

AN ADDRESS TO MEMBERS OF THE MIAMI THREE SCORE AND TEN CLUB

3:00 O'CLOCK P. M., MARCH 17, 1931

By

JOHN HARVEY KELLOGG, M. D.

Mrs. Hostess, Mr. Chairman and my young Friends: I have been more than qualified to become a member of your club, or at least I think I am eligible as I entered my eightieth year a couple of weeks ago.

I am afraid I shall talk too long if I get started, so I am going to confine myself strictly to the subject, "What Event or What Circumstances in Your Life Gave You the Most Happiness?"

President Elliot of Harvard some time ago heard of a lady who was one hundred years old, and he thought it was a very good opportunity to ask that question of the old lady, and so he went to see her. He said, "Madam, won't you tell me what has given you the greatest pleasure in your life?" She shot back at him instantly, "Victuals, victuals."

I think the majority of people get about as much pleasure out of victuals as anything else. Ask anybody what is the best time he has had in his life and he will generally tell you something about a great banquet, a Christmas dinner, a Thanksgiving dinner or something of that kind.

As I was thinking after your hostess spoke to me what I should say to you, what I should select as the happiest moment of my life, I recalled a visit I had from a gentleman some time ago who evidently wanted to get into my inner life in some way, and he



came into my office and suddenly very abruptly said to me, "Dr. Kellogg, are you happy?" I had never in all my life asked myself that question before. I had never thought whether I was happy or whether I was not happy. It never entered into my mind. When I came to stop to think it over how ought I to feel if I was really happy, you know I gave it up. I really felt almost foolish in trying to consider that question. What should I do to make myself happy? What kind of state should I work myself up into to be really happy? I gave it up. Suddenly there came to my recollection a remarkable circumstance in my life in which I at once recalled I was happier than I was ever before or since. I really experienced what it means to be supremely happy, and it was a very curious circumstance. I think I will tell you about it.

It was just after the World's Fair in Chicago. I went down to visit the city. I had been there before but not often. I think my last visit before had been at the time of the great fire in Chicago. I heard of the fire, so I went down to see it, and the place was pretty well burned up. There was not a single hotel. I had to walk the streets all night. There was no place to stay and it was really a very sad time.

My next visit was at the time of the World's Fair. I found a great many people there that were suffering for lack of attention and I discovered that there was no attention being given to them. The moment the Fair was ready all building stopped and twenty thousand men were turned out upon the streets without work and pretty soon they began to suffer. Thousands of them were lying out on the lake front as they had no place to sleep and not a



penny with which to pay for lodging. They were unable to take a bath because there was a strict law forbidding anybody to go into the lake to bathe. The only way to get a bath was to fall in by accident. I actually saw people washing their hands in foul water in the gutter.

I thought something ought to be done, so I opened a free bath. I hired a basement and put in four bath tubs and some shower baths and laundry tubs and put out a sign "Free Baths and Free Laundry." Pretty soon I had plenty of business. One morning I counted 175 men that were waiting at the door in line. The first man had hold of the door latch, the next man had hold of him and the next one had hold of him and the line went down the street and around the corner. They were waiting for a chance to wash their coats and shirts and pantaloons and overcoats. They boiled out everything. They came in to get boiled out because they were covered with vermin which they had gotten from the cheap lodging houses where they lived. Many of them were sleeping in delivery wagons. I remember one man was sleeping in a coal hole. He went down through a hole in the sidewalk. There was great misery in Chicago and great hunger came pretty soon, so I put out a sign "Penny Dinners." I furnished a dinner to everybody who wanted it, a good big dinner, all they wanted to eat, for one cent, and one cent paid for the dinner, actually paid for the material. This dinner consisted of a great big plate of rich bean soup, nothing but beans, water and a little salt. The beans cost just one cent and the water did not cost anything and I got the bakers to give me all the stale bread I wanted. We gathered in the stale bread and it was better than the fresh bread. So I could give every man a great big bowl of bean



soup and all the bread he wanted to eat with it for one cent. Well, I pretty soon had a whole lot of friends in Chicago and I had so many people coming that I used to average 1,500 people a day.

I found so many of these poor fellows had no place to stay. I hired a church for fifty dollars a month which had room in it for 300 people. I got World's Fair lodging beds, cheap beds, and I used to take them in for ten cents, and if they did not have anything I used to take them in for nothing. I used to go over to the Harrison street police station and find people sleeping on the floor with nothing but a newspaper under them. They were packed in like sardines, heads and tails, as tight as could be. I put my face up to the gate and shouted, "How many men would like to have a good night's lodging in a warm comfortable place and breakfast and work to pay for it?" Every man would be on his feet in ten seconds. Then they would open the jail and these men would pull up their coats around their necks when there was a blizzard blowing and rush three or four blocks to get to my lodging house and we would tuck them in. I bought three or four hundred shovels and made these men work cleaning the crossings. The street car companies did not keep the crossings clean in those days and I thought I would shame them into it. I had these men clean off the crossings for the street cars.

As these men came in, a long line of them, I interviewed every single man. "How did you get into this condition? How did you get into this condition?" This was not a church affair at all; it was simply an attempt to be brotherly to these poor fellows that did not have a chance, and we found many of them appreciated it.



I had some nurses down there to help feed them and look after them when they were sick and to visit the poor. I started a visiting nursing work on Clark street, the slum of the city. I wanted to give those poor fellows a chance. I used to talk to them every Sunday noon while they were eating their bean soup. I had a big hall full of them.

Well, among those poor fellows I came across one man that was a gunman. He had shot a man in Canada and fled to the United States and then he got into a row in a gambling den and shot a policeman, and so he had been arrested and had just been serving time in States prison in Illinois and finally got out of prison and came to Chicago and I picked him up to see if I could not reclaim him. I got into pretty serious trouble over it. This poor fellow seemed to make an effort to reform and pretty soon he took a great shine to one of our visiting nurses there and he made this nurse believe the only way in the world he could reform would be for her to marry him. The poor nurse I had discovered had really made up her mind it was her duty to marry him to save his soul. As soon as I found out about it, I saw the nurse and tried to persuade her not to marry this man. I labored with her all day long and all night. I would not leave her until she promised me she would go back to Battle Creek with me and escape from that place at once. I began to talk with her at about 9 o'clock in the morning and it was 3 o'clock the next morning before she finally gave me a pledge she would go back to Battle Creek with me. At 3 o'clock I went to bed and thought the poor girl was going to be saved.

At 5 o'clock I awoke suddenly and found myself sitting up



in bed and I had an apparition. It was a dark room, pitch dark, but I saw myself lying on the floor with a bullet through my head and at once it came to me that this man, whose name was Luttrell, was going to shoot me. I saw myself lying there with a bullet hole in my head and blood running from it, and to my great surprise there did not seem to be anything disagreeable about it. I confess I was a rather timid man before that time. Whenever I left home I was always afraid something would happen. I was afraid I would never see my wife again and the twenty little orphan children I had taken in and tried to make something of. I was always a little timid, but from that moment all apprehension left me. It did not seem to be unpleasant at all. I tried to think what a terrible thing it is to be shot, but could not make myself feel it was unpleasant. The apprehension of death all disappeared from me and has never returned since from that moment to this. I saw that thing just as plain as though I was lying right there with a bullet through my head. So when I got up in the morning I said to my associates, "I am going to be shot today. I was convinced that I was going to be shot and there was nothing unpleasant about it. It seemed perfectly agreeable to be shot. I could not make myself feel it was an unpleasant thing. I said, "That man Luttrell is going to shoot me."

In about an hour I got a message that a man was down at the lodging house a couple of miles away and he was there with a revolver and intoxicated and looking for me and he would shoot me as soon as he could find me. That agreed with what I expected. I was not surprised at it. So I said to one of my colleagues, "Be on the lookout for this man, for I am afraid he will shoot the nurse, too."

A half hour afterwards I stepped into the hall and I said,



"Have you been looking out for this fellow Luttrell?"

"Yes," he said, "but he slipped in before we knew it. He just a moment ago slipped into the hall and seized the nurse and dragged her into that room there." I at once tried to open the door, but the door was locked and I heard the man say to the nurse, "I came up here to shoot Dr. Kellogg and I am going to shoot him." She was begging him not to do it. I was afraid he would shoot her. I expected to hear a shot ring out any second. One of the men started for the police station. I said, "This will be over before you can get here with a policeman." I rallied three or four men and said, "Thrust me through the door." So we lunged against the door and after several attempts they finally thrust me into the room.

The man stood there and there was the nurse. I stepped before him and looked him in the eye and said, "I heard you say a moment ago that you came here to shoot Dr. Kellogg. I am here and I am ready to be shot." He put back his hand for the revolver and it dropped. He put it back again and it dropped again. He put it back again and it dropped again. Then seeing he was irresolute, I put the tip of my finger against his shoulder like that and he began to back up, and then, touching him with my finger, backed him up and out of the house about four rods away and left him, and as I left him he was uttering the most terrible oaths. He declared he would certainly shoot me the next time he met me. He passed on down the street, Cottage Grove avenue, into the center of the town where the lodging house was located.

I had to follow on a few minutes later because I had to give my Sunday noon talk. So I followed after him. I took a street car. As I was going on the street car I suddenly passed him walking down the street. He saw me at the same moment I saw him, so he ran for the car and he caught hold of the railing of the end of the last car and just



as he laid hold there was a sudden lurch of the car and the car was torn away from him and he fell sprawling in the street, so he did not reach me that time.

I went on down the street. As I went on down the street I found myself in a state of ecstasy. I never was so happy in my life. I was so happy the tears ran down my face. I seemed to be lifted up in a new sphere that was beyond anything I had ever experienced in my life. I went on down and stood before my audience talking to them and a man came up to me and whispered in my ear, "Luttrel is waiting at the door. He is going to shoot you when you come down from the platform." When I came down he was gone. The next morning there he stood in the door. I had to walk up and face him and I expected him to shoot me and I could not see anything unpleasant about it, I was so filled with happiness and joy. I had gotten rid of the fear of death.

Now, my friends, that is the happiest experience I ever had.

I thank you for your patience.

CHAIRMAN: I believe that every one present would like to thank Dr. Kellogg for telling us of that wonderful and most interesting experience. He gave us a splendid talk once before and again we are indebted to him. All in favor of thanking Dr. Kellogg say "Aye."



## THE AIMS AND IDEALS OF BATTLE CREEK COLLEGE

Said wise old Seneca, "Religion consists of two things: to seek truth and to do good."

This is our aim.

Our ideals contemplate a new program in education, based upon the following fundamental propositions:

1. Every human being is entitled to an opportunity for the fullest development and the most complete expression of the physical and mental potentialities which he has inherited from his ancestors.
2. Such an opportunity requires not only freedom from restraint or misdirection, but instruction and training in the fine art of biologic or physiologic living, not in relation to eating and drinking only but in the broad sense which includes the technic of wholesome conduct in all human activities and relations.
3. The function of the school, the college, the university, of every educational agency, should be to give to each student such training of mind and body as will accomplish these ends and thus prepare him to enter upon life with a body free from disease and possessed of the knowledge and physical stamina required for protection against agencies and influences hostile to health, to live an efficient, happy and useful life, and to attain maximum longevity.

When Greece was at the zenith of its glory, a pinnacle of human development which no nation has since reached, she wrote over the doors of her temples of learning,

"Mens sana in corpore sano."

This golden motto must again become the goal of every educational project and the inspiration of every educational program.

These are the aims and ideals of Battle Creek College, in which it is a pioneer among educational institutions.

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A TEMPEST IN AN OYSTER POT

There recently appeared in the press dispatches a statement to the effect that the Maryland state legislature had passed a resolution censuring a Battle Creek cereal company for libeling the Maryland oyster. It was also stated that the attention of the Michigan Department of Health had been called to this attack upon the good name and character of the juicy bivalve from "Maryland, my Maryland."

The Maryland legislature is mistaken in two important particulars:

1. No Battle Creek cereal company has libeled the Maryland oyster.
2. The Maryland oyster has not been libeled by anybody in Battle Creek or Michigan.

To call the oyster a scavenger is no libel. It is merely the statement of a biologic fact; and Maryland legislators, astute politicians although they may be, by resolution or in any other way, cannot change or camouflage the fact. The oyster cannot live without filth. It would soon die in pure water, -starve to death. It is well known that the fattest oysters are found around the mouths of rivers which drain the sewers of large cities. Oystermen have been known to produce oysters extra fat and large by feeding them with barnyard manure and gleanings from cesspools.

Numerous typhoid epidemics have been traced to the use of oysters.

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#### FLETCHERIZING THE OYSTER

The tempest in the oyster beds of Maryland probably owed its origin to the following incident:

Many years ago, the late Mr. Horace Fletcher, the apostle of "chewing," was one day discoursing on his favorite theme, which had then become known as "fletcherizing," before a large audience of patients. He was giving particular instruction about the chewing or fletcherizing of different sorts of food. The writer of these lines raised the question, "What about oysters on the half shell? Must they be chewed?"

"Certainly," said Mr. Fletcher, in reply. "They should be well chewed or eschewed."

Shortly after, having made a careful study of the oyster's anatomy, the writer penned and published in this journal, the following, which seems to have recently come to the notice of the Maryland legislators, and so worried them that they have called upon the health authorities of Michigan for assistance to suppress the circulation of this anatomical information about the oyster:

"To bolt a live oyster might seem just the proper thing to do, so as to get the wriggling creature out of sight as soon as possible; but such precipitate absorption of the gentle beast affords no proper opportunity for appreciating his characteristic beauties (we use the masculine pronoun ad-



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visedly, for, although the oyster is bi-sexual, it is proper to regard the male element as dominant).

"Yes, it is certainly necessary to chew an oyster well to readily appreciate what a very useful and patient little brute he is. Chewing thoroughly enables one to become intimately acquainted with his very interesting anatomy. For instance, look at his mouth with its broad, leaf-like lips, which he wraps so deftly around the slime-covered seaweeds which it is a part of his business to lick clean of the diatoms, typhoid bacilli, and various other germs and animalculae which make up the ooze of the ocean bottom--the oyster's pasture ground.

"What delightful reminiscences of roisterous (raw-oysterous) experience! The very thought of masticating such a mouth raises pictures of bach<sup>c</sup>analian feasts of garbage residues and sewage! They fairly make one's mouth seawater with expectation.

"Lucky it is for fletcherizers of oysters on the half shell that this interesting biological curio from the sea left its teeth behind somewhere on the road of evolutionary progression. To fletcherize the mouth of a dog, or of a cat--even the mouth of a turkey or a hen--would be a perilous task. But an oyster's mouth is easy--slick, flimsy, edenu<sup>t</sup>lous--that is, well lubricated with oyster saliva, toothless and tender--one may masticate a mouth like that with ease and comfort.

"Of course, it seems incongruous from a biological standpoint that one mouth should masticate another; but such disconcerting thoughts are dissipated by the joy of the conquest which possesses the eater of an oyster on the half shell when he wrenches the wretched scavenger from his shell house, quite regardless of the consequences to his own anatomy.



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"And then as the fletcherizing process proceeds and one works further into the subject, what a delight to find the oyster's stomach a real live one, with gastric glands, cardia, pylorus, and other digestive machinery.

"One need not worry because he finds in the oyster's gastric pouch so fine a collection of typhoid bacilli, colon germs, streptococci, diatoms, animalcules, and other sea-faring plants and beasts, for does not everybody know that an oyster's stomach, accustomed to miscellaneous food gathered from the ocean floor, is a veritable Hercules?--that notwithstanding the violence which it receives it is always ready to return good for evil and, pulling up its sleeves, so to speak, sets energetically to work helping the oyster-eater in the digestion of the bivalve meal?

"What an interesting tickle is imparted to the tongue in rolling the oyster's alimentary canal, big and little intestines, liver, kidneys and other things, from tooth to tooth, and all along the line from front door to back door!

"And the interesting things that one meets along the road--that big bunch of sympathetic nerves just behind the stomach, all alive and squirming, shooting out little explosions of nervous energy each time the crunching molars pinch them! What felicity to feel the tingle of this lollicking energy working its way into one's exhausted spinal centers, rising into one's cerebrum, lifting one's spirits and dissipating "brain fag!" What a blessing that such an easy way has been found for enforcing feeble instincts.

"But we are hardly fairly started on our oyster chew.



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There are broad fields of anatomical interest yet to explore, particularly that big brown end which has glycogen and other things in it, especially bile, urine, urea, uric acid, etc. This is the oyster's liver and kidneys all in one, a most interesting anatomical curio, a biologic laboratory in which most extraordinary things are done. As one's teeth begin to enter this complex excretory gland (made extra big so as to enable the oyster to deal with its disgusting bill-of-fare), the fletcherizer should realize that he is prying into one of nature's secret places; that his incisors are penetrating into most profound mysteries.

"How exhilarating and appetizing are such reflections! How much the average oyster-eater misses when he swallows the creature whole--mouth, stomach, ileum, jejunum, colon, plexus, liver, kidneys, and all--without ever stopping to count its pulse or to note the gentle tap of its heart-beat against his hard palate or the queer wriggle of its midgut, or the delectable flavor of its liver-kidney-colon juices!

"There is nothing like fletcherizing to make one thoroughly acquainted with the true inwardness of an oyster. If, reader, you are particularly fond of sea scavengers, just try the experiment of eating a live oyster in a proper manner, masticating a la Fletcher."



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## ORIENTAL SAMPSONS

Nowhere in the world are such prodigies of strength to be found as in Oriental and near-eastern countries, among people who live almost exclusively upon plant products. The strongest and most enduring animals are plant feeders, from which fact we should naturally expect the same to be true of human beings. The elephant, the hippopotamus, the bison, the rhinoceros are all animals of prodigious strength, and only the gas fed automobile can compete with the wild horse in speed and endurance as shown by Roy Chapman Andrews in his wonderful moving pictures of his experiences in Mongolia.

In Smyrna, many years ago the writer saw a Turkish hamil or porter marching down the street with a pyramid of trunks on his shoulders that would have been a full load for a Ford truck. And he did not shuffle along as though over-burdened, but easily kept pace with the throngs of men and animals moving along the crowded street leading from the pier.

In Biskra, an oasis in the Sahara Desert, the site of the famous Garden of Allah, I saw incredibly huge loads of dates balanced on their broad shoulders. I paid a porter 10 francs (40 cents) to allow me to weigh his load. We hunted



up an ancient and very primitive but accurate weighing machine and found the weight to be over 400 pounds.

In Tunis I saw a sturdy mountain Arab who had been raised on a diet of camel's milk, wheat and green vegetables, rise from a crouching position and start off on a trip to a neighboring warehouse with a bale of silks on his back which bore an official weight stamp of 660 lbs.

Oswald, for many years a close student of the racial and individual effects of dietary habits, tells us that "A gardener in the terrace-lands overhanging the lake of Janina, will make his way to the water's edge with a wooden tub, resembling a pepper-box in shape, and a beer barrel in size, and return to his uphill plantation with a load of water, which not one of a thousand western farmers would undertake to move along a level road, without the aid of a horse and cart. On the cattle-market of Adrianople, rustics can be seen, carrying along two fat sheep, tied together by their hind legs, and hanging down left and right, from the carrier's broad shoulders, like two huge sacks, and the 'longshoremen frequenting the wharves of the Golden Horn.



often astonish their foreign employer by shouldering a five-hundred pound box of dry goods, as our roustabouts would shoulder a bag of wool. On his way to the merchant's warehouse the loaded porter does not stagger; he does not pant or fidget under his burden, but walks along complacently, kindly chatting with the little boy who brings up the rear with a smaller box, or even disengaging a hand for a moment, to fumble for the address card, in his capacious breast-pocket.

"And the muscles of that paradoxical biped have been developed on a frugal, almost exclusively vegetable diet, although the term vegetable in our green-grocer's sense of the word, would hardly be the right term. Our Turkish porter does not care much for cabbage and string-beans. A compensation of four piastres (about forty-five cents) will keep him at work steadily from eight A. M. to four P. M., relying for his noon-day lunch on such scraps of bread or dried figs as he may fish out of his pockets. But an hour before sunset, he has reached his little cottage in the suburbs, and after changing his heavy jacket for a linen blouse, he sits down in the shade, to a meal of rice and butter, sugar, (eaten in lumps like candy), bread, dates, figs, and grapes, washed down with cold, slightly sweetened water, and on luck-days, perhaps, a sip of black coffee."



THE PRACTICAL RESULTS OF BIOLOGIC LIVING

Biologic living is simply living up to physiology, that is, paying heed to facts revealed by the scientific study of our bodily functions and their natural requirements.

A BRILLIANT EXAMPLE

When John D. Rockefeller, Jr. spent a month at the Battle Creek Sanitarium some years ago, it was not because he was ill. He was, in fact, in far better physical condition than most men of his age. His purpose, as he states to the Associated Press reporter, was to get himself into the finest possible physical condition and to learn how to keep himself fit and so far as possible to insure the physical endurance and length of years required to complete his many great plans for human betterment and world-wide beneficence. There are few men now living who are capable of directing so many great and worth while enterprises, a mental and physical burden which Mr. Rockefeller carries easily by living a carefully ordered and physiologic life.

FORTY YEARS OF UNINTERRUPTED HEALTH

When a New York banker who had found in the Battle Creek plan of biologic living a degree of rejuvenation which had raised his enthusiasm to the nth degree, sent out a hundred letters to banker friends, he was surprised to receive the following reply from one of the founders of the Bankers' Trust:

"Dear -----

"You are evidently unaware that I have been a Battle Creek fan for more than 40 years. I went to Battle Creek a broken-down man. I learned how to live in a rational and biologic way. I



cannot recall a single sick day since."

When Lord Dawson of Penn, now physician to King George, sent Sir Horace Plunkett to Battle Creek, all the ordinary remedies had been employed for the relief of a most distressing and disabling giddiness, but without result. Under a carefully controlled biologic regimen, the great Irish statesman was soon relieved of his distressing ailment, and made his Battle Creek experience the subject of a notable address before the Royal Society of Dublin, which he published at his own expense and distributed widely among the gentry of Great Britain.

Stephen Smith  
Prof. Fisher



BATTLE CREEK IDEALS

Of all the world's possessions, the greatest, the most precious are its ideals.

The character, the influence, the importance of a city are determined by its ideals rather than its size or its wealth. The ideals of a small city of ancient Greece still influence the world after seventy-five generations of men have passed away. Its health ideals and standards and products have made the name of Battle Creek well known in every corner of the globe. There is perhaps no other city from which has gone forth so consistently and continuously for so long a time a steadily growing stream of health betterment ideas. But this is not an occasion for self-congratulation, but rather for reviewing and summarizing and so let us look backward for a century and note the development of <sup>the</sup> ideas and ideals that have made the name of Battle Creek a synonym for health and have carried its methods, appliances and products to the ends of the earth.

This region seems to have been predestined to health proclivities, for so long ago as the forties of the last century a notable health project was incubating in the nearby town of Olivet, where Father Shipherd, founder of Oberlin College, having failed to plant his health ideals in that radical center to his full satisfaction, dedicated a hilltop in the woods to be the site for a health town. Unfortunately for Olivet, an army of belligerent mosquitoes carried off the pious pioneer with his ideals, and so the health feature of the settlement, though well initiated, failed to survive the exigencies of pioneer days. About the same time, Fennimore Cooper was tramping the woods hereabouts



in search of health, wild honey and literary inspiration. Still earlier (1833), a sort of foreshadowing of destiny brought John Preston Kellogg, the father of the speaker, through this region in search of a location for a pioneer home, although it was twenty-three years later that he established a residence here.

When four years old (1856), I rode into the little village of Battle Creek on a wooden rail, or rather rails, as the railroad track was then made of wooden rails, with a strap of iron on top which sometimes got loose and ran up through the floor and impaled a passenger.

In the summer of 1866, a group of men who had indirectly received their inspiration from the founder of the health movement in America, Sylvester Graham, established a health center to which they gave the name "The Western Health Reform Institute" and started a monthly journal, "The Health Reformer."

Seven years later, the magazine was put under the present editorial management, the name was changed to "Good Health," and three years later, 1876, the Institute having proved a failure, its management was changed, and the work reorganized on a broader basis and its name changed to Battle Creek Sanitarium, the first institution of its kind in the world, and for years the only place where the so-called "natural methods" were grouped together for simultaneous or correlated use and under scientific direction. In elaborating this new system laboratories for research were fitted up and have since been in continuous operation. As a result there has been a continuous development of new methods, new appliances and new foods. Books were written, now aggregating more than 50 bound volumes, and medical papers and popular health leaflets. Some new discoveries were made of which the most important perhaps was the curative value of



artificial light. For some years the electric light bath received little attention. It is now used all over the world.

Ready-to-eat foods, so-called health foods, another Sanitarium development, soon proved so popular that it became so commercially successful that the making of foods has long been the city's chief industry and has carried the name of Battle Creek to every city and probably every home in America, and has changed the American breakfast bill of fare. Battle Creek foods have proved their efficiency in every climate,--from the tropics to the poles, with Stefansson and Mikkelsen in the Arctic and Byrd in the Antarctic.

Through the advertising of these foods, Battle Creek health ideas have probably had a wider dispersion throughout the civilized world than any new health teaching has ever had before.

More than 200,000 persons have been attracted to this small country town to avail themselves of the health promoting advantages which it offers. Among them have been found large numbers of persons of influence, including more than 3,040 business managers, 3080 merchants, 3,370 lawyers, 3,790 bankers, 7,200 physicians, 2,200 clergymen, and 6,100 manufacturers.

Health education has been a feature of increasing prominence since the school for the training of nurses, fourth in the United States, was established here in the year 1880, from which more than 2,000 nurses have been sent out to practice their profession not only in America but in every part of the world.

A School of Home Economics, organized twenty-five years ago, has sent out more than 1,000 trained dietitians and a School of Physical Education has graduated <sup>hundred</sup> several physical directors. Six years ago these schools were combined to form Battle Creek College, the first and



only health college in the world. This unique college has been accorded full collegiate recognition and with its expanding program and remarkable student body of more than 500 carefully selected men and women young promises to become a powerful factor in promoting health ideals as teachers and exemplars of the principles of biologic living.

Battle Creek health ideals have for their aim not merely individual health betterment, but race betterment. Within the last score of years the scientific world has come to recognize that the human race is degenerating and at so rapid a rate that race extinction is inevitable. Said Dr. Davenport, the distinguished eugenicist, "Of course we all know the human race will ultimately perish." And the eminent Major Darwin of Oxford University said, with a deep sadness in his voice, "If our present civilization survives, and I fear it will not, it will have to be the United States that saves it, for there is no hope in any other part of the world."

Battle Creek philosophy is less pessimistic. There is no hope as we are now going on; but we may turn about and "walk back" as did Benjamin Franklin. To promote this regenerative movement, the Race Betterment Foundation was established and has held three public conferences which have been participated in by several of the leading scientists of America and some from foreign countries. The three present volumes of proceedings are the most notable group of papers which have appeared on this subject and clearly set forth the methods by which the race may be preserved from annihilation.

Bichat's declaration that civilization "is nothing more than the environment which tends to destroy humankind" was perhaps too sweeping,



but it is now generally admitted that the conditions of civilization are in general such as tend to race destruction rather than Race Betterment. The one hope is in biologic living; that is, a straightforward and thoroughgoing regulation of our life habits in harmony with the known facts of human physiology.

The time has certainly come when the human race should take itself in hand and mark out for itself a program which will lead toward race improvement to replace our present reckless, self-indulgent mode of life which is driving us down to race extinction.

Battle Creek health ideals contemplate the formation of a new aristocracy, the aristocracy of health, a red-blooded rather than a blue-blooded aristocracy. The world's last hope lies in the formation of a group of high minded men who will make respect for the human body and regard for the biologic laws which govern its functions an integral part of their ethical code; men and women who are willing to blaze new paths in the wilderness of perverse habits and the jungles of degenerate conduct, to walk in wisdom's ways rather than to tamely follow custom.

To do this, we much take to heart and follow implicitly the advice of that wise old Roman philosopher, Seneca, whom Pliny pronounced the most learned man of his age. Writing to his friend Lucilius, Seneca said, "There is nothing against which we ought to be more on our guard than, like a flock of sheep, following the crowd of those who have preceded us, going, as we do, not where we ought to go, but where men have walked before. And yet, there is nothing which involves us in greater evils than following and settling our faith upon authority-- considering those dogmas or practices best which have been received



heretofore with the greatest applause, and which have a multitude of great names. We live not according to reason, but according to mere fashion and tradition.

"We shall recover our sound health if only we shall separate ourselves from the herd, for the crowd of mankind stands opposed to right reason-- the defender of its own evils and miseries. . . . Human history is not so well conducted that the better way is pleasing to the mass. The very fact of the approbation of the multitude is a proof of the badness of the opinion or practice. Let us ask what is best, not which is most customary; what may place us firmly in the possession of an everlasting felicity."

Is it too much to hope that this race betterment effort, initiated here and already heralded throughout the world may prove to be the beginning of a regenerative movement which may result not only in saving the race from extinction but in the development of a new and improved race of man which shall as much excell the present race as the finest of our domestic animals excell the inferior strains from which they have been built up. The application of the same biologic principles and methods may accomplish as much for man as for the inferior orders if given the opportunity. Said Burbank, "Six generations might give us such a glorified man."

In such an accomplishment the world may sometime contemplate man's greatest and noblest achievement, and Battle Creek ideals will see their full fruition.

John Harvey Kellogg.



THAT MOST USEFUL REMEDY, THE ENEMA-  
ITS USE AND ABUSE

The enema is one of the most ancient of remedies. Its use was known to the most ancient nations. A famous French philosopher, Voltaire, saved himself from suicide by its use. On one occasion, when terribly depressed, he told a friend he had resolved to end his life. The next morning his worried friend found him in high spirits. Voltaire's explanation was, "I have been well washed out."

More people need washing out than any other remedy. Unfortunately, there is a widespread impression that the use of the enema, other than as an emergency method, is harmful, and may do very serious injury. It is of course possible that any remedial measure, no matter how useful, <sup>may</sup> ~~is likely~~ become injurious, even dangerous, when abused.

No one disputes the value of the enema as a mechanical means of emptying the colon when it suddenly fails to function normally. But we wish to speak of the use of the enema under other conditions. These are chiefly two: (1) A crippled condition of the colon in which it acts daily or even several times a day, but never empties itself properly, and always retains after evacuation a considerable volume of putrefying residues. There are many thousands of persons in this condition who suffer constantly from so-called biliousness, a coated tongue, bad breath, headache and other miseries because of incomplete and inadequate functioning of the colon. Probably the majority of adults and many children are constantly in arrears in their colon function to the extent of one to



three days. Such persons experience a great health uplift whenever they make some change of diet or other habits which leads to an increase of colon activity.

To know the condition of our colon and especially to know whether it is hoarding up offensive residues which are contaminating the blood and embarrassing the vital machinery, is at least as important as to know the state of one's bank account.

This information may easily be obtained by taking at breakfast ten or fifteen grains of carmine in capsules, and watching for the appearance of the red color in the stools. After noting the time of the first appearance, watch for the disappearance and record the number of hours which elapse after taking the red pigment before its appearance and disappearance.

Another and more direct method is to take an enema at bedtime. If the enema removes a considerable quantity of residues, the colon is not doing its duty and needs help. If the color does not appear, in the carmine test until the next day, and finally disappears a day or two later, the colon is not doing its work properly and needs the help of the bedtime enema. It is better to take the enema at the end of the day, so as to give the bowels a chance to move naturally, thus permitting the colon to do what it can. The enema is thus used to supplement the action of the colon, not to take its place.

This point is important. When using the bedtime enema, abundance of bulkage, -bran, spinach, fresh fruit, Psylla, mineral oil and other colon stimulants should be systematically employed. Neglect to do this is the most common cause of results which are supposed to indicate an increase of the dif-



ficulty.

When the enema is used in this manner, purely as a supplementary measure, it is highly beneficial and never does injury if the volume is not greater than two quarts. The enema, in fact, becomes a most useful means of training the colon to normal functioning. When properly employed, the enema encourages the occurrence of natural bowel movements in several important ways, especially the following: (1) The enema empties the colon of residues and gas, and gives it a chance to recover its tone. (2) It removes putrefying matters which poison and paralyze the bowel. (3) It supplies needed moisture to the intestinal contents which is often retained until it becomes dried, hardened, and adherent to the bowel wall. The temperature of the water should be  $110^{\circ}$  to  $115^{\circ}$ F; the quantity three or four pints. It may be repeated.

A second use for the injection of hot water into the colon is stimulation of the blood circulation, in the diseased mucous membrane in cases of colitis, and relaxation of the spastic colon. For this purpose, there is no other measure so valuable as hot irrigation.

In colitis, the colon is always spastic, that is, in a constant state of spasm, or cramp. This occurs most frequently in the left half or descending section of the colon, and causes obstruction and overdistension of the right half. This in time causes dilatation and even pouching of the cecum, which results in destruction of the ileocecal valve. This is a matter of much importance for the reason that the ileocecal valve is a barrier set up by Nature for protection against the food



remnants and waste products which collect in the colon, where they often remain until highly noxious in character. When the ileocecal valve is destroyed, the poisonous matters from the colon back up into the small intestine, the dining-room of the body, where they are absorbed and produce the same toxic effects as if they had been swallowed.

In the treatment of colitis, it is of first importance to keep the colon free as possible from these noisome wastes. To accomplish this, the contracted colon must be relaxed, and hot water ( $110^{\circ}$ - $115^{\circ}$  F), so-called hot irrigation,<sup>u</sup> ~~is~~ the most effective means of doing this.

So long as the intestine is in a state of spasm, it is bloodless. All the blood is squeezed out of it. The blood-vessels are empty. Under this condition, little or no healing can take place. It is necessary that the contracted muscles of the intestinal wall should be relaxed and the vessels of the diseased tissues filled with fresh blood in order that healing may take place. That daily hot irrigation will accomplish this, the writer has demonstrated in many hundreds of cases of colitis.

Hot irrigation will relax the contracted colon when the cause is worry or mental strain, as well as when due to infection.

Used in the manner and for the purposes above outlined, the enema and hot irrigation are resources of inestimable value. There are no substitutes for them. And no harm results from their use even for long periods. When the colon is permanently crippled, so that the daily use of the enema is necessary, a very common condition, regular natural bowel movements may be



maintained even more easily than when the enema is not employed. It is only necessary to make use of all the means which encourage colon activity just as thoroughly as if the enema were being used. This is imperative. The bedtime enema should be used only as a supplementary means by which to secure as complete clearance of the colon as possible. Exactly the same attention must be given to aiding bowel action by the regulation of the diet and the use of dietary accessories as though these were the only measures employed.

These views are not theoretical. They have been verified by actual experience in hundreds of cases. The writer has observed a considerable number of cases in which normal bowel action with no mechanical assistance was reestablished after complete dependance upon the enema for twenty years or more. Properly used, the enema is harmless and a most useful remedial procedure. It is as harmless to receive water through the rectum or colon as to take a drink in any other way. The colon is accustomed to contact with water plus gross impurities. How can clean water do it any harm? Of course, it is necessary to avoid overdistension by the use of excessive quantities.



## TO PASTEURIZE OR NOT TO PASTEURIZE

This is becoming a very live question as manufacturers of milk pasteurizing apparatus are struggling harder than ever to find a market for their wares.

There are very plausible arguments in favor of pasteurizing. When tuberculosis was rampant among dairy cattle everywhere, and typhoid breaking out in rural communities, pasteurizing seemed a real necessity. But now that inspection of dairy cattle for tuberculosis has become almost universal in this country and typhoid is practically wiped out, it is really becoming a question whether the pasteurizing of milk does not do more harm than good. The fact is, the bacteria destroyed by pasteurizing are for the most part, almost wholly, in fact, not disease-producing germs, but the simple lactic acid formers which sour milk. The gas-forming, poisoning-making organism, Clostridium welchii, which is always present in commercial milk, pasteurizing does not destroy because it is found in fresh milk only in the inert spore condition.

The acid-forming germs which are destroyed by pasteurizing milk prevent the development of the Welch organism by producing acids which hinder its growth. In pasteurized milk, the acid-forming germs are destroyed, and so when such milk is warmed up to the proper temperature, the Welch organisms find opportunity for development and may in a few hours become sufficiently numerous and active to cause serious and even fatal attacks of diarrhea.



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12/10/37

New series about  
Changing the Intestinal Flora

The water happened to <sup>visit</sup> ~~be in~~

Paris and the Pasteur Institute  
about the time that Metchnikoff

announced his discovery

that colon germs are the

cause of old age and of

many grave disorders.

Since that time, now

more than thirty years.



The study of readers of Good  
Health have been kept  
fairly well informed of the  
~~shepherd~~ ~~in~~ ~~made~~ ~~in~~  
the development of Kitch-  
nikoff's unique idea. For a  
long time the doctrine  
was <sup>bitterly</sup> opposed in Germany,  
as Proschard's teaching,  
about autointoxication



had been, although both doc-  
trines were well received  
not only in France, but in  
Switzerland, Italy, and  
in <sup>most</sup> Latin language countries.

Superstition, ~~and~~ for  
the multitude, reacting  
the vulgarism which  
we exploited as ~~the~~ the  
superior means of com-



balance. The colon germs  
turned out to be not the  
real protective organism ~~with~~  
which Nature plays in the  
infant's intestine to protect  
it against wild bacteria  
the <sup>the</sup> ~~the~~ <sup>acidophili</sup>  
but a sort of impotent double  
that make juice, buttermilk  
outside the body but cannot



grow and develop in the  
intellect.

Metchnikoff's doctrine  
was honored and his teaching has  
gradually gained adherents in  
among scientific medical  
men. Our methods of changing  
the flora have been developed,  
~~making~~ their practical use  
was demonstrated the essential  
soundness of Metchnikoff's views.



4  
To-day, tests of thousands of  
~~tests~~ are making use of  
acidophilus milk, lacto-dex-  
trine and other less well known  
and less efficient methods of  
changing the flora and  
are receiving more or less  
benefit in so doing, and  
it is to be noted that  
these sick people are being  
relieved of troubles which



were very generally  
regarded as incurable,  
such as colitis, migraine  
headache, chronic duode-  
mitis, ~~chronic~~ ulcers etc.



Oct. 10/31

To Parlewrige or boat to

Parlewrige

This is becoming a very  
live question as manu-  
facturers with partur-  
ing ~~machines~~ apparatus  
and ~~pushing~~ struggling  
wander than ever to  
find a market for their  
wares.



These are very plausible  
arguments in favor of  
pasteurizing. When tubercu-  
losis was rampant among  
dairy cattle everywhere  
and typhoid breaking out  
everywhere while in  
rural communities, pas-  
teurizing seemed a real  
necessity. But now



if downy cattle  
that ~~has~~ inspection for tubercu-  
losis has become almost  
universal in this country  
and by the way, it is practically  
wiped out, it is really  
becoming a question whether  
the paralyzing of milk  
does not do more harm  
than good. The fact  
is, the bacteria destroyed



by beating, pasteurizing  
are for the most part,  
almost wholly, in fact,  
not disease-producing  
germs but the simple  
acid lactate acid formers  
which sour milk. The  
gas-forming if iron making  
organism *Clostridium welchii*,  
which is always present in



Commercially ~~useful~~ ~~it~~  
~~does~~ pasteurizing does  
not destroy because it is  
found in fresh milk only in  
the <sup>inert</sup> ~~state~~ condition,  
The acid forming germs which  
are destroyed by pasteurizing  
will prevent the development  
of the lactic organisms ~~be~~  
~~cause~~ by producing acids  
hinder its growth. ~~How~~



Parts in partentized milk the  
acid forming germs are  
destroyed, and so when  
such milk is warmed  
up at the proper tempera-  
ture the coagul组织  
find opportunity for development  
and may in a few hours  
become sufficiently numerous  
and active to cause sore  
and "sour" palate attacks  
of diarrhoea.



ENGINE TROUBLEWHAT MAY A HYPERTENSION PATIENT DO TO  
BETTER HIS CONDITION AND PROLONG HIS LIFE?Fourth Article

1. If you are past 50 years of age or if you have reason to suspect that your blood pressure is higher than the figures given in the table, there is no doubt your heart is being overworked and, besides, there is some serious cause of the disease which should be sought out and so far as possible removed. Have yourself examined by the most competent physician (internist) available. The examination must be thoroughgoing. To feel the pulse, look at the tongue, examine the urine for sugar, albumen and casts, to take the blood pressure, listen to the heart and lungs and to determine the blood count; and the hemoglobin will not suffice for a complete up-to-date medical survey. A complete examination must include an analysis of the entire quantity of urine produced in 24 hours, a chemical examination of the blood for waste products (non-protein nitrogen, uric acid, etc.), a determination of the metabolism rate, tests for acidosis ( $\text{CO}_2$  tension), an examination of the stools, a careful physical examination, an x-ray examination of the chest.

This complete examination should be repeated at least once a year and more often when a definite diseased condition has developed. Indeed, in order to detect the earliest beginnings of disease, every person, young and old, should have an annual examination. The enlightened statesmen of some future day will recognize the right of every citizen to such an examination and the value of the same to the State as sufficiently great



to regard making provision for it as a duty which the State owes to each of its wards.

2. The use of tea, coffee, tobacco, alcohol and drug habits of every sort must be abandoned at once and forever. There is no room for compromise. There is no such thing as moderation in the use of a poisonous drug. The smallest use is excess. The vital reserve by the use of which such unnatural demands upon the body defenses are tolerated, are reduced to a very low level. This is shown by the breakdown which has occurred. The body never lowers its standards; in other words, never permits impairment of tissue or derangement of function, until it has exhausted its resources. For this reason, what may seem to be a very moderate or even very trifling indulgence, is more injurious than a much larger use years before when the liver, kidneys, and other poison destroying and eliminating organs were still intact.

Alcohol in every form must be strictly avoided. The idea that only "bad whisky" is harmful is most erroneous. Wood alcohol is more poisonous than ethylic alcohol, but the purest whisky is a poison and an enemy to life and health. It is neither a food nor a stimulant, but a narcotic poison. Its daily use even in small quantities does more harm than an occasional use in larger doses. Every drop imbibed does harm and does no good. Cigars, cigarettes, tobacco in every form, are deadly enemies of the heart and blood vessels and must be totally discarded.

#### THE BEST DIET FOR HIGH BLOOD PRESSURE

Pepper, mustard, spices, horse-radish, and "hot" sauces of



all sorts rapidly wear out the liver and kidneys and must be eliminated. Common salt must be used in minutest quantities, if at all. Vinegar and pickles must be avoided and foods and beverages in which appreciable amounts of oxalic acids are to be found, such as pieplant, sorrel, and tea.

Salt must be used only in minute quantities, and in extreme cases must be excluded as fully as possible. It should never be added to the food at table.

Breakfast cereals, as well as other acid-ash free foods, must be use rather sparingly on account of the excess of phosphoric acid which they contain, which tends to induce acidosis and premature hardening of the arteries.

Meats must be discarded altogether for this as well as other excellent reasons. Lean meat is especially harmful. McCollum has observed that the bread and meat diet in common use in this country is poorly adapted to human needs and should be exchanged for a diet consisting chiefly of fresh vegetables, greens, fruits, nuts, and dairy products.

The bill of fare should be chiefly supplied by the vegetable garden. Potatoes in place of cereals; spinach, kale, lettuce, broccoli, string beans, green peas, lima beans, soy bean or lima bean biscuit, and other bean substitutes for cereal foods; apples, citrous fruits and melons, especially the papaya and the cantaloupe, should make up the bulk of the bill of fare. Foods rich in vitamins and food minerals are most important. White bread should be discarded. Use only whole grain cereals, such as whole wheat and brown or unpolished rice. Rice-eating Orientals use large quantities of greens.



We are only just begining to appreciate these greenstuffs. They should become staples, and should make a part of every meal.

Eggs should be eaten very sparingly, because they are in the acid-ash class of foods and encourage intestinal putrefaction.

Thorough mastication is important. Chew each morsel long enough to extract and appreciate all its flavor. Liquids, especially milk and ice water, should be taken slowly. This is true of all cold foods.

Bulkage foods, such as psyllium seed and other colon stimulating food accessories, should be taken in sufficient quantity to secure three ample evacuations daily, or a bowel movement after each meal. The habit of tri-daily elimination of wastes should be cultivated by visiting the toilet after each meal. It is especially important to insure complete emptying of the colon before retiring, using the enema if necessary.

The intestinal flora must be changed and the stools should be free of putrefactive taint and kept in this sanitary state by the use of Beta-Lactose in place of cane sugar, or Lacto-Dextin, or both.

#### EXERCISE AND OUT-OF-DOOR RECREATION

Exercise is of great importance not only to keep the muscles in good condition and to encourage lung action, appetite, good digestion and blood making, but as a means of training the heart. Inactivity weakens the heart muscles as well as the muscles of the legs. The work required of the heart during walking at the rate of three miles an hour is four times that when at rest. Careful exercise is the most important means of strengthening



the heart.

Care must be taken to avoid violent and fatiguing exertion. Exercises which cause hurried respiration, palpitation, pain, or blueness of the lips must be avoided. After an illness requiring confinement to a horizontal position for some time, exercise must be carefully graduated, increasing a little daily as the strength returns.

Walking is one of the best forms of exercise for heart cases. In mild cases of hypertension, golf is not objectionable if care is taken to avoid fatigue. Horseback riding, motoring on land or water, botanizing, exploring, all sorts of entertaining, non-fatiguing out-of-door activities are most valuable. The outdoor life with a mild return to savagery is most desirable.

So far as possible, out-of-door life and exercises should be made recreative. Diversion, music, agreeable social contacts are most desirable aids; but strenuous, exciting activities and associations must be strictly avoided. Dancing, water sports, riding to hounds, games and occupations which involve strong physical or emotional excitement must be avoided.

Live in the open air. Sleep on an open porch. Work and play in the open air. Harden the skin by exposure to the sun and air. Tan the skin to a deep brown by sun baths and keep it brown by sunshine and skyshine. A climate which permits the wearing of only sufficient clothing to satisfy the demands of modesty is most suitable for cases of heart disease or hypertension. A warm, equable climate is by far safest and most favorable to improvement.



Girth control is a matter of major importance. The weight must be kept within five per cent of the normal average as given in the accompanying table. It is far safer to keep the weight a few pounds below the average than to allow any excess. The net weight should be obtained and a record kept.

Hypertension is generally associated with overweight. A marked reduction in weight is usually followed by a fall in both systolic and diastolic pressures.



Flee from persons suffering from colds or influenza. Pneumonia is far more dangerous than smallpox.

Don't worry. Fear and worry flood the blood with poisonous hormones which disturb the circulation, increase the heart work and harden the arteries. Avoid worry by keeping the mind pleasantly occupied. Cultivate quietude and optimism. Remember that you are walking on thin ice and take no hazards. Smile in face of provocation or disaster and so antidote its most deadly poison. Never hurry. Get careful directions from your physician and follow them. Walk the straight and narrow way of physical and moral rectitude. Keep your breath sweet, your tongue clean and your soul serene. Do your best for yourself and trust the Beneficent Power that made you for the rest.



## WALKING BACK

Benjamin Franklin in his youth was a most enthusiastic advocate of the simple or biologic life. He was a total abstainer, as regards alcoholic beverages and also tea and coffee. He was a rigid vegetarian and was fond of athletics. Swimming was his favorite sport, and in this he became so great an adept that when he took his daily dip in the Thames, while living in London, great crowds gathered on the shore to watch his remarkable aquatic feats.

Franklin, though small of stature, by biologic living and daily exercise of his muscles, attained such remarkable robustness that he possessed the strength of two ordinary men.

Franklin's eating habits at this period of his life were so simple that he was able to reduce the cost to a minimum. As he had no use for the meats supplied at his boarding house, he asked his brother for whom he worked as a printer and who paid for his board, to make him an allowance of one-half the cost of his board and permit him to board himself, by which means he made a handsome weekly saving, with which he purchased books.

In later years, the ideals of his youth seem to have been forgotten as he became occupied with business, his many inventions, and the strenuous political life of the time. While living for many years in Paris, the ambassador of the new republic at the court of France, he was exceedingly popular, and lived so luxuriously that he became, in advanced age, a great sufferer from gout. At the age of seventy-four, however, he wrote his wife in America that four years before, at the age of seventy years, he had made a survey of his condition, and had reached the conclusion that if he did not change his ways, he would soon be under the sod. He had,



accordingly, turned squarely about and had returned to his early frugality, and with the result that he had "walked back four years," and was then younger than four years before.

To "walk back" with Franklin is what most people who have reached the age of sixty years need to do. And it is possible by the adoption of biologic habits of living, that is, living in a thoroughly scientific way, even for a person who finds himself ready to be cast upon the human junk heap, to undergo such a rejuvenation as to add ten or twenty comfortable and active years to his life. Many hundreds of instances in which this has actually been done might be cited. The records of the Battle Creek Sanitarium, where more than 200,000 persons have been introduced to biologic methods of living, include thousands who are alive and usefully active, who but for an extension of their life expectancy through biologic living, would long ago have ended their careers.

"Walking back" against Old Father Time, rejuvenation through biologic living, is a delightful experience. If you are not already moribund, you can certainly add weeks, months, even years, to your life by doing a few simple things. Almost nobody dies because his vital machinery is worn out. The machine breaks down because it is overloaded, or because of accident, such as the chance meeting of a savage germ or exposure to cold, or a hardship of some sort.

The fact that one is living in spite of habits which load heavy burdens upon his badly worn and crippled vital machine, such as smoking, coffee drinking, errors in diet, constipation, etc., is proof that he would live longer if the handicaps were removed.



A person with high blood pressure may easily add many months, even several years, to his life by making such changes in his eating and other habits as will bring his blood pressure down. This statement is not merely a theory. It is a fact which has been verified in actual experience, in fact, and involves no hardships. The biologic life is pleasant. The keen appetite, sweet breath, clean tongue, clear brain, sense of fitness, and increased capacity for enjoying life, are ample compensations for any little sacrifice or self-denial that may seem to be required. Try it.



BRAN DOES NOT CAUSE, BUT HEALS GASTRIC ULCER IN RATS

Many years ago, when working in the laboratory of the famous French physiologist, Prof. Brown-Sequard, the writer rather mildly protested against the unnecessary pain which was being caused a poor rabbit which was the subject of experiment. The professor replied, "But rabbits were made for physiologists." This seems almost to be true of rats, at least. This little animal has been selected for experiments relating to digestion and nutrition because of the nutritive functions in rats to those of human beings. And experimental observations involving time are very greatly facilitated by the fact that the life cycle of the rat is one-thirtieth that of man, and so effects and final results appear in about one thirtieth of the time required for development of similar results in human beings. Millions of rats have given up their lives in the interest of scientific researches through which information of highest importance to human life and health has been obtained.

Recently a number of investigators have been studying the causes of gastric ulcer in rats, and have made many most interesting discoveries, the most striking of which is the fact that bran, even when taken in liberal quantities, as an exclusive diet, in fact, not only does not cause ulcer of the stomach, but when ulcers are present, does not interfere with their healing. In their interesting paper on the subject, Hoelzel and De Costa, of the University of Chicago, tell us in a report of their studies (Proc. Soc. of Exp. Biology and Medicine) that "When an exclusive diet of bran was given, no ulcers developed ..... In fact, ulcers produced by starvation or protein restriction would heal on diets of practically nothing but bran." The beneficial effects of bran were attributed to the diluting effects of its bulk and to the fact that it absorbs gastric acid and so renders it inactive.

It is reasonable to believe that the effects of eating bran are the



same in human subjects as in rats. For many years, bran has been freely used by millions of people and there is no reason for believing that it has increased the frequency of gastric or duodenal ulcer or of any other disease. Bran has in thousands of cases taken the place of pills and mineral waters, and with great profit to the users.



## THE SUCCESSFUL TREATMENT OF COLITIS

By John Harvey Kellogg, M. D.

When Combe, of Lausanne, wrote about colitis, more than thirty years ago, he observed that this affection was largely confined to cities, where it was very prevalent, but was comparatively rare in rural districts. Since that time, this malady has spread until it has become one of the most common of human ailments. Combe was one of the first to recognize colitis as an infection. He noted a familial tendency in the disease and so thought it to be communicable.

Tissier, of the Pasteur Institute, believed the disease to be due to the same organism which causes white diarrhea in fowls and regarded eggs as a common source of infection. He showed me in his laboratory (1926) cultures and many other evidences which seemed to support this view.

Combe sought to cure colitis by changing the intestinal flora by regulation of the patient's diet and the use of cultures, B. bulgaricus, which shortly before had been announced by Metchnikoff as the natural antagonist of pathogenic intestinal bacteria. His success was very limited because of Metchnikoff's unfortunate blunder in mistaking the bulgaricus bacillus for the normal protective organism, B. acidophilus, which Moro had not yet discovered.

When observing Combe's work (1899), I learned from one of his assistants, a chemist and bacteriologist, that the most successful case treated at the clinic had been that of a young girl who was rapidly cured of an acute colitis by the liberal use of lactose.

Prof. Arthur Kendall, now of the Northwestern University,



when in charge of a hospital ship at Boston, saved the lives of scores of young children suffering from acute intestinal affection by feeding lactose.

Dr. Kendall showed that the addition of lactose to cultures of pathogenic organisms destroyed their virulence and stopped the production of toxins.

Coleman later showed that lactose feeding changed the character of the stools in typhoid fever and hastened recovery. Torrey, of Cornell and later Rettger, of Yale University, showed that when properly administered, lactose will change the intestinal flora, suppressing the development of Cl. Welchii, B. putrificus, B. sporogenes, and other putrefactive and pathogenic organisms.

These facts led me (1916) to make systematic use of lactose in the treatment of intestinal affections and also as a means of combating sepsis in surgical cases. Since I and my colleagues of the Battle Creek Sanitarium surgical staff have used lactose in the dressing of surgical wounds in thousands of cases with most satisfactory results.



## THE SUCCESSFUL TREATMENT OF COLITIS

Colitis is an infection of the colon which often involves the entire alimentary canal.



## ARTERIOSCLEROSIS

Arteriosclerosis is a systemic disease affecting especially unstriated muscles. It is not restricted to local areas. "It attacks the whole vascular system." The real disease is weakening of the vessel walls and dilatation of the vessels.

Atheroma, athero-sclerosis, ossification and other changes in the arteries are remedial, their purpose being to strengthen the weakened vessel walls. They occur at points in the vessels where the strain is greatest.

The disease may occur at any age. According to Plesch, Professor of Internal Medicine in the University of Berlin, arteriosclerosis may be cured in the early stages of the disease and may be "beneficially influenced in the later stages." It is not an old age disease which must necessarily be considered progressive and incurable.

There are two forms of arteriosclerosis: (1) the arteriosclerosis of old age, due to wear and tear, with calcified areas at points of greatest strain, and (2) a constitutional disease affecting the involuntary muscles, the sympathetic nerves, and connective tissue. These are really two independent conditions although the symptoms and changes are essentially the same. The fundamental disease is weakening of the muscular structures and elastic tissues of the walls of the blood-vessels. Because of this weakness the vessels become dilated. At points of special stress changes in the vessels occur, the purpose of which is to strengthen the walls and prevent rupture. This is really a healing process and not a disease. The changes in the vessels begin with thickening of the lining membrane of the vessel.

as  
 It is an error to suppose  
 as did Birchmore, that every one



The caliber of the blood vessel is controlled by three factors: An elastic tissue which mechanically resists both the tendency to dilatation of the vessels from internal strain and elongation due to pressure from the force of the blood. In addition there are two sets of muscles, the circular muscles which resist internal strain, and the longitudinal fibers, which oppose the action of the transverse muscles, causing dilatation of the artery when they contract and narrowing when they relax and elongate.

#### Changes in the Blood Vessels

These changes occur where the force of the blood stream is greatest, that is, at bends, such as the arch of the aorta and points where branches are given off. Changes are most likely to occur in arteries which are submitted to the greatest local pressure, as in the right arm of a blacksmith and the legs of table waiters.

"It is exceedingly uncommon for an artery to rupture at the point of calcification." (Plesch)

In apoplexy of the brain the rupture is in a healthy appearing artery and not in calcified parts.

A healthy artery is always found empty after death. In cases of arteriosclerosis the arteries after death are filled with blood, due to the loss of elasticity or tone in the arteries.

Small arteries when normal contract when cut and require no ligature. In cases of arteriosclerosis small arteries when cut do not contract and require ligature.

In cases of arteriosclerosis the disease is not confined to the parts where lime deposits and other visible changes occur, but affects the entire vascular system, the deposits of lime and other changes



occurring only to strengthen weak points or points especially exposed to strain.

Causes of Arteriosclerosis

"Every influence that is capable of weakening the organism to such an extent as to produce a general atony can also without hesitation be held responsible for arterial atony and for calcification."

Says Plesch, "Whether it is acute or chronic infectious disease that is involved, or alimentary insults, [dietetic abuses] intoxications of any description, endogenous hormonal injuries, [hyperthyroidism, excess of adrenalin] nervous influences, alcoholic abuse or the effect of disorders of metabolism such as diabetes mellitus, gout, or obesity, it will always be found that these influences at some stage induce an atonic state, as a result of which a purely mechanical and secondary sclerosis develops in the arteries.

"It is well known that arteriosclerosis can be produced experimentally in animals by feeding them on a diet rich in cholesterol or by administering digalen, nicotine, aliphatic aldehyde, adrenalin, etc. In each of such intoxications there is a sudden excess of action that induces a state in which the tonicity of the blood vessels is more or less seriously impaired.

"Athletes show marked calcification by the age of 35 or 40. They are seldom capable of great physical effort when they attain middle life. Most of them die before they are 50.

"After all heavy bodily exertions we have, by way of reaction, a severe relaxation of the blood vessels which lasts quite a long time.

"We must above all break away from Virchow's statement that every one has arteriosclerosis after his fortieth year. Arteriosclerosis is not necessarily a disease peculiar to old age. It is often found in young people and often absent in the aged, and when it does make its

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appearance in old age it rarely has any serious consequences.

"The post-mortem examinations of healthy young soldiers who fell during the war revealed a surprising prevalence of arteriosclerosis. Moenckeberg, in his very carefully prepared statistics, was able to prove that 44.5 per cent of soldiers between the ages of 21 and 30 years and 62 per cent of those between the ages of 31 and 40 years showed arteriosclerotic changes, most of them involving the coronary arteries. Similar observations have been made in other countries."

Plesch argues that since the mortality from arteriosclerosis is only 6 per cent of the total mortality, it must be that many persons recover from this disease and that the danger from arteriosclerosis is less than has been supposed. Consideration should be given to the fact that in the war soldiers used tobacco very freely, being supplied with cigarettes with their regular rations. This might very well be the cause of the great frequency of arteriosclerosis in soldiers. The fact that the percentage of persons having arteriosclerosis among the older soldiers was nearly 50 per cent greater than in the younger class might well be due to the fact that they had made <sup>longer use of tobacco</sup> use of tobacco for a longer time. This would seem to be the most reasonable explanation since they were not old enough to be suffering from senile changes.

50  
Cases of complete cure of arteriosclerosis have been reported by Anitschkow and Wolkoff.

By means of a new instrument known as the tonoscillograph it is possible to measure the strength of the vessel walls independent of the blood pressure, and also the volume of the pulse.

When the arteries are in a state of atony the volume of the pulse is much greater than normal, which shows that the blood vessels must be



*shown by the difference between the systolic and the diastolic pressure,*

dilated. In some cases the pulse volume becomes several times the normal.

Weakening of the walls of the arteries is the earliest stage of the disease.

By the tonoscillograph the volume of the artery may be measured and by this means the deviation from the normal has been shown.

The tonoscillograph also shows that the pressure of an atonic artery is greatly decreased in the stage of the disease before thickening occurred. After the artery becomes thickened, the pressure may be increased five or six times that of the unthickened artery.

An atonic condition of the arteries involves great danger to the whole circulatory system. The air chamber action of the vessels is greatly lessened. It is this that demands increased action of the heart and rise of blood pressure.

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The general blood pressure may be either high or low in cases of arteriosclerosis. "The important factor is not so much the absolute blood pressure as its extraordinary instability." <sup>(Plesch)</sup> The blood pressure may vary 50 points within a few minutes. Normally the evenness or stability of the pressure within the blood vessels is maintained by the elasticity of the vessel walls and the action of the muscle structures of the arteries, *which are largely lost in arterio-sclerosis*

Dilatation of the blood vessels necessarily leads to an increase in the volume of the blood. Even in early stages of arteriosclerosis before changes in the vessels can be recognized, the blood volume has been shown by the tonoscillograph to be greatly increased, even doubled. Dilatation of the blood vessels necessarily results in a slowing of the circulation. ~~This has been shown to be actually the case. (Traube)~~

222 A distinction can be made between longitudinal and transverse



atony. In transverse atony the heart lies obliquely upon the diaphragm, whereas in longitudinal atony the heart assumes a vertical position.

The change in the position of the diaphragm is also significant. Atony of the intestinal vessels is likely to be accompanied by a rise of the diaphragm into the chest. This <sup>rise</sup> condition may be easily recognized by an X-ray examination of the chest.

A symptom characteristic of arteriosclerosis is the sinuous or serpentine appearance of the temporal arteries due to their elongation. The artery is fixed at certain points so that its lengthening, due to relaxation of the longitudinal fibers, throws it into curves. The longitudinal fibers and the transverse fibers being controlled by different sets of nerves and nerve centers may be independently diseased. Either one may be atonic while the other is not, or both may be in a state of atony at the same time.

Clinical observations have shown that longitudinal atony is less serious than transverse atony. In agreement with this is the observation made by Moenckeberg, confirmed by Wenckebach, that persons suffering from arteriosclerosis with sinuous temporal arteries live longer than those in which the arteries are not sinuous.

### Angina

Changes in the arteries of the heart necessarily affect its blood supply and thus influence its capacity for work. When the changes are slight the condition is indicated by an oppressive feeling in the region of the heart. More extensive changes give rise to true angina pectoris.

According to Plesch, when a vessel is in a state of atony, having lost in large part its elasticity, overdilatation as a result of the increased heart action is followed by spasm or cramp. Plesch believes this



to be the explanation of intermittent claudication, intestinal angina, and the dizziness and apoplectic attacks sometimes observed in cases of arteriosclerosis.

By injecting the blood vessels <sup>of the heart</sup> with mercury, Plesch has been able to obtain very striking X-ray pictures which clearly show the changes in the blood vessels of the heart in cases of arteriosclerosis.

Meteorism  
The slowed circulation in the vessels of the intestine prevents the absorption and normal disposal of gas through the lungs, causing so-called meteorism. This condition can be detected in the early stages by means of a garlic meal after which the breath smells of garlic for more than 24 hours or more because of the slow absorption.

Meteorism is not due to increased generation of gas, but to its slow absorption. Its significance is beginning disease of the blood vessels corresponding to the sense of oppression in the chest, while angina due to spasm of the intestinal blood vessels corresponds to intermittent claudication, or cramp in the leg muscles, and angina pectoris, or spasm of the vessels of the heart. According to Plesch, all these symptoms are due to violent contraction of the arterial muscles rather than to nervous irritability.

#### TREATMENT

The first indication is to relieve the overtaxed circulation. This is best accomplished by means of rest in a horizontal position. This is the most important of all measures because it places the body in such a position as to make a minimum demand upon the heart since it is only required to move the blood around in a horizontal plane, whereas in a vertical position it is necessary to lift the blood into the head and to drive it back from the extremities.

High blood pressure is not a disease and should not be combated

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directly. The rise of blood pressure is due to some condition which requires the increased pressure. When this condition is removed the blood pressure will be adjusted by the automatic controls of the circulation. When the blood vessels are dilated, <sup>as is always the case</sup> ~~increase of pressure~~ is absolutely necessary to preserve life, as in incipient arteriosclerosis, increased blood pressure is necessary to preserve life.

Says Plesch, "The physician who is determined to reduce the blood pressure by force, without first combating the causes responsible for the high blood pressure, commits malpractice." It is of course possible that in adjusting the blood pressure to compensate for the arterial relaxation the body may overshoot the mark so the pressure may be raised higher than is necessary. What is needed is to remove causes so far as possible and also factors which may tend to raise the blood pressure.

<sup>As regards the use of drug Professor Plesch tells us,</sup>  
 Says Plesch, "Most medicaments for reducing blood pressure act by paralyzing the blood vessels and are, therefore, therapeutically absurd, because they are more inclined to help the further development of arteriosclerosis than to prevent it. It is therefore intelligible why those remedies that produce experimental arteriosclerosis are most effective in reducing blood pressure. When they are used, the blood pressure does well but the patient is ill. Still less rational are remedies given to 'loosen the lime in the arteries.' Only in the height of folly can the idea be conceived to free the body from its protecting armaments."

The great increase in the blood volume is an indication for lessening the amount of the blood. This may be accomplished by blood letting. But this method is objectionable not only because of the loss of the red blood cells, the oxygen carriers, but sudden and violent



disturbances in the blood circulation and "the exchange of body fluids." The best means of reducing blood volume is by "a diet poor in nitrogen and salt," *that is a low protein salt free diet.*

*Says Plesch* "We have been able to prove in a series of investigations that it is possible to reduce the blood volume far more effectively by dieting and fresh air, not only in healthy individuals and also in arteriosclerotic subjects."

When salt is withdrawn from the diet there is a great increase in the volume of the urine through which the blood volume is reduced and most distressing symptoms relieved. The respiration is freer, the heart is quieter, and the mental state improves. "The rest treatment should be continued 4 to 6 weeks." (Plesch) This treatment should be repeated at intervals of several months, but of course the low protein regimen should not be continued so long as to weaken the patient. Careful examinations of the blood show a fall in the non-protein nitrogen, which represents the toxic tissue wastes which the kidneys should have removed but have left behind. The blood vessels of the kidneys share in the general lowered vascular tone and thus the efficiency of the kidneys is diminished to a marked degree.

Plesch calls his method "the dietetic fresh air treatment."

*Pat 24 24*  
 Mental relaxation and freedom from worry are, of course, essential to secure the best results from the rest treatment.

*Says Plesch*, "If we had the courage to break away from pocket-book prescriptions, we should manage, in the large majority of cases, without cardiac tonics. The idea of 'digitalis at all costs' is objectionable. The prolonged administration of small doses of iodide of



potassium is injurious rather than useful. At the end of the dietetic fresh air course moderate exercise and gymnastics may be allowed. Over-exertion in sport must be firmly vetoed. Cold water treatment, baths, drinking cures, and such like are subject to special indications. It would be impracticable to enumerate them all."

Plesch recommends tincture of asafoetida, 15 drops in capsules before meals, for relief of meteorism.



## THE ESKIMOS NOT EXCLUSIVE MEAT EATERS

While the Eskimos are generally referred to as living on an exclusive meat diet, it has long been a matter of common knowledge that they greatly appreciate vegetable foods of all sorts, especially those which are rich in carbohydrates. One arctic explorer reported that an Eskimo would travel miles through the worst of winter weather to obtain a few gumdrops. Others have told of the fondness of the Eskimo for the half digested reindeer moss found in the stomach of the reindeer, which, according to the testimony of one writer who had tasted it, is quite palatable when made into a soup. The ptarmigan, an arctic bird, is killed in large numbers to obtain the half digested seaweeds found in its stomach. Other travelers tell of the great abundance of blueberries in extreme northern regions where nothing else edible grows. These are carefully gathered and dried by the natives and otherwise preserved for winter use. One method of preservation is immersion in oil. The Eskimos of the Alaskan coast compress and dry great quantities of seaweed which answer the same purposes as agar.

We are very glad to publish the following interesting letter recently received from a reader of Good Health, a Mr. Ammett Baxter, of Philadelphia, which gives further information of much interest and value:

"Dear Dr. Kellogg:

"From time to time articles have appeared in your magazine saying that the Eskimos live exclusively on flesh foods.

"Perhaps it will interest you to know that I know of two responsible men who have spent several years among these people, in fact, one of them being born there and is half Eskimo himself, they declare that nowhere in Eskimo land, do the natives live exclusively on a meat diet.

"They say that the Eskimos supplement their flesh foods with large quantities of reindeer milk, including lichens and moss, from which they prepare an excellent bread very bulky in texture which, as you know, is of marked benefit in promoting normal elimination.

"They also claim that reindeer milk is much sweeter than cow's and this perhaps has a great deal to do with their general good health.



"They further state that there are no criminals among the Eskimos and neither is there any lewdness among them. Any outsider who comes in and commits a crime against a woman is taken before a firing squad as soon as he is caught. No jail or jurisdiction courts to be bothered with. You are simply shot to death immediately for such an offense."



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THE BANANA CURE FOR CELIAC DISEASE

The literal meaning of the word "celiac" is pertaining to the abdomen. It is used in medicine with a more restricted meaning, referring to a special form of intestinal disease ~~most~~ ~~often~~ observed in young children, but sometimes also in adults. There has been much discussion as to the cause of this disease, which, in some respects, closely resembles the "sprue" of the tropics and tropical dysentery. ~~The cause of the disease is still a matter of debate.~~ The late Christian Herter, who studied the disease, regarded it as a bacterial infection of the intestine, or a loss of the normal protective flora. <sup>aciduria</sup> Recent studies (Block) have shown the presence in cases of this sort of "a sub-chronic inflammation of the stomach and intestines."

The uselessness of drugs in the treatment of this malady is generally conceded. All modern authorities lay chief stress upon dietetic measures. Notwithstanding the highly putrid character of the stools, most authorities have recommended a high protein diet, and the suppression of sugar and starch. Some clinicians have found the suppression of milk and especially of fat of highest importance. Recently a report came from Germany of <sup>a number of cases of Celiac</sup> the successful treatment of ~~the~~ disease with a banana diet. ~~We~~ ~~quote as follows:~~



The banana treatment of celiac disease is by no means new. It has long been used in <sup>continental</sup> German clinics. A well ripened banana is one of the most digestible of all forms of carbohydrate. But care must be taken to insure three conditions:

1. The banana must be fully ripe, overripe, in fact. The skin must be brown and the flesh mellow like that of a fully ripe peach.

2. The banana should not be eaten in the ordinary way, but should be served in the form of a smooth pulp or purée.

3. Lactose, or sugar of milk, or Lacto-Dextrin, should be used along with the banana to encourage the growth of the protective flora and so combat the infection of the intestine.

4. Another aid of great value in these, as in all cases of chronic intestinal infection, is the use of Soymilk. Of highest value are cultures of acidophilus in Soymilk, or Soy Acidophilus milk.

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## ORANGE JUICE VERSUS "FLU."

The Journal of the American Medical Association criticize Florida citrus growers for recommending orange juice for "flu." Says the Journal:

"Now that influenza is agitating the public, the Florida promoters of citrus fruits are again in the field with the statement that Florida oranges help keep the flu away. The advertising copy asserts that 'the most effective way to resist the flu is to build up a strong alkaline reaction in your system--and this is exactly what Florida citrus fruits do!' The Journal has protested repeatedly against this type of advertising in the health field."

The Journal adds: "The truth is that a considerable number of physicians believe that mild alkalization aids in the treatment of the common cold and of influenza, but there is not the slightest scientific evidence to support the claim that constant alkalization of the system will prevent influenza."

The Journal, through its able editorial management, has done more than any other agency in the suppression of quacks and patent medicines and exposing medical frauds, for which it is to be most highly commended; but in this instance we feel that its attitude is a little hypercritical, and its statement that "there is not the slightest scientific evidence to support the claim that constant alkalization of the system will prevent influenza" is considerably overdrawn. Acidosis is a state of low vital resistance because of the accumulation in the tissues of the acid products of tissue waste which cause fatigue, lessen endurance and lower resistance to disease. Acidosis is becoming



very common in this country, as pointed out by McCollum and others, because of the excessive use of meat and breakfast cereals, because these acid-ash foods leave in the body acid-residues. This weakening of the natural defenses of the body opens the door to "flu," as well as other infections. For this reason, there is an almost universal need of food alkalies to neutralize acid residues and tissue wastes.

Orange juice is particularly well suited to serve as an antidote for the national acidosis. There is no other fruit juice so rich in the organic bases (alkalies) required to neutralize the acids of the blood and other body fluids and to restore normal alkalinity and high resistance.

The Journal will not deny that a state of lowered alkalinity or acidosis increases susceptibility to "flu" as well as other infections. The writer of the above quotation does not question the validity of the claim made by "a considerable number of physicians "that mild alkalization aids in the treatment of the common cold and of influenza." Can the doctor suggest any more effective or agreeable mode of alkalizing the body fluids than the free use of orange juice?

If orange juice by alkalizing the blood, will aid in combating flu after one has the disease, certainly its free use should be an effective means of preventing the disease. Good food, sunshine, and fresh air are most effective means of curing lung tuberculosis. The same measures are the best means of preventing lung tuberculosis. Water will put out a fire and, if applied in time, will prevent it.

The Florida Citrus Fruit Exchange asserts that "the most



effective way to resist the flu is to build up a strong alkaline reaction in your system." Does the Journal know of any better means of "resisting flu"? Why should our Florida citrus growers be condemned for telling the public the truth about their product? The average man never thinks of orange juice as an alkaline fluid. When advised to alkalinize his blood, he naturally thinks of bicarbonate of soda tablets or some other alkaline chemical compound. The Florida Exchange is doing the public a favor by calling their attention to the fact that Nature has provided in the orange a food alkali much superior to the products of the chemical laboratory.

But besides its value as an alkalinizing agent, the orange is an excellent source of vitamins A, B, and C, all of which are essential to good nutrition and none of which are found in the soda and other alkaline drugs commonly used to alkalinize the blood in the treatment of colds and "flu."

It cannot be denied that the suggestion to drink orange juice instead of swallowing pills is supported by good sense.

The Journal objects to excessive drinking of orange juice, but we are not informed how much orange juice would be "excessive," nor what would be the injury inflicted by too much orange juice. These are novel suggestions, quite new in medical literature so far as the writer is informed.

Who ever heard of a healthy person being injured by drinking all the orange juice his appetite or his thirst called



for? Is there danger of getting an overdose of vitamins? Dr. Sherman of Columbia tells us that a surplus of vitamins promotes growth and improved nutrition. His rats, fed several times the ordinary amount of vitamins, were larger, stronger, sleeker, and in every way handsomer rats, than the average.

But our struggling Florida fruit farmers who are, in spite of the baffling and destructive obstacles imposed by hurricanes, the Mediterranean fly, adverse weather and other hindrances, have heroically persevered until they are producing the finest citrus fruit that grows. Is there great danger that some unwary youth might be seriously injured by imbibing an extra glass of orange juice?

If our citrus growers sometimes become so enthusiastic about their unrivalled products that they indulge rather freely in superlatives, what harm is done? What about the advertising copy sent out by the Meat Board of Chicago, and the syndicated articles artfully worded to make people believe that they need more meat, that they may live on an exclusive diet of meat without injury, and the fake Stefansson tallow-eating stunt? And the Eat-More-Meat Week? Does not every physician in America know that the average person is eating too much meat? X

And the Coffee Committee with its million dollar subsidy supplied by the Brazilian coffee growers, to persuade the people to drink more coffee? *Why should we not be paid to be used in efforts to*  
*be would against this coffee to*  
 And the advertisements of cola beverages, which are *xx*  
 leading strings to worse habits? *xx*

The Journal would do the country a favor by holding these public poisoners up to the public scorn which they merit; but *why*  
 don't try to quench the enthusiasm of the citrus growers of



Florida, and California as well, whose delectable product is the veritable ambrosia of the gods, <sup>the</sup> elixir of life which has saved millions of babies; and when it finds its place on every table at every meal, and between meals, as a social beverage to supplant beer and wine and cocktails, will become not only an efficient combatant of the flu but a sturdy opponent of Old Father Time--the real Fountain of Youth which Ponce de Leon failed to find.



27

One day while at my office, a doctor called to see me. As he walked in, I saw at once that I had a very distinguished, worth-while person to deal with. He said:

"Dr. Kellogg, I am Surgeon-General O'Reilly, of the United States Army. I just came from Hot Springs, and dropped in to see you about my health. Am just about retiring. Have been planning to travel about the world, with my wife, and enjoy life a little before I die. I didn't think there was anything the matter with me, but Dr. \_\_\_\_\_ said, 'Let me take your blood pressure', and he found it \_\_\_\_\_. He found that I had high blood pressure and casts. He told me on the way back to Washington, to stop off at Battle Creek and see you."

"I want you, Doctor, to tell me how I can live in such a way that I can live ten or twelve years more and enjoy life a little before I die."

"Do you smoke, General?"

"Oh, yes. All army men smoke. But, Doctor, I am very particular about my cigars. I never pay less than forty cents apiece for them."

"Turkish, I suppose?"

"Oh, yes, always Turkish."

"The only difference between ordinary and Turkish tobacco is that Turkish tobacco contains twice as much nicotine and ----- prussic acid.

"How would it do just to smoke after each meal?"

"You know tobacco raises your blood pressure. If you want to get your blood pressure up, that is the thing to do. Every time you smoke, your blood pressure will go up. Dr. Janeway



of New York found that within half an hour the blood pressure will go up within half an hour.

The first time a man smokes, the body repudiates it so completely, it makes him nauseated for the purpose of getting rid of the poison. If a man repeats it, he gets used to it, but it goes right on doing damage to the heart and kidneys. The body never gets accustomed to it in the sense of doing no damage.

"How about coffee?"

"Oh, I drink coffee. All army men drink coffee. I am always very careful, and only drink Mocha.

"Mocha is very powerful. Seven years ago, when I was in North Africa getting the sunshine, I observed the Arabs were very much addicted to drinking coffee. I thought I would like to know the effect on their blood pressure. I had announced in the market place that I would give a small coin to any man who would come down to my hotel and let me take his blood pressure. So the whole square was full of people who wanted to have their blood pressure taken. To my amazement, I didn't find a single person who did not have a blood pressure above eighty. Finally, there came a sixty year old man - a very straight man - one of the most enduring of men - who had recently come to Biskra to live. I found his blood pressure 130. He did not smoke and had never used coffee. (He never had used meat,) because when he was in the desert, he never had money to buy it, and so never acquired



He told me of a tribe forty or fifty miles away who never drank coffee. They were too poor to buy it.

I didn't find a single one with high blood pressure except one, who cared for sheep. His blood pressure was way up in the air. So this was good proof that coffee would raise the blood pressure.

The General said, "I am very particular about my coffee. I never drink it without cream. It is the cream that does the harm, isn't it?"

I have met this many times. I said, "Doctor, suppose you had a case of shock after an operation, what would you give the patient? In shock, the heart goes way down and the blood pressure falls, and the person is likely to pass out."

"Oh, I suppose I would give them caffeine."

"How much?"

"A grain. That's about the right dose, isn't it?"

"Yes, one grain. Now, Doctor, don't you know how many grains of caffeine there are in an ordinary cup of coffee? Dr. Wiley, the Pure Food man, made a study of caffeine, and found that

"One grain is a medicinal dose and will bring the blood pressure up. Dr. Wiley found that ordinary coffee, just as served to you at any hotel, contains four grains.

The Doctor was very much shocked. "How would it do if I took about that much coffee?"

"It would bring your blood pressure up about that much.

"How about beefsteak?"

"Oh, I eat beefsteak."

"Do you know how much uric acid there is in beefsteak?"

"Why, no. There isn't very much, is there?"



"Dr. Hall, of Manchester, England, devoted a whole year to the question - the amount of uric acid in different kinds of meat, fish, etc., and finally published a table giving the amount. He found four grains of uric acid in a pound of beans; in meat, fourteen. And meat, you know, is three-fourths water, so you will have to compare one pound of beans with four pounds of meat.

"How about sweetbreads; there isn't much uric acid in them, is there?"

"Sweetbreads contain seventy grains of uric acid."

"Great heavens," he declared, "I have eaten more than a pound of sweetbreads many times."

"Are you fond of beef tea?"

"Yes, indeed."

"Have you any idea of the amount of uric acid in beef tea?"

"I never thought of that. Is there uric acid in beef tea?"

"Naturally, because beef extract is an extract of the flesh, and is made by the chemist or the cook. The kidneys make an extract called the urine. The cook makes an extract known as beef tea, but it is the same thing. Dr. Austin Flint, with whom I was a private student, was the first man to make a study of this thing. He fed his patients on broths. These broths were made out of the extract of beef. He published in his book that thousands of people had been starved to death on a diet of beef tea. A chemist reported that he could not tell any difference between beef tea and urine except by the smell. One is an extract made by the cook and the other an extract made by the kidneys; both are extracts, you see."



"A cup of beef tea contains more uric acid than a cup of urine does.

"Well, do you think I should abandon beef tea and change my habits? It looks as though you didn't leave me anything to enjoy life with, but I am willing to try it for four days."

At the end of four days, he came into my office. I never saw any one look so pleasant in my life. His blood pressure had gone down thirty points in four days. "Now, write it all down," he said, "and I will follow it to the letter."

So I dictated to my stenographer, and he went away. Three weeks later, I got a letter from him, and he said, "Doctor, I am so well, I can smoke three times a day."

I was so distressed. He was a splendid man and he had a chance to live, but he was throwing it away. I wrote him a most earnest letter. My letter never came back and I never heard from him. A year and a half later, I picked up a newspaper one morning and there, across the top of the page, saw the words, "SURGEON-GENERAL O'REILLY IS DEAD!" It seemed to me as though that man had been murdered. There was no use in his dying, and it was a pity. That thing is happening all over the United States.

I came down here to found a sort of life-saving station. I am here not so you will know. After persons know, then that will take the burden off my soul; but I cannot sleep at night if I feel that I have neglected to tell some one the truth. If I see a man on a bridge that is giving way and I know what will save him, how can I let him go on without telling him?



HOW MUCH DOES HYPERTENSION INFLUENCE  
LIFE EXTENSION OR EXPECTATION?

Twenty-five years ago this question could not be answered. There was no scientific data on which to base an answer. When life insurance medical examiners began the use of the sphygmometer, they soon discovered that persons with high blood pressure were in general poor risks and so they were refused insurance. Several insurance organizations soon began a careful study of the mortality rate of these rejected cases.

TO WHAT EXTENT DOES HYPERTENSION SHORTEN LIFE?

This question is of vital interest to every person whose blood pressure is above the normal.

And what is the normal blood pressure for persons of different ages?

The life insurance experts have found the answers to both these questions and they are shown on the accompanying tables, which are a condensed compilation of data carefully collected and digested by able life insurance experts. So far as the writer knows, this is the first attempt to make this data available for clinical use. The tables have been carefully scrutinized by several expert insurance statisticians. The tables are self explanatory and need little comment.

SYSTOLIC HYPERTENSION

Table A shows, in the first column, the age at 5 year intervals; second column, the average systolic blood pressure at the given ages. This table is used by all life insurance



companies and is generally accepted as standard. However, I am informed by Dr. Oscar Rogers, Medical Director of the New York Life Insurance Company, and Dr. Hunter, actuary of the New York Life, that the normal systolic pressure is 10-15 points lower than the figures given

The fourth column of Table A shows the life expectation at the various ages based upon the average blood pressures shown under B. P.

In the third column is shown the calculated life expectation based upon normal instead of average blood pressure; that is, pressure ten points lower than the standard figures shown in the second column.

The higher figures shown in this column are an eloquent invitation to add many years to one's life expectation by avoiding all known causes of premature senility and conforming his habits to biologic and physiologic requirements. The average gain in life expectancy attainable by this means, shown by the Table, is seven years. Here, then, is a great reservoir



of human life and energy waiting to be tapped and utilized by those who think it worth while to make use of scientific knowledge in the ordering of their daily lives, as do the up-to-date farmer and the manufacturer. And this optimistic outlook is not a mere mathematical fantasy. It is a matter of common knowledge that the health and physical efficiency of the average man is far below the level which may be attained by training. Even those who consider themselves in excellent health may by studious attention to health-promoting agencies lift themselves to a condition of super health.

At the Chicago Meeting of the American Chemical Society, Dr. H. C. Sherman presented very convincing evidence that by



applying the facts developed by modern nutrition laboratory researches to human feeding, human efficiency might be enormously increased by the super health attained and seven years added to the traditional three score and ten.

That Prof. Sherman's discovery is in exact agreement with our table in pointing the way to a ten per cent increase in the average length of human life, is doubtless due to the fact that diet is a dominant factor in the modifications of blood pressure in health and disease.

The idea once widely held that the normal blood pressure is 100 plus the age was long ago shown to be erroneous.

A careful study of the data presented in Table A revealed the interesting fact that the normal blood pressure is 100 plus one-half the age. It must be remembered, however, that this rule is based upon the real normal which may be found for any age by subtracting 10 from the figures given in the second column of Table A.

Table B (+ 10) shows the effects upon life expectation of a rise of 10 points in systolic pressure, a degree of hypertension commonly regarded as insignificant and requiring no attention. The table shows at once how great and grievous an error is this. This first rise of systolic pressure causes a much greater loss in life expectation than the same amount of subsequent, additional rise. For example, if the systolic blood pressure of a person of 20 years rises from 120 to 130, his life expectation drops from 45 years to 31, a loss of 14 <sup>1.4 years</sup> years for each point of rise, or nearly one-third of his total life expectation. A further rise in blood pressure of 16 points to 146 (Table C) causes an additional loss of only 7 years, or



less than half a year (.44) for each millimeter of mercury rise. This shows very clearly that the early small rise of systolic pressure which causes the patient no inconvenience and is commonly disregarded by physicians is a matter of profound importance and should command immediate attention. Hypertension is a progressive disease. It is like a fire in a house. When once started, it continues unless successfully combated and arrested.

In the case of a man of 35 whose blood pressure has risen from 124 to 134, instead of saying to him, as many physicians do, "You need not be at all concerned about your blood pressure. It is just right, 100 plus your age. Just forget it," he should say, "Your <sup>blood</sup> systolic pressure is ten points above normal and that means a loss of ten years of your life expectation. If you take out life insurance, it will cost you 30 per cent more than it would cost you if your blood pressure were normal. You should take immediate steps to get your blood pressure down to normal and keep it down, and by so doing, may add ten years to your life and save 30 per cent. on the cost of life insurance."

Life insurance rates are determined by the number of years the policy holder will be able to pay his annual premiums. Every year has a distinct money value. The insured man ought certainly to have a still greater interest in his life expectancy and should be made acquainted with the significance of blood pressure increases and with the means by which the increasing of blood pressure may be stopped and the pressure brought back to normal or as near to normal as possible, thus winning back some of the years of lost life expectation.



In a case recently brought to the writer's notice, a man whose application for life insurance had been rejected because of hypertension, after a few months of biologic living and health training at the Battle Creek Sanitarium, to which he was referred by a life insurance official, was able to get all the insurance he wanted.

Table C ( - 26) shows the effects of a higher but still moderate degree of hypertension in lessening life expectation. By reference to the last column of the Table, it will be seen that an increase of the blood pressure to the extent of only 26 points, reduces the life expectation one-half.

In view of the fact that in most of these cases the blood pressure may be by proper regimen and treatment reduced to approximately normal, it is evident that thorough-going measures should be adopted with as little delay as possible. With a good prospect of doubling his life expectation and reducing his cost of insurance by nearly fifty per cent., the full cooperation of an intelligent patient should be easily secured.

Table D ( - 36) shows the deadly effects of the higher degrees of hypertension. In view of the loss of 60 per cent. of the normal life expectation at all ages, when the systolic pressure is increased 36 points, it is obvious that the case is urgent. If there exist means by which the visit of the undertaker may be postponed, even for a fraction of the normal life expectancy, they should be brought into use at once. Fortunately, there are such measures, and fortunately, also, they are simple as well as efficient, and may be effectively employed at home, and in most cases by the patient himself,



without expert assistance.

#### DIASTOLIC HYPERTENSION

The grave significance of a rise in diastolic pressure is not always fully appreciated. The diastolic pressure is the "head" against which the heart pump has to work. An increase is of far more serious import than an equal rise in systolic pressure. This is clearly shown in

Tables B, C, and D, under head of diastolic pressures, which are calculated from the mortality rates observed by the life insurance companies and used by their experts in determining the rates to be paid by policy holders.

Table B (90-100) shows a loss at all ages of approximately 40 per cent of the normal life expectation. Definite improvement in hypertension cases is accompanied by a lowering of diastolic hypertension.

Table C (101-105) shows that a rise in diastolic pressure of 20 to 25 points cuts down the life expectation more than 50 per cent.

Table D (106 ) shows the rapid rise in the mortality rate with further rise in the distolic pressure above 166, cutting down the life expectation to less than one-third the normal (30 per cent.).

It is gratifying to know that with rare exceptions, even in these most desperate cases, something may be done, often very much in fact, to add materially to the greatly damaged life expectation.



Dilatation of the blood vessels necessarily leads to an increase in volume of the blood. Even in early stages of arteriosclerosis, when changes in the vessels can be recognized, the blood volume has been shown by the tonoscillograph to be greatly increased, even doubled. Dilatation of the blood vessels necessarily results in a slowing of the circulation. This has been shown to be actually the case (Traube)



xyz - p. 11

To heredity, possibly, may be attributed quite a large percentage of the 1,000,000 cases of heart disease in children now living, reported at the late White House Conference on Child Welfare.



to be the explanation of intermittent claudication, intestinal angina, and the dizziness and apoplectic attacks sometimes observed in cases of arteriosclerosis.

By injecting the blood vessels with mercury, Plesch has been able to obtain very striking X-ray pictures which clearly show the changes in the blood vessels of the heart in cases of arteriosclerosis.

The slowed circulation in the vessels of the intestine prevents the absorption and normal disposal of gas through the lungs, causing so-called meteorism. This condition can be detected in the early stages by means of a garlic meal after which the breath smells of garlic for more than 24 hours or more because of the slow absorption.

Meteorism is not due to increased generation of gas, but to its slow absorption. Its significance is beginning disease of the blood vessels corresponding to the sense of oppression in the chest, while angina due to spasm of the intestinal blood vessels corresponds to intermittent claudication, or cramp in the leg muscles, and angina pectoris, or spasm of the vessels of the heart. According to Plesch, all these symptoms are due to violent contraction of the arterial muscles rather than to nervous irritability.



Mental relaxation and freedom from worry are, of course, essential to secure the best results from the rest treatment.



## Changes in the Blood Vessels

These changes occur where the force of the blood stream is greatest, that is, at bends, such as the arch of the aorta and points where branches are given off. Changes are most likely to occur in arteries which are submitted to the greatest local pressure, as in the right arm of a blacksmith and the legs of table waiters.

"It is exceedingly uncommon for an artery to rupture at the point of calcification." (Plesch)

In apoplexy of the brain the rupture is in a healthy appearing artery and not in calcified parts.

A healthy artery is always found empty after death. In cases of arteriosclerosis the arteries after death are filled with blood due to the loss of elasticity or tone in the arteries.

Small arteries when normal contract when cut and require no ligature. In cases of arteriosclerosis small arteries when cut do not contract and require ligature.

In cases of arteriosclerosis the disease is not confined to the parts where lime deposits and other visible changes occur, but affects the entire vascular system, the deposits of lime and other changes



4-11-32

## ARTERIOSCLEROSIS

Arteriosclerosis is a systemic disease affecting especially unstriped muscles. It is not restricted to local areas. "It attacks the whole vascular system." The real disease is weakening of the vessel walls and dilatation of the vessels.

Atheroma, athero-sclerosis, ossification and other changes in the arteries are remedial, their purpose being to strengthen the weakened vessel walls. They occur at points in the vessels where the strain is greatest.

The disease may occur at any age. According to Plesch, Professor of Internal Medicine in the University of Berlin, arteriosclerosis may be cured in the early stages of the disease and may be "beneficially influenced in the later stages." It is not an old age disease which must necessarily be considered progressive and incurable.



\* ab - p. 1, No. 5

and several eminent European authorities have reported "complete cures even severe and advanced arteriosclerosis." (Anitschkow and Wolkow).



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Dr. Plesch holds that the fundamental condition in arteriosclerosis is loss of elasticity of the vessel walls. The result is increase of volume of the blood and showing of the bloodstream, a condition which greatly increases the work of the heart. In arteriosclerosis the arteries are found after death full of blood, and in life such arteries do not contract when cut.

Deposits of lime occur at points where the strain on the walls of the vessels is greatest, as at bends and points at which branches are given off. These deposits are most frequent in parts subjected to the greatest pressure, as in the legs of waiters and the right arm of the blacksmith.

A very convincing evidence that lime deposits in the artery strengthen it is found in the fact that in cases of apoplexy the rupture is very rarely found in calcified arteries, but in vessels free from lime.



Plesch recommends tincture of asafoetida, 15 drops in capsules  
before meals, for relief of meteorism.



dilated. In some cases the pulse volume becomes several times the normal.

Weakening of the walls of the arteries is the earliest stage of the disease.

By the tonoscillograph the volume of the artery may be measured and by this means the deviation from the normal has been shown.

The tonoscillograph also shows that the pressure of an atonic artery is greatly decreased in the stage of the disease before thickening occurred. After the artery becomes thickened, the pressure may be increased five or six times that of the unthickened artery.

An atonic condition of the arteries involves great danger to the whole circulatory system. The air chamber action of the vessels is greatly lessened. It is this that demands increased action of the heart and rise of blood pressure.



appearance in old age it rarely has any serious consequences.

"The post-mortem examinations of healthy young soldiers who fell during the war revealed a surprising prevalence of arteriosclerosis. Moenckeberg, in his very carefully prepared statistics, was able to prove that 44.5 per cent of soldiers between the ages of 21 and 30 years and 62 per cent of those between the ages of 31 and 40 years showed arteriosclerotic changes, most of them involving the coronary arteries. Similar observations have been made in other countries."

Plesch argues that since the mortality from arteriosclerosis is only 6 per cent of the total mortality, it must be that many persons recover from this disease and that the danger from arteriosclerosis is less than has been supposed. (Consideration should be given to the fact that in the war soldiers used tobacco very freely, being supplied with cigarettes with their regular rations. This might very well be the cause of the great frequency of arteriosclerosis in soldiers. The fact that the percentage of persons having arteriosclerosis among the older soldiers was nearly 50 per cent greater than in the younger class might well be due to the fact that they had made use of tobacco for a longer time. This would seem to be the most reasonable explanation since they were not old enough to be suffering from senile changes.)