

We know something about what terrible mischief they do. I am sure I have met at least ten thousand people who suffer from chronic headache and always when I find such people--I can hardly remember an exception--they have coated tongues and bad breaths, and when we get rid of the wastes of the body they no longer have coated tongues and bad breaths. They have a clean tongue and sweet breath and their headaches disappear. It is the rarest thing in the world that they do not disappear. People who suffer from headache get up in the morning feeling tired, feeling more tired,

than when they went to bed at night. Such people are always suffering from these retained wastes. Please remember that. When you get up in the morning and feel more tired than when you went to bed it is because you have been absorbing these poisons every night. That is toxic fatigue and not because you have not had sleep enough. If you do not feel rested in the morning when you have had plenty of sleep and you find yourself stupid and dull when you ought to be wide awake, find yourself tired when you ought not to be tired, you may know it is toxic fatigue. It is not some bacteria that come from the sky or from some obscure insidious disease, it is just simply common intestinal toxemia, the absorption of body wastes that ought to have been disposed of and can easily be gotten rid of. It is not necessary for a person to suffer in great length of time from retention of these wastes. They can be removed by mechanical means.

There is an idea abroad that it is a dangerous thing to cleanse the colon, to make use of enemas. This is a very ridiculous notion. There is nothing in it whatever. The absorption of water by this means is the only thing that does any harm. Sometimes a person feels after an enema a slight depression because the water has dissolved some of the poisons, and some of the poisons have been absorbed. On this account it is better to use small quantities and repeat it, so as to get rid of as much waste matter as possible and as quickly as possible without introducing a large quantity of water, repeating it until the colon is completely clean. If you will make sure that you have gotten rid of these toxins and waste materials then you will wake up in the morning with a clear head and this sense of fatigue will be gone.

QUESTION: Is it possible for the intercostal nerve to be so inflamed as to show a lump on the outside of the body?

ANSWER: No; the nerve would not form a lump as large as that. It would be a very tender line following the nerve. There would be a pain running down the nerve and a very tender line right along where the nerve is. The difficulty described here must be something else.

QUESTION: Will the use of the arc light cure the itching of eczema.

ANSWER: Yes, but it must be applied very hot. The heat must be so intense that you simply cannot stand it. Suppose you have eczema on the arm. Here is the arc light over here and you hold the arm out so close to the light that it will almost burn. You count 1, 2, 3, 4 and by that time it is so hot you cannot stand it another count, so you have to take your arm away, count 1, 2, 3, 4, 5 and put it back again, then 1, 2, 3, 4, 5 again. When applied in that way the itching and the eruption will be relieved in less than 5 minutes. It will be relieved and will not return for several hours.

There is a simpler way of doing it than that. I met a lady the other day who said she had been suffering for three days with frightful itching. It kept her awake and she was dreadfully disturbed. Well, she was very much surprised when I told her she could be relieved in two or three minutes.

She said, "You mean to say I will be relieved in two or three minutes. You do not mean to give me an anesthetic, do you?"

"No," I said, "there will not be any anesthetic about it."

I took a towel and dipped it into the hottest water I could get.

Suppose this is a towel folded up smooth just as it comes from the laundry. Take the towel in this manner, dip it down in boiling water or the hottest water you can get, bring the ends together like that, lay it on a smooth surface and with an empty tumbler, using it like a rolling pin, put it down on it and press hard and roll it across the towel. That squeezes the surplus water out, don't you see, and leaves your towel perfectly smooth. Just touch the towel to the skin like this. You must do it quickly. If you hold it down on the skin it will blister. It must be hot enough to burn. Just touch the skin and repeat it half a dozen times. Each time let it rest a little longer as it gradually cools. Finally you can just clap it on the skin and hold it there for a couple of seconds. In the meantime prepare another towel in the same way and apply it in just the same way, and then by alternating in this way four or five times the worst itching you ever saw, the itching of eczema, the burning and itching of ivy poisoning, itching from any source whatever, whether there is an eruption or whether there is no eruption, any sort of itching of the skin will certainly be relieved if you will follow my instruction. If you will do what I have told you you will find relief in every single case.

QUESTION: Will you please explain why many intestinal specialists will not allow patients to take any fresh uncooked fruits or starches?

ANSWER: I should say the only explanation that I can find for this is the fact that these doctors have not had a sufficiently large experience to know that such advice is about the worst advice they can possibly give the patient. Starch is the most harmless thing that goes into the alimentary canal. The nonsense you read in the papers about the harm of starch in the diet does a great deal of damage. Perhaps some

people are benefited because they make a wrong application of the idea. Certain foods, like cereals, are generally regarded as starchy foods, and people are sometimes benefited by a disuse of cereals, because cereals contain an excess of phosphoric acid. It is sometimes of great advantage to discard breads and breakfast foods and to use potatoes, spinach and green vegetables of all sorts in place of an excess of cereals because the protein of the cereals contains a great excess of phosphoric acid and the phosphoric acid does the harm by producing acidosis. It is not the absence of starch that is beneficial.

QUESTION: Is it true that laxatives may cause anemia?

ANSWER: Yes, it is quite true. Persons using laxatives are likely to lose the salts of the body by being carried off in too large quantity.

QUESTION: What causes a fibrous tumor in the right side of the body?

ANSWER: Nobody knows what is the cause of these growths. They are still a mystery. Researches are being carried on the world over and some progress has been made toward solving this question.

QUESTION: Does ice cream at the end of a meal hinder digestion?

ANSWER: It not only hinders it but it stops digestion. Stomach digestion requires a temperature of 100° F. Now, a good big dose of ice cream will lower the temperature of the stomach for an hour or two and simply stops digestion entirely. It is a most unwholesome thing. If you want to be perfectly safe in eating ice cream you should be careful to boil it before eating it. Then you can be sure it will not do you any harm. It is possible to eat ice cream in such a way that it will not do you any harm, that is, to eat it so slowly that it is warm before it reaches the stomach.

If it is eaten slowly you will get more out of it and enjoy it more and it will be warm when it reaches the stomach and we will not do any harm.

QUESTION: How can one subject to migraine gain weight without any ill effects?

ANSWER: Gaining weight does not produce any ill effects. A person suffering from migraine is not injured by a slight excess of weight. It is the toxins that do the harm and not the weight, not the fat, and if he gets his alimentary canal well cleared out he will not suffer from a little overweight.

QUESTION: What time of day is best for violet ray and sun baths?

ANSWER: If the baths are taken out of doors in very hot weather the best time is between eight o'clock and ten o'clock in the morning, or at least before eleven o'clock; but in ordinary summer weather the sun bath can be taken at any time of day. We do not have in these northern regions a sun sufficiently hot except on very exceptional occasions to do any harm at all. As a matter of fact there is very little danger from the sun in this region. In Alpine regions where Dr. Rollier is practicing the sun is ten times as active. He is up in the mountains where the ultra-violet rays are ten times as active as they are here, so in that region it is best to be a little cautious about exposure to the sun, exposing the body first for a few minutes, then a little more and a little more until the body gets accustomed to it. We have been using the sun bath here for more than 50 years and we do not find it necessary to exercise any special precaution with reference to the sun we get here in Michigan.

QUESTION: Are migraine headaches curable?

ANSWER: Migraine headaches are practically always curable.

It is very rare indeed that these headaches do not disappear. A great many years ago I discovered that milk was a frequent cause of headache. I discovered I myself suffered from headache because of the use of milk. I got rid of the headaches by discarding milk. I recommended it with great success.

A lady from Chicago suffered from headache for many years. She discontinued the use of milk and got rid of the headaches. She told me she cured a dozen club women friends by simply telling them to stop the use of milk.

People are often sensitized to other things. I met a lady yesterday who was sensitized to 9 different kinds of food and as unlike as you can possibly imagine. Milk was one, tomatoes another, beans another. So long as she does not eat one of these 9 foods she does not have any headache.

If you have headache you should be tested for sensitivity to find out whether you are sensitized to any one of two or three hundred different things to which people are sometimes sensitized, and if you are it is important to know what these things are. You do not have to forever avoid those things. You can overcome the difficulty. You can overcome this sensitivity by a carefully graduated course of treatment.

QUESTION: What forms of exercise may one indulge in if one has high blood pressure?

ANSWER: A person with high blood pressure needs a great deal of exercise to keep the blood in his muscles, but very slow and gentle exercise, walking for instance or some gentle exercise in the gymnasium,

arm exercises and breathing exercises, but avoiding all kinds of violent exercises like running, for example.

QUESTION: What diet should one follow when a gastric test shows an absence of hydrochloric acid?

ANSWER: A person with absence of hydrochloric acid may indulge in a larger range of diet than almost anybody else for the reason that he is not sensitive to acids. Such a person can use any wholesome food, avoiding meats, of course, because he has no hydrochloric acid to digest meat. He should avoid eggs also, but he may have buttermilk and all kinds of fruits and vegetables. He must chew very well.

QUESTION: What are the symptoms of an infected gallbladder?

ANSWER: Generally the first symptom is indigestion. Indigestion is the most common symptom of a diseased gallbladder and pain in the stomach. So-called indigestion is more often due to a diseased gallbladder than it is to disease of the stomach, very much more often.

QUESTION: What is the most common cause of morning headache?

ANSWER: Poisons absorbed from the interior.

QUESTION: Is a cold climate desirable for a person suffering from arthritis?

ANSWER: No, a warm climate is the best climate for a person suffering from arthritis.

QUESTION: What may be the cause of a burning sensation of the feet at night?

ANSWER: An excessive accumulation of blood in the feet.

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QUESTION BOX LECTURE IN THE OLD SANITARIUM LOBBY, JUNE 10, 1929

By

JOHN HARVEY KELLOGG, M. D.

I hope you are all busy getting well as fast as you can.

I met a gentleman just a day or two ago who had been here four or five weeks and he thought he was not improving as fast as he ought. I am sure he made some improvement. On a little inquiry I found he was not doing quite all the things he might do in the way of cooperation. This thing is like a chain and the strength of the chain is only the strength of the very weakest link. If you do everything you ought to do but just drop out one or two little things it will be sufficient, perhaps, to make the whole thing a failure or at least it won't be quite a complete success. So ask your doctor all the different things you can do and see that you do everything. If everybody who comes to this institution would make a real business of getting well, if they would take the responsibility on their shoulders of finding out everything they can do and take the greatest pains to do everything in a businesslike way, the results would be twice as great. If we could get everybody to do the thing thoroughly and cooperating in a thoroughgoing way, I do not

believe the town of Battle Creek could hold the people who would come here. We get but a tenth part of the results we ought to get for several reasons. In the first place our patients and a great many of our friends who come here come with the idea of doing penance for a little while. They look upon the institution here as a sort of penal institution where they have to go to be punished for some things they have been doing. They will come here and endure the things they have to endure.

A woman came here the other day and said, "I am prepared to eat sawdust and peanut shucks, anything you say, but when I get through I want to be prepared to go back to my square meals again. I do not propose to live on this stuff forever." She had just arrived and had not tried it yet. She did not know how delicious it is.

It is very important that every person who comes should learn right at the start that he has been following the wrong way, traveling the wrong road, and he must turn about and start a new era in his life. He must be converted. We used to have here really old-fashioned Methodist revivals once in a while on a health basis.

We used to get people to come forward on the anxious seat and confess their sins and resolve to reform in a physiologic way. I remember one time we were talking over the question of talking about symptoms. That is one of the things that people do that helps to cultivate disease. As all of us have been very busy cultivating disease, we want to turn right about and devote earnest attention to the matter of cultivating health.

I was talking to our folks about that. I suggested one of the things to do was to stop talking about disease. When one talks about disease it is like a man coming out of State's prison calling attention to his striped clothes and bragging about the length of time he has been in prison. A man who has been shut up in prison 20 years has done something pretty bad and so it is with a man who goes about complaining about symptoms he has got. The disease is a punishment. It is a punishment for his sins. "Whatsoever a man soweth that shall he also reap" the Good Book says. If a man has a lot of symptoms that means he has been a big sinner. At any rate it is nothing to feel proud of.

I was making some remarks of that sort and a tall, skinny man pointed a very bony finger at me. He said, "You are too hard on us."

I said, "What is the matter. What have I done to hurt your feelings."

He said, "You have been talking about us poor dyspeptics saying we are to blame for being dyspeptic. It is a great mistake. I have awful dyspepsia. I am not at all to blame for it. I was born with it. My father had it before me."

I said, "It is in the family. It is just the same. You ought to be ashamed of it." The poor fellow sat down and was not in the least bit comforted.

As a matter of fact we rather cultivate disease by thinking about it. I think we doctors encourage people to be sick by feeling their pulse and looking at their tongues and inquiring about their symptoms. Some years ago I remember a lady came to me who had a pain in the back of her neck. We have in the back of the neck a prominent vertebra which is called the vertebra prominens because it rises up above the rest. It is the most prominent of all the vertebrae. It

is just here at the bottom of the neck. When a thing is very sensitive we say it is hyperesthetic. It is a hyperesthetic point perhaps where it is tender and sensitive. This lady came to me with this awful pain in her neck. She turned her neck to show how awful it hurt when she moved it. She told me she had been to a dozen doctors before she came here. They had all give her up as a hopeless case. She had been here five weeks and was not any better. She did not think anybody could do anything for her. Couldn't anybody find out what was the matter with her. I examined it and punched it two or three times to make sure I found the right spot. It hurt a little bit. She was quite sure I had found the spot.

I said, "I know just what is the matter with you. I found out just what your trouble is. You are suffering from hyperesthesia of the vertebral prominens."

She said, "Doctor, I am so glad you have found out what is the matter with me at last so you can cure me."

I replied, "Of course we can cure you."

She came in to see me every few days and the pain got

less and less and finally the pain disappeared. I did not see her for a couple of weeks. When I saw her again I said, "I am glad the pain is cured at last."

She said, "Let me see. Is it?" In less than two minutes she discovered the pain was still there and I failed to get rid of it after that.

This woman had cultivated disease.

That reminds me of a man from down in Kentucky some years ago. I think he was from Louisville. He came into my office one day and said, "Now, Doctor," he said, "you know I like this place. I rather think I shall spend my life here. The thing I like about this place is there are so many sick people here and it is so interesting to talk with them about their complaints. You know I am incurable myself. I am absolutely incurable. I have consulted a hundred doctors and none of them can cure me. You cannot cure me. I am incurable and I am thinking of coming here to live the rest of my life."

This man would have been greatly shocked if anybody had succeeded in curing him. He loved his disease. He petted it and coddled it.

it.

I remember a large, plump lady who used to come here once in a while. She passed away some years ago. I really felt relieved when I heard of it. She used to come here regularly every summer and as she came in one day to talk to me a little she said, "Doctor, you know I look forward with a great deal of anticipation to coming here. I spend my summers here. It is such a delightful thing to meet other people and taste of them." She was here to taste all their different kinds of sicknesses. She was an intolerable bore on that account. We were very happy when we found she was not going to come any more.

As I was saying a little while ago, I am afraid we doctors sometimes cultivate disease. We ask patients about their symptoms and we go over the symptoms again and again. That is all a mistake. It is necessary at the start for a thorough examination to go all over your case and find out all about it so as to know what everything means. That is the important thing. When you have found out all about your case then endeavor to forget all about it .

Just go right to work cultivating health and forget about disease. Do not look backward but look forward. Be sure you have found out everything that it is necessary to do in order to build your health up just as fast as possible. Every person who leaves here ought to go away with a new set of habits, with a program of life all carefully worked out so you know just what you are going to do for the next few weeks or months or years, just what you are going to do as regards your health at least--know what sort of diet you are going to follow, what exercise you are going to take and your whole program you are going to follow out to build up your health.

Do not imagine a few weeks here will build up your health in such a way so you can go home and forget all about it.

When a person has once broken down the only way in the world to get well and keep well is by carefully cultivating health. You have to do a lot of work of supererogation as our Catholic friends say. You have got to be extra good in order to enjoy reasonable health. For instance, if your intestines are slow in their action so you have suffered from chronic constipation perhaps a good many years. Now, you have to use a great deal of

roughage, psyllium seed, bran, Fig-Bran and a lubricant of some sort. You have to use it not once in a while, two or three times a week or once a day, but every single meal.

I met a gentleman just to-day and he was in a very miserable state of mind. He was very much depressed. I told him two or three weeks ago what to do and he had been doing it and felt wonderfully better. As long as he carried out the full program he felt better. I suspected at once what the trouble was. He had a bad breath and a coated tongue. I said, "How about your program? Have you been following it?"

"I take psyllium seed once a day."

Once a day is just only one-third of the time that is necessary. You have got to take psyllium seed and other things to help a poor crippled colon at every single meal. Now, some of you doubt that because you have been accustomed to taking mineral water or some drug once a day. These food accessories that you are learning about here do not operate on that plan at all. A cathartic or laxative drug, mineral water, will irritate the bowel and it is only by irritation that the effect is produced. It produces irritation

that will last 24 or 48 hours, but these accessories you employ here are not irritants at all. They are simply helps and hence they need to be employed for every single meal. Now, if you do not accept that idea immediately you will by and by. After you have tried and tried in vain other plans you will come around to recognize the truth about this thing, that you have to apply these biologic rules to every act of life and any infraction will be followed by some unpleasant consequence.

QUESTION: What will neutralize the acid in the system? Will a powder or a pill called Calson do it?

ANSWER: No, a powder or a pill will not do it. These so-called acids in the system or a state of acidosis which I suppose is what is referred to here, can be remedied by foods. It is necessary to take foods which are alkaline. We have two classes of foods, acid foods and alkaline foods. All meats are acid and all the cereals are acid and all the fruits are alkaline. All of the vegetables are alkaline and the nuts are neutral. There are almost no exceptions. There is scarcely an exception to this rule. There are two or three fruits, prunes and cranberries, while they are basic they nevertheless contain an acid which the

body is not able to dispose of and so they have to be avoided.

A person, for instance, who has a large accumulation of uric acid and perhaps has uric acid calculi--I remember a case of that sort. Some time ago a man who had a uric acid calculus and it had gotten down into the ureter, the small duct that goes from the kidney to the bladder, and got stuck fast and just remained there week after week and month after month. I put this man on a diet of potatoes, almost nothing but potatoes. Potatoes are very highly alkaline. The result was that the urine became capable of dissolving more uric acid and so gradually it dissolved this calculus so by and by it got small enough so it slipped through and disappeared. That man was very happy to be able to avoid a surgical operation.

So basic foods should be adopted rather than mineral substances. If a person takes a large amount of minerals in the shape of soda or some other alkali, chalk, a temporary effect will be produced, but only temporary, whereas if you have the habit of taking these basic foods you will every day supply the body with a sufficient amount of these alkaline elements to maintain a proper state of slight alkalinity in the blood and to overcome acidosis.

When a person has acidosis it does not mean that the body is acid, but it means that the body is less alkaline than it ought to be; that there is more acid present in the body than there should be.

QUESTION: In your talk last week you spoke about meat as being unfit for human consumption and referred to the Bible. What about the use of fish? We are told of Christ feeding the multitude with five loaves and two fishes.

ANSWER: You can readily see if there were five thousand people and the whole five thousand only had two fishes that the amount that each one got was so very small it was not likely to do any harm. There were only two fishes there and five thousand people, so the amount swallowed certainly would not do any harm at all.

The Bible has something more to say about meat eating. If you want to find the real original plan that man was to follow, if that is what you want to find, it is easy to find it in the Bible. In the first chapter of Genesis, twenty-ninth verse you read, "God said to Adam, 'Every herb bearing seed and every fruit tree bearing fruit to you they shall be for meat.'" Isn't that a very beautiful thing. The meat of man was hanging upon trees, and to the beasts of the field, "Behold,

I have given the green herb for meat." So you see the animal found its food on the earth in grass, the green herb, but man was given fruits and seeds. One would judge every tree was originally a fruit tree and so all the trees bore beautiful fruits. At the present time there are only a few trees bearing edible fruits, but in the early days maybe all the trees were fruit trees and all the fruit trees were food trees. That seems to have been the Divine order in the first place. It was only after the flood that animals were allowed to be eaten. After the flood we find God saying to Noah, "Every living thing that moveth shall be meat for you, but the blood, which is the life thereof, thou shalt not eat of it." They were strictly forbidden to use blood. "And your life will I require, at the hand of every beast will I require it." That is a remarkable thing. I looked it up in an old Hebrew lexicon to see what that word require meant. It meant ask. "Your life will I ask." In other words if a man might eat beasts the beasts might eat him. The Almighty has given the lion just the same permission to eat man that he has given man to eat a rabbit.

But if you eat meat without the blood as the ancient Hebrews

did you won't have much appetite for it and there would not be so much harm done in the eating of it because the amount eaten would be very small and also the worst part would be removed, because it is the old venous blood full of urea and uric acid and all the waste and poisonous substances that are being removed from the body by the blood stream that are the worst part of the meat.

QUESTION: What effect will an enlarged thyroid have on the system of a person advanced in age?

ANSWER: If a person has an enlarged thyroid gland it should have attention. It may be it should be removed or may be treated by x-ray or some other means.

QUESTION: I have Bright's disease. Will it hurt me to eat mushrooms, asparagus or onions?

ANSWER: Mushrooms, asparagus and onions may be eaten in moderate quantities. It would not be wise to use large quantities of any of these things. Mushrooms are not really food but only flavor. It has so little food value it would require a bushel for a small meal. The flavor is the only thing that the mushroom contributes to food.

QUESTION: Is it harmful to drink a glass or two of water with the meals?

ANSWER: No, it is entirely wholesome to drink one-half or two-thirds of a glass of water at every meal; but the habit of swallowing large quantities of water, especially ice water, is a very objectionable practice. If one is going to drink water at meals I recommend ice water or cold water rather than warm water for the reason that the only real benefit one gets from drinking, the chief benefit one gets from drinking, if one takes an ordinary meal that contains more or less liquid, the benefit one gets from water is refreshment of the nerves of taste. That is the reason why one has a craving for water, and the reason why one likes cold water at a meal is because cold refreshes the sense of taste more than warm water does. Cold stimulates the nerves while heat has the opposite effect. So one gets more effect from ice water than from ordinary water. There is no harm in taking ice water if one takes it in the proper way, which is merely to take a little sip, a couple of teaspoonfuls. That will give the impression in the mouth, cool the nerves and give it the stimulus it requires and one gets just as much good from it as though he drank a half glassful of water, and it has the advantage of

being so small that it will be warm before it reaches the stomach.

If a glassful of ice water is swallowed into the stomach when taking a meal the result would be to cool the stomach down to such a point that digestion will cease. The normal temperature of the stomach is about 100° F. A glassful of ice water will cool the temperature of the stomach down to 95° F. and then digestion will practically stop and may be arrested for an hour or more. So the drinking of much ice water at a meal is very objectionable, but it is entirely proper to drink a reasonable amount of water.

QUESTION: What should be blood pressure be for a woman sixty-nine years of age? Is 160 too much?

ANSWER: There is only one normal blood pressure, 100 to 120. Perhaps I should say 95 to 115. I think those figures are perhaps the more nearly right, 95 to 115 for the systolic pressure and the diastolic somewhere from 55 to 65 or 70. My own blood pressure is 115 and has never been over than. It has been 112 most of my life, but the last three or four years I find my blood pressure going up. I find that it has gone up at the rate of one point a year for the last three years,

so I am expecting my blood pressure is going to keep on rising.
I am willing it should rise 50 points if it will take 50 years in
doing it.

QUESTION: What is the quickest way to gain weight?

ANSWER: The quickest way to gain weight is to eat and do
nothing, eat and sleep and make a business of it. Rest will avoid the
breaking down of tissue. If we do a great deal of work we burn the
fuel up by expending energy in activity, but if we do not work why
then the fuel is deposited under the skin in the form of fat. If one
eats more than he needs it will accumulate. Food is fuel. It is like
a railroad train going down the track stopping now and then to take on
fuel. Meal time is the time when we refuel. If a train goes from one
station to another and it burns up more coal between stations than it
takes on its coal tender will get empty until by and by the train might
stop somewhere between stations, being out of fuel.

That is what happens to a persons if he does not eat enough
at each meal, if he does not take food enough to replace the energy he
has expended. - On the other hand if the train takes on at each station

more coal than it burns up since it has left the last station there will gradually be an accumulation until it will run into the baggage car and then the smoking car and then the coaches and finally the whole train will be loaded down with coal.

That is the situation with an overfat person. The fat is everywhere, not simply under the skin, but around the heart, around the kidneys, around the liver, around every vital organ. It has accumulated everywhere. It penetrates the muscle fibers. The whole body is simply burdened with fat. Such a person is shortening his life. A person past fifty years of age should never allow himself to be overfat. He should keep his weight a little low. People who are 10 per cent underweight, people past fifty years of age who are 10 per cent underweight live much longer than those who are 10 per cent overweight. Their life expectancy is about 25 per cent greater; that is, if a person who is 10 per cent overweight is 50 years of age he is likely to die at least five years sooner than the person who is 10 percent underweight.

Now, in the case of persons who are 20 to 25 years of age or younger the opposite is true. Young people may be a little overweight to advantage. A person 20 to 25 years of age 10 per cent overweight is in a

better state of health than one who is 10 per cent underweight.

Every one after fifty years of age should take notice of his weight. He should weigh himself occasionally. If he finds his clothes are getting a little tight he should immediately give attention to the matter. Some time ago I discovered I had been a little careless and had not been giving attention to the exact amount I was eating and found I was ten or twelve pounds overweight. I set right at work at once and weighed myself every day until I found myself back to my normal weight.

QUESTION: What is the best remedy for an occasional rash appearing on the skin? Would food cause it?

ANSWER: Yes, food is a frequent cause of such rashes.

There is ground for suspicion that you are sensitized to some food. It is more likely to be milk than anything else. It is quite possible it might be fish or eggs. People are often sensitized to fish and oysters and crabs and lobsters and shellfish particularly. Once in a while one is sensitized to corn meal or to oatmeal or to buckwheat, buckwheat quite frequently. Some people are even sensitized to apples and tomatoes. I met a lady yesterday who is sensitized to 13 different foods, so she finds it rather hard to select her diet. She cannot eat either apples

or tomatoes.

If you find yourself sensitized to something, what are you going to do. Do you have it forever? No, it is only necessary for you to systematically overcome this condition by eating a very small amount of the food to which you are sensitized to-day, a little more tomorrow, a little more the next day and so in the course of three or four months you get yourself accustomed to the offending food.

I knew a lady so sensitive to milk that when she took a glass of milk one day by the doctor's orders and nearly died. She went into convulsions and was in a state of shock and the doctor was really frightened. He thought she would not recover. He insisted on her taking milk though she knew it was not good for her. The doctor was thoroughly convinced after he saw what happened. To test her he put a teaspoonful of milk in a gallon of water and then injected ten drops of this solution under the skin and in less than fifteen minutes this lady was broken out with hives or nettle rash all over her body, showing how thoroughly sensitized she was. To desensitize her he began by giving this lady very minute doses of milk, half a teaspoonful of milk in a glass of water one day, a teaspoonful the next day and so on and in the course of three months the lady was

able to take a glass of milk without difficulty.

QUESTION: Is colitis of three years' standing curable?

ANSWER: Colitis is always curable unless the bowel has actually been destroyed by ulceration. It is simply an infection. This infection very closely resembles eczema. It is a similar disease only it is on the inside instead of the outside. We have two skins, a covering skin and a lining skin. An animal is a sort of double tube. The alimentary canal is the inner tube and the skin is the outer tube and the living being is between the two tubes. The skin and the mucous membrane are really very much alike. They are in contact with bacteria of various sorts. If the resistance of the body is lowered somewhat so these germs work their way in they produce a condition known as eczema. If the resistance is lowered then the particular form of bacteria found in the body, these internal bacteria will work their way into the mucous membrane and set up an infection and that is what is called colitis. The two diseases, eczema and colitis, are essentially the same. The cure is to be found in getting rid of the germs, keeping the skin clean in one case and keeping the colon clean in the other case and building up the general

vital resistance by light baths, sun baths, air baths and exercise and especially by wholesome living.

By means of the use of lactose we may combat this internal infection more efficiently than in any other way. Lactose changes the flora by destroying the germs that make the trouble, and by the use of the new sugar B-Lac, by using this habitually, using a portion of it every meal and every day, it is possible to keep the interior of the body as wholesome as that of a child. At our house we use B-Lac in place of ordinary sugar and we find it very agreeable, and I think it is about the best protection a person can possibly have.

A nursing child does not get cholera. That was noted many years ago. A cholera epidemic or a typhoid epidemic or any other sort of bowel trouble, nursing children do not get it, and the reason they do not get it is because in the mother's milk they get a large dose of lactose, two ounces to the quart. A nursing baby weighing 20 pounds takes a quart of milk a day and it will take two ounces of lactose. If an adult takes 10 or 12 ounces of lactose in a day he would take the same amount in proportion to his weight that the nursing baby takes. When a person takes a

PORTION OF QUESTION BOX LECTURE, JULY 15, 1929

By

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QUESTION: The newspapers mention two men who have been living for a whole year on meat and have benefited by it. What about it? Kindly explain.

ANSWER: Yes, there is one explanation and that is the Chicago packers, the Meat Board of Chicago. The Chicago packers have hired those men to abuse themselves by living on a meat diet in a country where there are plenty of other better foods that are accessible. They have done it simply for pay.

Now, the packers are publishing the most deceptive statements, lying statements, statements that are as false as anything could be misrepresenting the truth to the very last degree. I will give you just a few examples. In the first place these men have not been living on what you and I understand as meat. When you talk about meat you do not mean fat. You do not mean tallow, do you? They have been living on

lard. They have eaten only very little meat. They tried living on meat.

I happen to know some of the facts about this matter, because a man who has been acting as assistant in this whole experiment, acting as one of the technicians who did some part of the laboratory work but was in contact with these men every single day was a guest in this institution about three weeks ago and he gave me the whole inside information about the whole affair. Although I already had it from other sources, I was glad to have it verified.

I will give you some of the facts. In fact I learned last summer that a scientific man who was associated with this experiment had left it because of the fact that it was not an honest experiment. These men have been living on a very small quantity of lean meat and a large amount of fat. They have not eaten any more meat than the average man eats. These men have not been eating any more meat day by day than the average meat eater eats. That is the fact. The average meat eater, that is, a man who is a hearty meat eater, a workingman, perhaps, eats every day of his life as much meat as these men have eaten. They have eaten very sparingly of meat, but they have eaten a large amount of fat.

For a few days they made the experiment of living on lean meat, on what you and I understand as meat. They lived for a few days on that diet and got so sick they had to give it up. You can find that right in the printed report. Now, the packers concealed that fact by saying that these men for a few days tried the experiment of living on protein. Now, what is protein? Protein is simply lean meat. But instead of saying lean meat they say protein so the public will not understand. "They tried living for a few days on protein and they found it made them ill and so they returned to a meat diet." Think what a shameful deception that is. "They returned to a meat diet" whereas they were on a meat diet all the time. They were not living on lean meat. When they tried it for a few days they had to give it up. The descriptions says, "They returned to a meat diet." That meat diet consisted of a little piece of lean meat and a large amount of tallow. That is why it has been possible for them to live. If they had undertaken to live on a real meat diet they would have been dead long ago.

As a matter of fact, these men instead of getting better they lost the splendid health they had before and dropped down below the level of ordinary good health. What proof have we of that? The fact is they

both got sick. One of them got pneumonia when he was not out exposed to cold weather. He was not exposed in a way to submit him to any hardship at all but he was right there in the hospital where he was protected, where he was taking care of himself and in spite of that he had an attack of pneumonia before the experiments were over and was very ill. That was Mr. Andersen.

Mr. Stefansson was out lecturing in Iowa. There happened to be a little influenza out in Iowa and he was smitten down with influenza. He was laid up. Both men were taken sick with disease due to low resistance. You say, "There are other people who had influenza also and other people who had pneumonia." That is very true, but the average man did not have influenza and the average man did not have pneumonia. The average man was strong enough to resist it. Now, when you have pneumonia come into a neighborhood everybody does not get it. Why not? Because some of them have enough vital resistance to withstand the attack of the germ and fight it off, but there are others that have low resistance and they are the ones that succumb to the disease. And so when pneumonia came into New York and carried off the people with low resistance, a number of them, Mr.

Andersen was one that was taken sick with pneumonia. If the meat did him good he would have been above pneumonia and if Mr. Stefansson had been benefited by the meat he would not have had influenza. Why? Because, as I remarked a moment ago, the average man did not have influenza and the average man did not have pneumonia. It was only the weak man that had pneumonia and the weak man that got influenza, and Stefansson was one of those weak men and Andersen was one of those weak men.

Mr. Stefansson was here some two or three years ago and I had a talk with him in my office about his experience. I did not suggest the conversation. He introduced it himself. He said, "Doctor, you know that I lived on meat for several years out in the arctic."

"Yes," I said, "I have read about it in your books that you lived on meat eight or nine years."

"Yes," he said, "I did, but I did not by my experience prove a meat diet is the diet for people. My experience did not prove that a man could live better or more efficiently or live longer on a meat diet than he would on a non-flesh diet." He added, "Of course the scientific argument is all on your side," because as a scientific man he knows

perfectly well that the zoologists, the biologists, the paleontologists, all the scientific men who have given this matter any study, they are compelled to admit that meat is not the natural diet of man.

Let me just tell you of an experience I had a number of years ago. The editor of Popular Science Monthly, Professor James Cattell, one of the most profoundly scientific men in the United States, came here. He was up at dinner. I did not see him until after he came down. When he came down he burst into my office and shouted at me, "Dr. Kellogg, what is your basis? What is your basis?"

"Professor," I said, "I do not know as I quite understand what you mean."

He said, "I was up to dinner and I did not get any beefsteak. Now, I would like to know what is your basis," and he was rather emphatic about it.

I said, "Professor, our basis is physiology, biology."

"Well," he said, "I do not think I see any particular significance in your remark."

"Well," I said, "Professor, a donkey is a horse, isn't he?"

"Yes."

"Well, a zebra is a horse, isn't he?"

"Yes."

"Well, now, all these horses eat the same diet, don't they?

They all eat just the same kind of food?"

"Yes, of course they do. All horses eat the same diet."

"The orang-utan is a primate, isn't he? And a chimpanzee
is a primate, isn't he?"

"Yes."

"And a gorilla is a primate?"

"Yes."

"Well, now, I claim to be a primate, too. I have hands like
these other animals. I am a primate and so I eat what the other primates
do. The rest of my colleagues all claim to be primates so we eat what
the other primates eat."

I said, "Why should I be a cat in a strange garret? Why should
I be different from the rest of the animals of my class?"

He could not give any answer.

I said to the Professor, "Do you know any primate that lives now or ever did live that was an eater of meat except man?"

The Professor admitted he did not and he had not another word to say. He could not say anything. All the physiologists agree that man is naturally a non-flesh eating animal. It is possible for man to live on a meat diet, but he cannot live as long as he might on a different diet. Why? Because he wears his kidneys out. That is the reason. When a man eats meat, eats more protein of any kind, whether it is meat or beans or anything else, if he eats more protein than he needs to repair the machinery of his body, all of the protein has to be converted into urea and carried off by the kidneys right away.

Dr. Newburgh, of the University of Michigan, a few years ago fed rats more protein than they needed. He gave them about double the amount of protein that they were accustomed to take and the result was that these rats became old. Their arteries became hard, their kidneys were worn out and they died off within a few months' time. Within less than a year every one of these rabbits had arteries as hard as pipe stems. They were suffering from arteriosclerosis.

When he fed liver to rats these rats, some of them were dead

in ten days. They acquired nephritis and all of them got Bright's disease within a few weeks' time when they ate liver even in comparatively small amount.

So it is known to scientific men that meat is not a wholesome diet for man and that he would be a great deal better off without it. Stefansson has only proved it is possible for a man to live on a meat diet and live for a while, but he certainly does not live better because he and Anderson both got sick. They ought to have had resistance high enough to be the healthiest people in the community, but instead they were on the sick list and I dare say they were glad enough to get off that meat diet.

To show you how perverted a man's taste may become I will tell you something else Mr. Stefansson told me. He said, "Doctor, I got accustomed to a meat diet out there--the meat gets rather ancient and gets far advanced in decay sometimes. I got so accustomed to it I liked it. You know, Doctor, the most delicious thing in the world to me when I had been up there a few months was seal meat cut up into little cubes put in a seal-skin bag with seal oil and hung out in the sun for three months. That

was the most delicious morsel he ever tasted, he said.

The packers may try to make the people believe that this is a wholesome way to live. They are deceiving the people in every way they can. They are publishing most false and misleading statements in every newspaper in the land, and these men have been hired to do this stunt so that the packers would have something out of which to make capital to fool and deceive the people to persuade them to eat more meat when they are already eating so much meat that practically every doctor in the country is saying, "Cut out beefsteak."

How many of you have heard doctors say you ought to eat less meat. Hands up. Half the people in the audience have heard doctors say you ought to eat less meat. It is the universal thing. Textbooks and medical journals are all saying, "Eat less meat. Cut it out."

I am going to ask you another question. How many of you here were advised to come here by your doctors? Just put up your hands just for a moment. Thank you very much. I see perhaps 25 per cent of the people in the audience were sent here by their doctors. Our records show that 25 per cent of all our guests were sent here by their doctors.

When a doctor sends a patient here it is the most common thing in the world for the doctor to say, "My patient has not good health habits and I am sending him to you to get a set of health habits, a set of health habits that will enable him to live more efficiently . The doctors know we do not encourage smoking here and we cut out beefsteak and we make quite a number of other changes in the bill of fare and that is why your doctor wanted you to come here.

This campaign that the packers are carrying on is purely for the benefit of their pocketbooks. It is not for the benefit of the people. That is not a missionary board down there in Chicago. You may be sure of that. Those men are not noted for philanthropy, in their business methods at least. They have organized a Meat Board and they claim that the purpose of the Meat Board is to educate the American people; but the campaign of education they are carrying on is purely confined to one specialty, and that is the American people should be educated to eat more meat. And they have a reason for it. Mr. Post used to say, "There's a reason." Always there is a reason.

A few years ago when they had an eat-more-meat week some of

you remember they had a slogan and the slogan was, "Eat more meat to save the livestock industry." That is a new indication for eating, isn't it? Most people are supposed to eat for their own benefit, but in this case we were asked to eat to save the livestock industry, that is, the breeders and the packers.

By the way, in the next number of my journal Good Health I am going to pay my respects to the packers in relation to the Stefansson experiment. I know Mr. Stefansson and I said something about him in my journal a few months ago, and I received a letter from Mr. Stefansson, and Mr. Stefansson intimated to me in this letter that the results of this experiment would probably be more in accord with my way of thinking than in the packers way of thinking. At any rate it would be more favorable to my side of the question than the packers'. He did not say that but left me to infer it between the lines.

Stefansson is an intelligent man and he knows perfectly well that the experiment he made affords absolute proof that meat eating is injurious. He knows he himself was injured and his associate was injured and all the indications are of injury rather than benefit.

There is one piece of information that the packers carefully conceal in their description of this experiment and that is the amount of work required of the kidneys. They do not say anything about it. They tell all about the analysis of the blood. The blood is a thing that does not change. The blood never changes until the kidneys break down completely or the liver breaks down completely. The blood must be kept in the same condition all the time because the blood supplies food to the cells and surrounds and bathes the cells , and so if it were allowed to change, great damage would be immediately done to the entire body. So for the protection of the body at large, the blood is maintained in perfect condition until the very last resources of the body are exhausted. So of course the blood was a good subject for study. They showed that there were no changes in the blood, but when it comes to the urine they do not say anything about it. The urine shows the amount of work the body has to do. The urine is an extract of the tissues and the urine shows immediately when a person adopts a meat diet. The damage done is shown by the urine right away.

I once put a man on a meat diet. He was a man who loved meat. I put him on a meat diet, but I did not exclude other things. I asked him to eat all the meat he could relish. He was very fond of meat. He ate a

pound the first day, two pounds the next day and the fourth day he ate four pounds. That is not nearly so much as the Mayor of New York some years ago ate. He ate eleven pounds. I sat beside a man at a banquet in Chicago who told me at a beefsteak contest a couple of weeks before he had eaten nine pounds of lean meat.

Well, I must hurry on and get into these questions.

John Harvey Kellogg, M.D.,
Battle Creek, Michigan.

Food

THE PAPAYA

Of the 600 edible fruits made use of as foods in different parts of the world, the papaya is entitled to a place among the choicest ten or twelve. It is, indeed, a marvelous product. Shaped like a melon, it may vary in size from two or three pounds to fifteen pounds, or more; and a single plant may produce from one to five hundred pounds of fruit in its life time of four or five years. ¶ The papaya is not only delicious in flavor, but it possesses extraordinary nutritive values. It is richer in vitamins than almost any other fruit known. It is particularly notable for its richness in vitamin A, one of the most important of all the vitamins, the chief source of which are dairy products and greens. Experiments conducted in the Nutrition Laboratory of the Battle Creek Sanitarium by Dr. Helen S. Mitchell, an expert in researches of this sort, showed that the papaya contains nearly as much vitamin A as does butter, and that it is also well furnished with vitamins B, C and D. These are the vitamins most essential for good nutrition. There are very few fruits which contain so fine an assortment of vitamins as does the papaya, and its general introduction and liberal use throughout the country, will undoubtedly have a marked effect in lowering the death rate.

While useful for all classes, the papaya may render especial service to children throughout the country who are suffering from an insufficiency of vitamins. A diet consisting of meat and cereals is decidedly lacking in elements necessary for promoting growth and development.

The free use of the papaya by children throughout the country, would undoubtedly result in an increase in stature in the next generation, and a notable increase in the number of centenarians.

The papaya is one of America's great contributions to the food supplies

of the world. As yet, its value is but little appreciated because it is little known, but I think it is safe to predict that within the next ten years, it will make great strides in winning its way into public favor, and will take its place in all the great markets of the country.

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End

HYGOS
THE NEW HEALTH GUM

Decay of the teeth, pyorrhea and other mouth troubles, are the result of infection. The mouth is greatly exposed to germs through the inhalation of dust and the taking of contaminated food and drink. When destructive germs once obtain a foothold, they cling tenaciously to the affected parts, spreading and penetrating until irreparable mischief is done.

The mischief begins with the formation of films upon the teeth and deposits of "tartar." Food lodges between the teeth and becomes a feeding ground for microorganisms. The mouth becomes an incubator of germs.

Nature's method of protecting the mouth is to flood it with saliva. Freshly secreted saliva contains millions of living white blood cells which capture and destroy germs. The blood serum, of which saliva chiefly consists, also contains various substances which destroy bacteria. When the mouth is freely bathed with this protective fluid in a normally active state, germs cannot thrive.

When germs have become domiciled in the mouth, as shown by decay of the teeth, pyorrhea, or a coated tongue, they often penetrate to the roots of the teeth, causing abscesses and ^{results in the} focal infections manifested elsewhere in the body as rheumatism, neuritis, wandering pains, headache, eye troubles, even heart affections. Such a mouth needs to have its "flora" changed. Colon germs are often present with pus forming and other pernicious bacteria. In such cases, change of the intestinal flora by the use of lacto-dextrin, is needed to improve the quality of the saliva; but change of the mouth flora by similar means is also needed. This may now be accomplished by the use of ~~Hygos~~ the new health gum, Hygos. Chickie gum has been found to be a good medium for applying to the mouth structures the wonderful germ-destroying properties of B-Lac, one of the active compounds of lacto-dextrin. As the gum

is chewed, the lactose is gradually dissolved and so long as it remains sweet, the beneficent action continues.

Besides, the act of chewing and the sweet taste cause a flooding of the mouth by fresh saliva with its healing and cleansing properties.

Still another beneficent action of this health gum is the attrition effect. Contact of the gum with the enamel of the teeth as it is squeezed between the chewing surfaces, rubs off the insidious film ^u ~~which~~ holds the germs in contact with the teeth and so initiates decay.

It is quite possible that the enormous popularity of gum chewing which has made several multimillionaires in this country within a few years, may have a physiologic basis instead of being a mere fad. Penetrating inquiry often discovers back of some popular practice, a compelling biologic instinct and the satisfaction of some physiologic need.