

C O P Y

January 11, 1920.

Dear Sirs:

I bought 12 packages of Bran in Health Bran cartons. Bought it of a wholesale house. When I got it home and opened it I found it to be crumbled sweetened bran. I cannot eat sweetened bran. Do you do business that way? What shall I do with the bran? It should be labeled what it is, not something else.

Sincerely yours,

Ira S. Goff,
167 Box No.
Stratford, Texas.

Memo. for Mrs. Butler.

Jan. 12, 1920.

Men who lived the simple life.

Pythagoras, Socrates, Plato, Cornaro, Gladstone, Isaac

~~Newton~~, Count Rumford, John Wesley, Benjamin Franklin, Old

Parr, the poet Shelley, Plutarch, Burbank, Fisher, W. D. Simmons.

Sir Horace Plunkett, Bishop Lewis, Bishop Hartzell and Mr. McClure.

~~Don Williams~~

Bronson Alcott (O-3610) 1926

↓ Plato 3493-

↓ Aristotle 3486

↓ Burroughs, John 2960-3325-3326

↓ Seneca 3494

↓ Bigelow - 1234

↓ S. Smith - 528-3147-3146-3149
2429

System
Feb. 1920

911

Florida (1919)

2-9

Setting-Up Drills

- 1 Standing posture (head
(chest
(hips
(arms
(feet
- 1 1/2 Running in place
- 1 3/4 Turning
- 2 Walking..... (head
(chest
(arms
(hips out
- 2 1/4 Straight stride
- 2 1/2 Change step
- 2 3/4 Tiptoe walking
- 3 Wing standing; head back; bend body forward; bend.
- 4 Sitting posture (cushion for back)
- 5 Wing sitting ; head back; bend body forward; bend.
- 5 1/2 Breathing "
- 6 Standing, backward bending (forward bend after)
- 7 Arms swinging back and forward
- 8 Swimming (breathing)
- 9 Wing stand. Knees bend.
- 10 Neck hold " "
- 11 Trunk twisting
- 12 Side bend 1/2 wing
- 13 Wing stand. Knees raising
- 14 Neck holding " "
- 15 Fall out Wing
- 16 " " Neck

(over)

5/8/20

Chopping

Malacegus. Body horizontal leg extended backward. 1/2 standing

Diving

Jumping Jack

Breeding

warming up

Measuring

Exercise. Arms + legs alternate extended, knees raising

Setting-up Drills

1. Standing posture..... (head
chest
hips
arms
feet)
- 1 $\frac{1}{4}$ Running in place
- 1 $\frac{1}{2}$ Turning
2. Walking (head
chest
hips
arms out)
- 2 $\frac{1}{4}$ Straight stride
- 2 $\frac{1}{2}$ Change step
- 2 $\frac{3}{4}$ Tiptoe walking
3. Wing standing head back, bend body forward, bend.
4. Sitting posture (cushion for back)
5. Wing sitting head back, bend body forward bend.
- 5 $\frac{1}{2}$ Breathing
6. Standing, backward bending (for'd bend after)
7. Arms swinging back and for'd
8. Swimming (breathing)
9. Wing stand. Knees bend.
10. Neck hold " "
11. Trunk twisting
12. Side bend 1/2 wing.
13. Wing stand. Knees raising.
14. Neck holding " "
15. Fall out Wing
16. " " neck

May 8, 1920.

Setting-Up Drills (continued)

- Chopping
- Balancing. Body horizontal. I leg extended backward. Half standing
- Diving
- Jumping Jack
- Bending
- Warming up
- Measuring
- Engine. Arms alternate
extending, knees raising.

Setting-up Drills

- | | |
|--|--|
| 1. Standing posture..... | (head
(chest
(hips
(arms
(feet |
| 1 1/2 Running in place | |
| 1 3/4 Turning | |
| 2. Walking | (head
(chest
(hips
(arms out |
| 2 1/4 Straight stride | |
| 2 3/4 Change step | |
| 2 3/4 Tiptoe walking | |
| 3. Wing standing head back, bend body forward, bend. | |
| 4. Sitting posture (cushion for back) | |
| 5. Wing sitting head back, bend body forward bend. | |
| 5 1/2 Breathing | |
| 6. Standing, backward bending (for'd bend after) | |
| 7. Arms swinging back and for'd | |
| 8. Swimming (breathing) | |
| 9. Wing stand. Knees bend. | |
| 10. Neck hold " " | |
| 11. Trunk twisting | |
| 12. Side bend 1/2 wing. | |
| 13. Wing stand. Knees raising. | |
| 14. Neck holding " " | |
| 15. Fall out WING | |
| 16. " " neck | |

May 8, 1920.

Setting-Up Drills (continued)

Chopping

Balancing. Body horizontal. I leg extended backward. Half standing.

Diving

Jumping Jack

Bending

Warming up

Measuring

Engine. Arms alternate

extending, knees raising.

Setting-up Drills

(head
(chest
(hips
(arms
(feet

1. Standing posture.....
- 1 1/2 Running in place
- 1 3/4 Turning
2. Walking (head
(chest
(hips
(arms out
- 2 1/4 Straight stride
- 2 3/4 Change step
- 2 3/4 Tiptoe walking
3. Wing standing head back, bend body forward, bend.
4. Sitting posture (cushion for back)
5. Wing sitting head back, bend body forward bend.
- 5 1/2 Breathing
6. Standing, backward bending (for'd bend after)
7. Arms swinging back and for'd
8. Swimming (breathing)
9. Wing stand. Knees bend.
10. Neck hold " "
11. Trunk twisting
12. Side bend 1/2 wing.
13. Wing stand. Knees raising.
14. Neck holding " "
15. Fall out Wing
16. " " neck

May 8, 1920.

Setting-up Drills (continued)

- Chopping
- Balancing. Body horizontal. 1 leg extended backward. Half standing
- Diving
- Jumping Jack
- . Bending
- Warning up
- Measuring
- Engine. Arms alternate
extending, knees raising.

1 Standing posture } head
1/2 Running in place } chest
1/3/4 Turning } feet

2 Sitting posture (cushion for back)

2 walking ^{head} ^{chest} ^{back}

2 1/4 Straight stride

2 1/2 Change step

2 3/4 Hiptoe walking

3 Wavy standing head back bend, forward bend

5 Wing sitting

5th Breathing

6 Standing, backward bending (ford bend)

7 Wrist swinging back + ford

8 Swimming (breathing)

9 Wind stand, knees bend

10 neck hold

11 trunk twisting wing

12 side bend 1/4 wing

13 wing stand knees raising

14 neck holding

15 hall out - wing

16 " " neck

EXERCISE MEMO

Illustrate Exercise Book with movies of different special
exercise.

C O P Y

Feb. 12, 1920.

Kellogg Food Co.,
Battle Creek, Mich.

Gentlemen:

Please send me by parcel post, one package Kellogg
Bran. Enclosecheck for \$.33, \$.25 for bran and \$.08 for postage.

Yours truly,
P. J. Hendricks,
615 Harvey St.,
Petoskey, Mich.

P.S. They do not have your bran here they have the other
companies bran and it is no good, all dirt, yours is nice and
clean.

Apr. 9, 1920.

Memoranda for use in connection with the new
booklet on "Habits."

Extreme length of life as shown by U.S. Life Tables, 106 years.

Half of the population live to 60 years.

Lowest death rate at 12 years.

At 40, death rate three times that at 20

At 50 " " four " " " "

At 60 " " eight " " " "

Men of 50 or 60 years boast of feeling better than at 30, not realizing that their death liability is four or five times as great, if put to tests of endurance, which show a great depreciation, especially heart failure.

"Health span" (find a different term) 19 to 31 years, shown by government by conscription in late war.

12 years of greatest freedom from disease. Very short period of life for enjoyment of health. The rest of the life is characterized by feebleness, weakness and disease. Constantly increasing.

Record of the war office show that rejection rate between 21 and 31 was 30 per cent higher than at 21.

In England, rejection rate of 40 was more than 3 times that at 18.

Have Mrs. Schilling interview teachers.

Send letter about summer school to teachers.

Have Schilling travel in other states. Have her keep an eye out for all kinds of help. Could put an ad. in local papers before coming.

Have her carry with her a lot of copies of "Simple Life" and "Habits."

6-12-20

dup

EXERCISES AT HOMEA-B-C-SERIES

Daily exercise is as necessary to maintain health and high efficiency of mind and body as is food, drink, fresh air and sleep.

Inactivity of the body breeds disease in the tissues just as stagnation breeds pollution and corruption in water. Properly regulated, systematic, daily exercise secures to the body many important benefits, chief among which may be mentioned:

1. Strong heart and good circulation of the blood.
2. Expansion of the lungs and large intake of oxygen.
3. Good appetite and good digestion.
4. Sound and refreshing sleep.
5. Strong and enduring muscles.
6. Good elimination, especially frequent bowel movement.
7. Mental clearness and efficiency.
8. Steady nerves.
9. Good physical bearing.
10. Increased resistance and diminished liability to rheumatism, obesity, high blood pressure and premature senility.

Everybody needs exercise, Persons past middle age and chronic invalids ^{few} (Persons over forty are wholly free from chronic disease) need exercise even more than do persons in health, but of course it is in such cases absolutely essential that the greatest attention should be given to individual limitations. In other words, to the exact adaptation of the form and amount of exercise, to each individual case.

The following exercises have been arranged with reference to the needs of the average adult who has no organic disease of the heart, bloodvessels or kidneys, and who is able to engage in the ordinary activities of life.

The program is purposely made as simple as possible, so that the exercises may be easily learned and executed within a comparatively short time-10 to 15 minutes.

The exercises should be taken twice, daily. Some of the exercises, particularly, position and breathing exercises, may be taken several times, daily, with advantage by persons whose occupation is sedentary.

The more vigorous exercises should be employed with considerable care at first by those who have not been accustomed to much exercises. This is particularly true of the "C" Group, the prime ^{purpose} principle of which is vigorous, muscular work. At first, the "C" exercises should be taken one at a time; that is, one in the morning and another in the evening,

and so on from day to day until the whole series has been gone through in the order given, and then, as the strength is increased, two or more may be taken at each time of exercise.

Stretching

Stretching is an exercise to be taken after a considerable period of confinement in one position. Dogs, cats, horses, even lions and leopards seen in a menagerie or a zoological collection, habitually indulge in stretching, on waking after sleep.

Many persons stretch themselves involuntarily or automatically on first waking in the morning. The effect is to send ~~great~~ ^{the} streams of blood into/great masses of muscular tissue which during inactivity, perhaps in a more or less cramped position, have been for hours almost bloodless. The result is an unpleasant sensation which is promptly relieved as soon as the vessels are filled with fresh blood by which the accumulated toxins are carried off, and the famished cells supplied with life-giving oxygen and other vital stimulants which the blood contains.

Here are a few excellent stretching exercises to be practised every morning, immediately on waking.

Stretching Exercise 1.

Lying on the back, raise both arms above the head. Stretching as far as possible, throwing the head back, raising the chest and opening the mouth, at the same time taking as deep a breath as possible. Breathe out. Repeat 3-6 times. With the fingers intertwined and the hands raised to the top of the head, take three deep breaths, lifting the chest as high as possible.

Stretching Exercise 2.

With the left arm at the side, the right arm extended above the head, stretch the right arm upward as far as possible in the opposite direction, with the toe pointed. Raise the chest as high as possible. Take a deep breath. Repeat. Relax. Breathe out. Repeat the breathing 3-5 times.

Stretching Exercise 3.

Extend the arms sidewise and slightly upward, reaching outward as far as possible. Breathe deeply. Repeat 3-5 times.

Stretching Exercise 4.

Lying on the left side, extend the right arm upward and stretching as far as possible. Stretch the right leg at the same time in the opposite direction, with toe pointed. Take a deep breath. Repeat 3-5 times. Turn upon the right side and repeat the same exercises with the left arm and leg.

A-B-C- EXERCISES

"A" Group.-

1. Swimming on back. Stand with feet together, arms extended downward in front, backs of hands touching. Sweep the arms upward, outward and backward in a circle, which is completed by bringing the hands back to starting position. ^h Throw the head back as far as possible, at the same time taking a short step backwards with the right and left legs alternately.

2. Breast Stroke.- Stand with left foot a foot or two in advance of the right, the arms flexed, the elbows raised, the fingers touching the upper part of the chest, the weight of the body thrown upon the right leg, which should be slightly flexed. Shoot the arms out in front, palms downward, at the same time throwing the weight of the body forward upon the left leg.

Swing the arms sidewise with a broad sweep, palms turned outward, finally bringing the hands and the body to the starting position. Count slowly one and, two and; one and, two and. Breathe deeply. Repeat 8-20 times.

3. Sinking.- (Knee Bending)

Memo

In all stretching exercises, the head should be thrown back, and the mouth open as far as possible; and deep breathing should be taken. Fill the lungs to the utmost, raising the chest high.

SINKING

(Knee Bending)

1. Stand with feet together, the hands upon the hips, thumbs forward. (Cut) Raise heels. Bend knees. Straighten knees. Sink heels. Count slowly 1,2,3,4.

Caution: The trunk should incline forward only very slightly when bending the knees.

2. Stand with feet about six inches apart. Raise heels and swing the arms outward and upward at the same time. Bend knees, straighten knees, sink arms and heels. Count slowly 1,2,3. Inhale deeply as the arms swing upward. Repeat 8-20 times.

Group "B"

Twisting.

1. With arms extended sidewise, twist the body alternately to right and left, holding the arms rigid and avoiding movement of the hips. The movement should be carried as far as possible first in one direction and the other. The altitude of the movements should be about half a circle.
2. Extending the feet six inches apart, arms extended straight forward, with palms touching, fling one arm sideways as far as possible, keeping the eyes fixed upon the hand, but turning the head as the arm is moved. Back to position. Slap the other hand vigorously. Repeat four times, then execute the same movement with the other hand four times. Then alternate eight times.

Bending

1. Stand with the feet six inches apart, arms extended sidewise. Keeping the arms rigid upon the trunk, first to one side and then the other. Hips should be held rigid.
2. With the fingers touching the back of the neck, (neck firm position), bend forward until the trunk is horizontal, keeping the eyes fixed at as high a level as possible. Count four in bending forward, and four in returning to position. The movement should be at the hips, and the fingers should press firmly upon the back of the neck to prevent the back from bending upward.

Group "C".

Work Exercises

1. Chopping.-

Stand with the feet 15-20 inches apart.

Clasp the hands together. Place them over the right shoulder with the body slightly twisted toward the right. Bend the body forward, swinging the arms downward until the hands pass between the legs, the knees being slightly bent. Return to position. Take two or three deep breaths and repeat. Slowly execute movements 8-48 times. Count 4 each time-2 down, 2 up- at the rate of one count per second.

2. Locomotive.-

Stand with the feet together, the hands closed. Strike straight out with ^{a vigorous} ~~the fingers~~ punch first with one hand and then the other, at the same time lifting the foot to the opposite side. Repeat 24-96 times, at the rate of 60-80 per minute. The arms and legs should move in perfect unison.

3. Mill.-

Stand with the feet six inches apart. With both hands closed, reach the right arm straight forward at the level of the shoulder, and the left arm backward at the same level. With a circular swing upward, bring the left arm to the front; at the same time, swing the right arm downward and backward in such a way that the positions of the two arms are reversed. Reverse the movement. Repeat 8-32 times, counting four for each movement, at the rate of one count per second.

4. Steamboat.-

Stand with the feet about 2-2 1/2 feet apart. With arms extended sidewise, throw the weight forward upon the right foot, bending the body sidewise. Holding the arms rigid, bend the body sidewise until it is nearly horizontal, and the arms nearly vertical. Bend to the opposite side, transferring the weight of the body to the left leg, until the position is completely reversed. Repeat movement, counting slowly 1,2,3,4 at each change of position, counting at the rate of one count per second. Repeat 8-32 times.

5. Jumping Jack.- Stand erect with feet together, hands in contact behind. Bend the knees and jump forward, at the same time throwing the arms upward, touching the backs of the hands above the head. Return to position with a jump, simultaneously bringing the feet together, extending the knees and lowering the arms until the palms of the hands touch behind. Count 1.2.3.4 after each movement at the rate of one count per second. Repeat 8-32 times.

6. Warming Up.- Standing with the feet crossed and the arms extended sidewise, palms to the front, bend the knees and jump forward, separating the feet to a distance of two feet ; At the same time, swing the arms across the chest with a vigorous slap. Jump back to first position, crossing right and left legs. Repeat 10-40 times.

There is some advantage in taking the exercises to the accompaniment of music, supplied by a piano or a victrola.

Position of Exercises

It is more important to observe a correct poise of the body in standing, sitting, and while engaged in work or other activities than to possess strong muscles. Of course, the possession of strong muscles may assist one in maintaining a correct bodily poise or a good physical bearing, but one may possess strong muscles and at the same time, through neglect, carry his body in such a way as to invite and develop disease.

The natural curves of the body (shown in the accompanying figures, drawn from life), are not accidental. The external contour of the body has a most intimate relation to the health development and normal function, not only of the great essential viscera of the abdomen but of every cell and tissue in the body. The muscles which form the walls of the abdomen have in recent years been found to possess a function of the utmost importance in the regulation of the blood supply of the entire body. This is due to the fact that the great bloodvessels of the abdomen have a capacity sufficient to contain all the blood in the body. When the body is in a horizontal position, the action of gravity is such that the distribution of blood is equable.

In the vertical position, however, the situation is changed. The hydrostatic pressure becomes a powerful disturbing factor.

In the vertical position, the blood will naturally gravitate toward the abdomen, and unless prevented from doing so by efficient adjustment, the blood will accumulate in the abdomen and the head and other upper parts of the body will be robbed of their due share of the vital fluid.

This fact explains the occurrence of fainting in the vertical position and recovery in the horizontal. The cause of fainting is an accumulation of blood in the abdomen, to the disadvantage of the brain.

The writer recalls a case in which a patient fainting away in the horizontal position through loss of blood, was restored even after the heart had ceased to beat, by strong pressure upon the abdomen.

A person who becomes faint in the sitting posture may more quickly recover by simply bending forward and pressing ^{the} /abdomen against the thighs than by lying upon the floor.

The means by which the disturbance in the blood circulation by the vertical position is prevented, is found in the automatic mechanism by which, in the vertical position the abdominal ~~max~~ muscles are contracted or drawn in with just the proper amount of force to compress the abdominal vessels to such a degree as may be necessary to resist the influence of gravity in attracting the blood toward this region.

When the abdominal muscles are properly developed, this adjustment always occurs when the vertical position is assumed,

of the body
provided that the attitude/is such as to make the adjustment possible. When the trunk is bent forward, the distance between the ribs and the pelvic bones, the points of attachment of the two ends of the abdominal muscles, are brought nearer together. The anatomical distance may be lessened as much as two inches, or even more. The "tone" of the muscles is not sufficient to take up so much slack, and consequently if a person assumes a stooped and relaxed or "slouched" position, there is certain to be an undue accumulation of blood in the vessels of the abdomen. The liver, spleen, stomach, intestines, pelvic organs, -every structure in this region of the body, is overcharged with blood, in a condition of passive congestion, a condition which is an open invitation to disease, ^a And sooner or later, results in the development of various disorders, such as/^{constipation,} intestinal catarrh, colitis, gallbladder disease, diseases of the uterus and ovaries in women, and of the bladder and prostate in men; hemorrhoids and various other rectal troubles, to say nothing of the almost endless list of maladies and miseries which grow out of intestinal autointoxication.

Position, or posture, is a matter of highest importance, then, especially to invalids. In sitting, care should be taken to select a seat with a back of such form that it will maintain the natural curves of the trunk when the muscles are relaxed.

Most chairs require the addition of a cushion for the back to accomplish this. Even when in bed, the average invalid may with great profit make use of sand bags or cushions as a support for the back when-lying in the dorsal position.

The accompanying cuts show normal and abnormal postures in sitting and in standing, and also illustrate methods of acquiring a correct stand and sitting posture.

In persons past thirty years of age, the spine may be found so strongly curved posteriorly, through backward displacement of the vertebrae, that the individual himself cannot by his own unaided efforts assume a correct posture. In such cases, the aid of an assistant is required. How this may be done is also shown in the accompanying cuts.

By observing the following suggestions, a person whose spine has not become rigid, may be at once put in a proper posture, either sitting or standing. And when the correct posture has once been acquired and its advantages in improvement of the form and figure has been appreciated, nothing more is needed than an intelligent observance of the simple directions here given.

To Obtain Correct Sitting Posture

Sitting in a chair with the hips touching the back, place the hands lightly upon the hips, with the thumbs behind. Turn the head backward until the eyes look straight to the ceiling. Now bend the body forward at the hips, keeping the head as far back as possible, and the eyes fixed on as high a level as possible.

Make firm pressure upon the thumbs, still keeping the eyes directly toward the ceiling and bring the trunk slowly up to the vertical position, not allowing the chest to drop. If the pressure upon the thumbs is made firm, not relaxed one second, there will be no difficulty in accomplishing this, but if the pressure upon the thumbs relaxes, the pressure (?) will fall, the spine will push backward, and the desired result will not be obtained. In this case, the movements must be repeated from the beginning.

The purpose of bending the trunk forward, with the eyes fixed upon the ceiling, is to correct the posterior curvature of the spine, and to push the chest forward. After this has been accomplished, firm pressure is made and held upon the thumbs, placed at the lower part of the back. The muscles of the back will hold the spine in its new and improved position while the trunk is being raised to the vertical.

Now if the head is straightened up to a natural position, the body will be found to be a correct poise. To keep it in this position, it will usually be necessary to slip into place, at the hollow of the back, a cushion three to four inches in thickness. Such a cushion may be easily made of newspapers rolled together, or cotton, or hair with the proper covering, or may be obtained from the Sanitarium Equipment Co., Battle Creek, Michigan.

To Obtain the Correct Standing Position

To Obtain the Correct Standing Posture

This is easily obtainable in persons whose spines have not become rigid by too long neglect.

Stand with the back against a smooth wall. A door is best for the reason that the mop board is sometimes in the way. Place both heels against the wall. Next, see that the back, shoulders and head rest firmly against the wall. With the hands extended at the sides, place the little fingers against the wall. Now the heels, hips, shoulders, head and hands are touching the wall. Now turn the head backward until the eyes look straight up at the ceiling. The effect will be to lift the chest forward and to separate the shoulders from the wall to the extent of a couple of inches.

Care must be taken to see that the heels, hips, ~~ankles~~ ~~ank~~, head and hands touch, allowing only the shoulders to move forward from the wall.

Now press the fingers firmly against the wall. This will have the effect to set up the muscles of the back by a firm contraction. Now draw down the chin, which will separate the head from the wall, leaving hips and heels still touching the wall.

The body is now in a slightly exaggerated position. The chest is forward, the muscles are well drawn in, and the back is strongly curved. Note the "feeling" of the correct position. Also, notice the change in the shape of the body, particularly the disappearance of the "pot-belly".

While still holding the muscles of the spine in strong contraction, step out from the wall, swinging the arms. Relax just enough to relieve the sense of tension, and the body will be found in perfect poise, as shown in the accompanying cuts.

Getting the Normal Posture with Assistance.

In most persons over thirty-five years of age, and in many persons much younger, even in persons still in their teens, particularly girls, the writer had found the vertebra of the lower spine so badly displaced backward as to make mechanical replacement necessary. In such cases, the chronic character of the case is clearly indicated by a brown line down the middle of the back and the thickening of the skin in the lumbar region, amounting almost to a calloused condition--"corns on the back", the writer sometimes calls them for the purpose of arousing the interest of the individual in the effort to correct the acquired deformity.

In such a case, the correct posture can be obtained only after the displaced vertebrae have been pushed forward into place. In most cases, this may be easily accomplished by pressure of the hand, with the patient in the "forward-bend" sitting posture already described.

The whole procedure is illustrated in the accompanying cuts, which explain themselves.

Method of Estimating the Amount of Mechanical Work
in Walking

In ordinary walking, the body is moved along a level surface by a combination of movements which resist the action of gravity in such a way that the total movement of walking amounts to a slight lifting of the body at each step. The extent of this lifting movement will depend, of course, to a considerable degree, upon the style of walking, the amount to which the body is lowered and lifted at each step. The average work was found by Zuntz to be such that for every 13.4 feet which a person walks, he does work which is equivalent to lifting his body, vertically, one foot.

There are in a mile 5280 feet. Divided by 13.4, we have 394, approximately, 400. That is, in walking a mile on the level, a person does the same amount of work he would in lifting his body 400 feet vertically.

This calculation is based upon the supposition that the individual is traveling at the rate of three miles an hour, a moderate walking rate.

The amount of mechanical work done may be easily ascertained by multiplying the weight of the subject by 400, and multiplying the product by the number of miles traveled.

Suppose, for example, a person weighing 150 pounds has traveled over a level surface the distance of ten miles.

The amount of mechanical work done, expressed in foot pounds, will be 600,000 foot pounds (150 X 400 X 10).

These figures do not, however, represent the amount of energy expended by the body, for in the work of the body, as in the operation of any other mechanism, there is a considerable amount of waste energy in the form of heat, so that the amount of energy expended is nearly three times that represented by the mechanical work done under most favorable conditions, as exist, for example, in walking at the rate of three miles an hour.

So, to determine the actual amount of work done, we must multiply the figures by 3, which gives us 1,800,000 foot pounds as the equivalent of work done by the body of a man weighing 150 pounds, walking 10 miles over a level surface.

To determine the number of calories of food energy required to produce this amount of work, we must divide by 3,000, which gives us 600 calories as the energy expenditure required to accomplish the amount of work named.

According to Lusk, a man walking at the rate of three miles an hour expends ~~the~~ .37 calories, in the transportation of one pound of body weight, a distance of ~~of~~ one mile.

In
When traveling at the rate of five miles an hour, the energy expenditure per pound of body weight is nearly twice as great, or .70--the economy of energy expenditure diminishing rapidly as the speed of movement increases.

In traveling up or down inclines, the rate of energy expenditure may be increased or diminished. For example, if a person traveling a mile ascends a hill 100 feet in height, the total amount of work done will be the amount done in transporting the body a mile over a horizontal surface, plus the energy required to lift his body through the distance of 100 feet. That is, if the subject weighed 150 pounds, the work done would be 225,000 foot pounds ($150 \times 400 + 150 \times 100 = 75,000 \times 3 = 225,000$).

In traveling down an incline ^{of} 5 percent, the amount of work done in transporting the body is half that required to move it over a horizontal surface.

In walking down an incline of 10 percent, the work is just the same as walking on a horizontal surface.

~~In walkin~~

The work required in descending an incline of 25 percent is double that required to walk by a horizontal surface.

With the above data, a person may easily calculate the amount of work done in walking. The determination of the work accomplished by exercises of various sorts is generally more complicated, although in some cases the problem is simple, as for example, the exercises of heel raising. It is only necessary to note the distance which the body is raised at each movement, and count the number of movements. The product of the two figures will be the number of inches which the body is lifted. Divide by 12 to obtain the number of feet, and multiplying by the body weight, we have the number of foot pounds of work done. Multiply this by 3, and divide by 3,000. Or, what is the same thing, dividing directly by 1000, we have approximately the amount of energy expended in the work done. For example, suppose a man weighing 200 pounds makes the heel raising movement 500 times within ten minutes, lifting his body at each movement two inches. We have 8,333 foot pounds as the amount of work done. Dividing this by 1000, gives us $8 \frac{1}{3}$ calories as the amount of energy expended.

If our subject, in addition to raising the heels, ^{should} also bend the knees, so as to do additional work, the equivalent of lifting the body at least six inches at each movement, his energy expenditure would be increased by three times as much, or 25 calories, making $33 \frac{1}{3}$ calories in all. This would be the

equivalent of 1/8 of an ounce of fat.

We have given these figures so as to show to the reader how comparatively little can be accomplished in the direction of fat reduction by exercise, as compared with a proper dietary. There is no consolation here for those over-fat people who imagine that they are at liberty to indulge their appetites as much as they please, provided that they take regular exercise. An obese person weighing 200 pounds would have to work steadily at the exercise of heel raising and knee bending for more than an hour to burn up a single ounce of fat.

Personal
Book

6/13/20

M E M O .

The influence of position upon the distribution of blood in the body is clearly shown by an experiment made by the English physiologist, Hill. Professor Hill found that if a tame rabbit were suspended by its head, it invariably died in a few hours because of the excessive accumulation of blood in the abdomen. The same experiment made upon a wild rabbit, however, resulted quite differently. The wild rabbit, because of its vigorous abdominal muscles, developed by running, was able to endure the suspension for three days without dying.

The same difference exists between the sedentary man and the well-trained athlete as between a tame rabbit, raised in a pen, and a wild rabbit. The sedentary man, like the sedentary rabbit, has abdominal muscles too feeble to perform the important function of supporting the great blood vessels of the abdomen and so preventing the robbing of other parts of the body of their due share of blood, through drainage into the abdominal cavity. The man with vigorous abdominal muscles, like the wild rabbit, does not suffer from this cause for the reason that his tense abdominal muscles are able to respond efficiently when called upon to afford the abdominal vessels the extra support required to resist the influence of gravity in the upright position.

25

June 16, 1920.

Edward F. Clark, Ridgwood, N.J.

J.H.K.

I recall with sweet and sacred thought my short acquaintance with your noble wife when I lived at the San. while awaiting the completion of the "Post Tavern" which I leased and conducted for ten years. At heart I still feel Battle Creek my home, and may return to make it my last on earth. With sympathy and respect.

June 16/20

Resistive Massage

Neck (on back) muscles

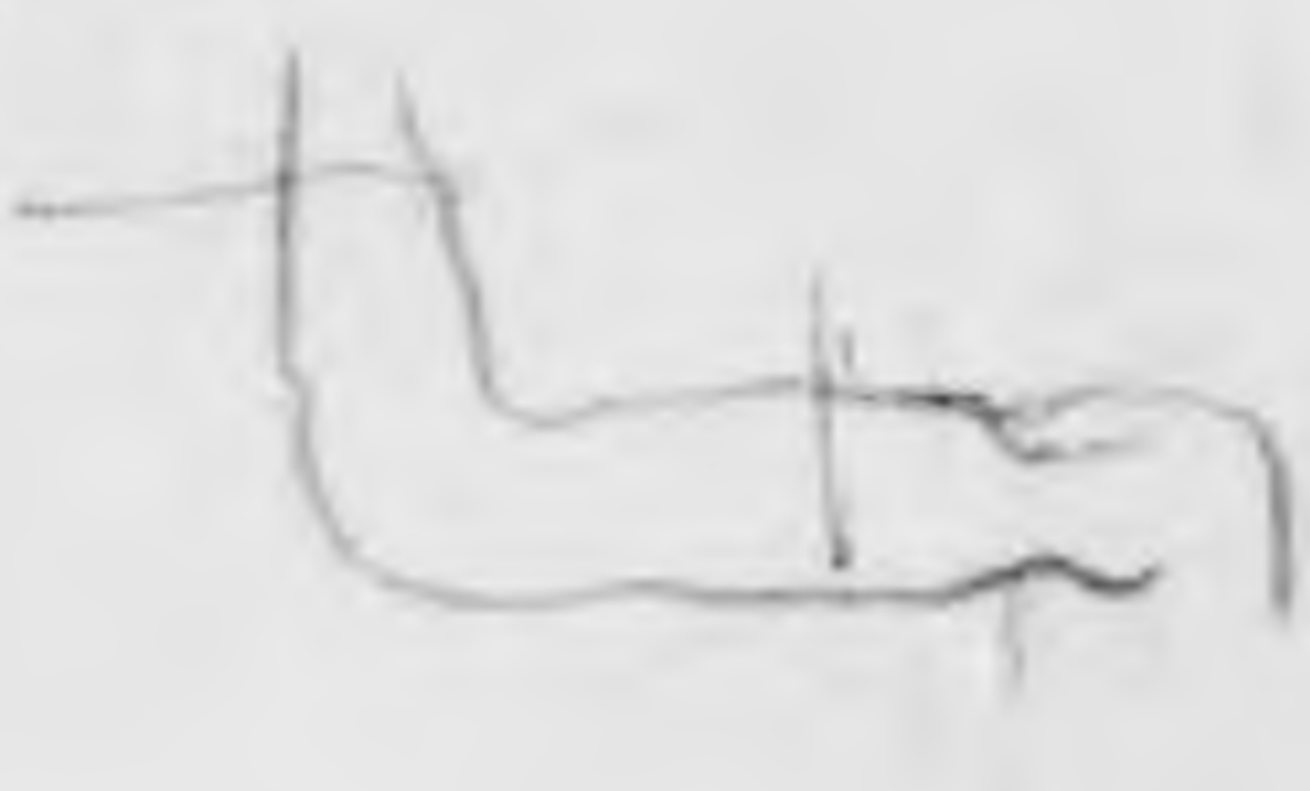
deep kneading (digital)

Rotating stretching

lateral
lateral, up & over back
(clens)

forward

Upper arm

or Rolling 

Abdomen

Chest - pectorals and

latissimus

(Rotating shoulder joint)

Hips (Knee + upper thigh
outside + inside)

Circumduction

stretching
leg rotating (small circle) and
stretching

ankle

Shoulder + upper back

(1) Trapezius. Hand on elbow rotating shoulder

(2) Elbow against chest, work shoulder + back with both hands

3) Stretching latiss dorsi pulling arm above head + stretching pushing ^{muscle} with other hand

Muscles of back

(on right side) left leg flexed right straight left over right. Twist stretch back with one hand pushing shoulder ^{up} left, other pulling on hip

On face 7

Knead back with
heel of hand
Resist ~~with~~ by catching
upper ilium with
one hand,
Resistive by catching
ankle with one hand
and working hip
and thigh muscle

are very hard
3) keep knee a dry boot
knees flexed, resting
against masseur,
with both hands over
hip & loom

left leg on left arm
hand reaching between
work gluteal muscles
with both hands also
twisting and stretching
joint

6

1/2 face lagging
toward right: 0/10
to right

0/10 right hand on
with left on ^{front of} shoulder

makes push + pull
go as to twist spine

affects especially
the middle back

4) Arms under both
legs, knees flexed
flex & twist both
hips & lower spine
wandering muscles
with both hands.
For lumbar region/
straighten legs
by pushing knees
in with masser's
body moving back
forth & straighten
knees by pulling
with ^{me} arms (working
with other arm out)

5-0

Outward

Knees flexed

Push knees over ^{median} while pulling shank ~~forward~~ with other

to ~~lower~~ spine

Also thread deep muscles of back

The Energy Expended in Housework

Benedict and Johnson have recently (1919) made a series of observations for the purpose of determining the energy expenditure required by ordinary light household activities. The observation was made by a study of the energy output before and after entering a large air-tight chamber in which fifteen or twenty young women were engaged in performing some household operation, or doing exactly the same thing in the same way.

The conclusions reached may be briefly stated as follows:-

1. When sitting quietly in the experimental chamber, two hours after a meal, the energy expenditure was one-half a calory per pound of body weight per hour.
2. Reading aloud increased the energy expenditure three per cent.
3. The energy expenditure when singing was increased twenty-two per cent.
4. The exercise of plain sewing occasioned a smaller expenditure of energy than singing, being less than two-thirds as much, or thirteen per cent.
5. The energy expenditure in standing was nine per cent. greater than in sitting.

6. Sweeping caused an increase of one hundred and fifty per cent.

7. Moderate walking increased the energy loss two hundred and fifty per cent.

8. Dusting increased the loss by one hundred and thirty-four per cent.

9. The energy loss occasioned by the act of rising up and sitting down once a minute during three minutes, showed an increased energy loss of one-third of a calory, or sixty per cent. of the energy lost in the sitting posture.

Miss Lenna Cooper and Miss Hall, spray of roses

B.C.Lodge, No. 131, B.P.O.E., spray of peonies

Mr. Duffus, Kalamazoo, basket of roses

Miss Kilmer and Mrs. Newton, spray of gladiolus

Mr. and Mrs. French, basket of roses and carnations

Mr. and Mrs. Loveren, basket of roses

Mr. and Mrs. W.D. Farley, basket of roses and fever few

San. nurses, basket of roses

The Family, blanket

Calhoun Medical Society, spray of peonies

Mr. and Mrs. Klein, spray of carnations

Mr. and Mrs. Bromberg, spray calla lilies

I.L. Stone and Family, pink and white roses

W.C.T.U., spray carnations

Mr. and Mrs. Ira Beck, spray of carnations

Mrs. H.A. Preston, spray of carnations

Mr. Ashley, Mr. Bloese, Miss Edna Browning, Miss Strong, Miss

Grundtish, Mrs. Lillian Davis, Miss Leta Browning,

spray carnations.

Dr. and Mrs. Mercer, spray of red roses

Miss C. Zahn, spray of carnations.

Mr. and Mrs.L.D.Hobbs,spray of peonies

Womens' League,wreath of carnations

San.Faculty,basket of roses

" ,list of 39 names,wreath of roses

Mrs.W.K.Kellogg,"Gates Ajar"

Parent-Teachers' Association,No.10 School,spray of roses

Employees Kellogg Food Co.,wreath of roses

Mr.and Mrs.W.P.Butler,spray of roses

Dr.K.H.Kellogg,spray of roses

Mrs.Charles E.Kleckner,spray of roses

Mr.and Mrs.J.L.Kellogg,spray of roses and sweet peas

Ladies' Aid,S.D.B.,basket of roses

Senior D.S.Class,basket of roses

Mrs.Kerr,Dr.and Mrs.Harris,cross of roses and sweet peas

Mrs.John Livingston Grandin,^(Boston)spray of roses and lilies

Clerks of the Grand Trunk Stores and Accounting Department
spray of roses and carnations

Kellogg Food Co.,basket of peonies

Sanitarium Trustees,blanket

The Estill Family,basket of carnations

Dietitians,spray of peonies

Mr.William E.Goff,basket of roses

Dr.and Mrs.Vince,basket of peonies

Mrs.Estes and Miss Lazarus,spray of peonies

Dr.and Mrs.Wencke,spray of roses

Board of Managers,Y.W.C.A., (?)

Mr.and Mrs.W.S.Eaton,spray

Dr.and Mrs.Richard M.Kellogg,peonies

Mr.and Mrs.Robert Kellogg,spray of roses.

To be added to list

Calhoun Medical Society

Mr. and Mrs. Rupert French, 17 N. Kendall St.

Dr. Carrie Staines Kellogg

Mr. and Mrs. W. P. Butler

Mr. and Mrs. J. L. Kellogg

Mrs. John Livingston Grandin, 461 Commonwealth Ave., Boston, Mass.

Dr. Karl H. Kellogg

Sent flowers -

List of names of persons who sent letters ,telegrams and
flowers. *June - 1920.*

Alderman, Miss Margaret

Ashley, Mr. and Mrs. Marcus, 140 Grand Boulevard, City.

Angevine, Mrs. Clara M., 428 Academy Street, Kalamazoo, Mich.

Askowith, Mr. and Mrs., North Pelham, New York.

Anderson, Mr. D. O. Anderson, Marion, S. C.

Anderson, Miss Chloe C. Anderson, 1957 Lime Avenue, Long Beach, Calif.

Anderson, Mr. and Mrs. Julius B. Anderson, 1957 Lime Ave., Long Beach,"
and Mrs.

Ashley, Mr. R. V., Sanitarium.

Allen, Miss, Sanitarium (Business Office)

Allen, Mr. A. C., Sanitarium.

Adams, Mr. Will, Sanitarium.

Anderson, Mr. O., Sanitarium.

Brophy, Jr., Mr. and Mrs. Truman W.,

Chicago.

Belknap, Dr. and Mrs. L. J., Garden City Sanitarium, San Jose, Calif.

Biddle, Dr. Andrew P., Suite ⁹³⁸ ~~901~~ David Whitney Building, Detroit, Mich.

Ball, Mrs. Lucy, 221 N. Spring St., Greensboro, N. C.

Burkhardt, Miss Louise, R. F. D. #6, Box 186, Richmond, Ind.

Baker, Dr. Howard, 281 West Warren St., ^{Ave.} Detroit, Mich.

Bower, Dr. Emma, Port Huron, Michigan.

Baker, Mrs. S. M., Muskegon, Mich.

Baker, Mrs. Fanny Howard, R. D. 8, Box 93, Holland, Mich.

Bigelow, Mrs. Mary H., 13410 Ashburton Road, Cleveland, Ohio.

Bovee, Miss M. Isabelle Bovee, 244 North Fifth St., Corvallis, Oregon.

Browning, Miss Leta, 53 Cherry St.,

Browning, Miss Edna, " " "

Beuchell, Mr. and Mrs. Oscar, 288 Champion St., City.

Bromberg, Mr. and Mrs. H. A., 136 Fremont St., City.

Mr. Bungar, Sanitarium.

Miss Bliss, "

Babcock, Mr. and Mrs. A. L., Sanitarium.

Butnell, Miss, Sanitarium

Coburn, Professor and Mrs. W. G., 135 College St., City.

Clark, Mr. Edward F., Ridgewood, N. J.

Covert, Mr. John W., East Leroy, Michigan.

Connelly, Mr. William, Sanitarium.

Cleveland, Mr. and Mrs. A. L., Sanitarium.

Carr, Mr., Sanitarium.

Crampton, Dr. and Mrs. C. Ward,

Cooper, Miss Lenna, Sanitarium

Davis, Mrs. Lillian, Sanitarium.

DeGraw, Miss Bessie, Madison, Tennessee. (Madison Rural Sanitarium)

Druillard, Mrs. N. H., Nashville Agricultural Normal Inst., Madison Rural
Sanitarium, Madison, Tennessee.

Dunscombe, Miss Mildred A., Oberlin, Ohio,

Durrie, Dr. Anna B., Melrose, Mass, % Sanitarium.

Dean, Dr. and Mrs. Bashford, Metropolitan Museum of Art, New York City.

Daviess, Mrs. Maria Thompson, Sweetbriar Farm, Madison, Tenn.

Droll, Dr. and Mrs. George, 2301 E. 14th. St., Kansas City, Mo.

English, Miss, Sanitarium.

Estes, Mrs. Abbie, Sanitarium.

Farley, Mr. and Mrs. W. D., 105 W. Van Buren St., City.

Foss, Hon. and Mrs. Eugene N., 34 Oliver St., Boston, Mass.

Ford, Mr. and Mrs. I. A., 215 North Adams St., Glendale, Calif.

Foley, Mr. Philip J., So. Spaulding Ave., and West 31st. St., Chicago.

Fuller, Route 7, Box 80, Battle Creek, Mich.

Foy, Mrs. Mary S., Sanitarium.

Farnam, Dr. Henry W., 43 Hillhouse Ave., New Haven, Conn.

Fisher, Mr. Herbert W., 460 Prospect St., New Haven, Conn.

Fredericks, Mr. W. E., Sanitarium.

Foy, Mr. J. Q., Sanitarium.

*Furman, Miss Lucy, Sanitarium or
Hindman Settlement School.*

*French, Mr. and Mrs. W. P., 17 Kendall St., Battle Creek
" , Kentucky.*

Grandin, Mrs. John Livingston, 461 Commonwealth Ave., Boston.

Goff, Mr. W. E., 93 North Ave., City.

Goin, Dr. and Mrs. L. S., 97 Hubbard St., City.

Garcia, Dr. Alberto G., 219 East 6th. St., Austin, Texas.

Getts, Miss Mabel, Sanitarium.

Miss Phyllis

Grundtisch, Sanitarium.

^

Hall, Miss Margaret, Sanitarium,

Hobbs, Mr. and Mrs. L. D., Manchester St., City

Hemingway, Mr. and Mrs. Anson T., 400 N. Oak Park, Ill.

Mr. John W.,

Hamilton, Stoneleigh Court, Washington, D. C.

^

Hunter, Mrs. R. L., Box 366, Decatur, Alabama.

Harrison, Dr. Beverley D., Washington Arcade, Detroit, Mich.

Holcomb, Mr. C. A., Sanitarium.

Howie, Miss, Sanitarium.

Inman, Mr. and Mrs. Martin, Sanitarium.

and Mrs.

John. Dr. A. Allen, Oregon, Illinois.

^

James, Dr. Walter B. James, 7 East Seventieth St., New York City, N. Y.

Jeffords, Mr. and Mrs. T. C., Sylvester, Georgia.

Klein, Mr. and Mrs. David, 20 Frelinghuysen Ave., Battle Creek, Mich.

Kilmer, Miss Beulah, Sanitarium.

Keiser, Mr. Earl, Sanitarium.

Kleckner, Mrs. Charles E., 179 West Main St., City.

Kleiser, ^{Prof} Mr. and Mrs. ^{Grenville}, The Annex, New York City, N.Y.

Keck, Mr. and Mrs. Irving, Bowling Green, Florida.

Kress, Dr. and Mrs. D.H., 705 Carroll Avenue, Tacoma Park, D.C.

Kelly, Pastor and Mrs., Sanitarium.

Lewis, Dr. and Mrs. W.B. Lewis, Sanitarium.

Lemmon, Miss Stella, R.N., % Consolidated Water Power and Paper Co.,
Grand Rapids, Wisconsin.

Lazarus, Miss Mary Joe, Sanitarium.

Lambert, Miss Clara B., 741 North Marengo Ave., Pasadena, Calif.

McKenzie, Rev. J.H., Howe School, Lima, Indiana.

? Martinez, Mr. and Mrs. A., St. Augustine, Florida.

Mackie, Mrs. Thekla, (*China? or Tacoma Park - D.C.?*)

Mitchell, Dr. E.W., Reading Road and Ridgeway Ave., Cincinnati, Ohio.

McWhirter, Mrs. Luella F., 1455 N. Pennsylvania St., Indianapolis, Ind.

Mason, Mr. and Mrs. F.L., Ridgewood, New Jersey.

Mack, Miss Virginia, 730 Hazen Avenue, Ann Arbor, Mich.

Mayo, Dr. William J., Rochester, Minn.

Murphy, Mr. G.H., Sanitarium.

Newton, Mrs. Harriet M., Sanitarium.

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Oliver, Mrs. Phoebe, Sanitarium.

Oviatt, Mr. E. C., Sanitarium.

Preston, Mrs. H. A., 262 East Fountain St., City.
Club,

Peck, Mr. and Mrs. F. W., Union League, Chicago.

Pepper, Mr. John, Holland, Manitoba, Canada.

Priddy, Mr. Lawrence, 149 Broadway, New York.

Pulsifer, Mrs., Sanitarium.

Poole, Mrs., Sanitarium.

Riggs, Mr. and Mrs. Clark, Sanitarium.

Riley, Dr. and Mrs., Sanitarium.

Reeves, Mrs. O. W., Chattanooga, Tenn.

Rose, Mrs. Grace Chapman, 190 Drexel Ave, Bexley, R. D. 5, Columbus, Ohio.

Runk, Dr. Roxella L., Sanitarium.

Sabbath Recorder, The, Plainfield, N. J.

Smith, Mr. L., Sanitarium.

Strong, Miss Besse, Sanitarium.

Stone, Miss May, Hindman Settlement School, Hindman, Kentucky.

Salmons, Dr. Levi B., $\frac{1}{2}$ El Buen Samaritane, Guanajuato, Mexico.

Smith, Mr. Arthur F., Kew Gardens, New York City, N. Y.

Simmons, Dr. and Mrs. George H., 712 Gordon Terrace, Chicago.

~~Scott, Professor and Mrs. F. N., Ann Arbor, Michigan.~~

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Scott, Prof. F. N., Ann Arbor, Mich.

Spalding, Mr. A. W., Editor, The Watchman Magazine, Nashville, Tenn.

Sturgis, Mrs. Henrietta A., Sturgis, Mich.

Salisbury, Mrs. Lenna W., Melrose, Mass.
and Mrs.

Stone, Mr. I. L. Stone, 289 Maple St., City.

Tenney, Eld. and Mrs. George E., Sanitarium.

Thomason, Dr. and Mrs. George, Care of White Memorial Hospital,
Los Angeles, California.

Van Sickle, Mr., Sanitarium.

Van Dorn, Mr. and Mrs. E. B., The Working Mens' Home, La Grange, Ill.

Vaughan, Mrs. S. V., 15 Union St., Cuba, New York.

Winternitz, L., Ill. Athletic Club, Chicago.

Whit, Miss, Sanitarium.

(to be added to list of names for Memorial)

French, Mr. and Mrs. W. R., 17 Kendall St., Battle Creek, Mich.,

Furman, Miss Lucy, Sanitarium.

Fisher, Prof. and Mrs. Irving, 460 Prospect St., New Haven, Conn. ???

Mrs. Lizzie Fisher, 17 Kendall St., Battle Creek, Mich.

Kellogg, Miss Lucy, Care of Gilmore's, Kalamazoo, Michigan.

Byington, Mrs. J. F., 2527 Hearst Ave., Berkeley, Calif.

2

Mrs. S. M. Baker, Muskegon, Mich.

July 7, 1920.

J. H. K.

I have just learned of the death of Mrs. Kellogg.

I want to send a word of sympathy for the loss of a sympathetic co-worker.

Mrs. Kellogg was always a wonderful woman to me, in that, despite our *own* affliction, she made her life such an inestimable help in the training of her family, and to the many others who received the benefit of her teachings. With grateful memories of the days when we were working with the same interests, I extend my sincere sympathy.

LH

Jackson Talk

Old fashioned body

New living

Like trying to turn gasoline into a wood stove

Gasoline put in gas at gas work burns o.k. in gas

stove. Poured into a wood stove, explodes,

sets house afire, scorches stomach, liver,

colon, appendix, gallstones, explodes in brain

when you want to go to sleep.

Mustard, pepper, etc. scorch and burn and blister

Beefsteak

Mortality of business men

Bus. Man dies at 35

Farmer " " 55

Bus. woman " " 26

Housekeeper " 53

3 times as many men die of heart and kidney dis. 30-34

4 " below 40-44

Posture

Breathing

Exercise--Fisher

Walking

Poison habits

7 grs. caffeine a day

10 " nicotine

Dec. 19, 1920

Mildred A. Dunscombe, Oberlin, Ohio.

JHK

A word in appreciation of your autographed photograph which I received from one of the girls several weeks ago. I am one of the class of 1917. who came back for the reunion of the School of Home Economics. I cannot express which a pleasant time that was for me and I know it was due in part to your effort that the girls received such a royal welcome. I was very sorry to hear of Mrs. Kellogg's death the day I left. Your administration to the sick will bring you comfort and help in your affliction I am sure, better than any I could offer. I have always admired your devotion to the ideals you have laid down in the Sanitarium and I try to spread them in my ministry to my family.

I am the oldest girl in a family of eight with no mother so you can see I have a great opportunity for training my sisters and brothers in right living. We have just came to Oberlin for the school year as we have three girls in college here. We return to our home in Twinsburg, Ohio in June, after the college closes. If you every come to Cleveland and vicinity we should feel honored to entertain you. Thanking you again for the photo and with best wishes for a Merry Christmas and a Happy New Year.

RG

Danbarum

Dec. 31st - 1922

Dear Dr. Kellogg:-
I may I add my
appreciation and thanks, as
one of the many, whom you
so generously remembered
Christmas with a box of your
candy?
I know that you joy at

no reason, and then every
day of your life, is sent for
us rather than receiving.
But you are who is sincerely
qualified to give each day of
my life. Am sending you
you a very best and (all the
rest of the year, a continuation
of the success you have already
achieved - Cordially Aff. 4/18

1920

NOTES ON A VISIT TO THE MAYO CLINIC.

1920?

Rochester is a clean, rural, restful, residential main street town of 21,000, with a floating population of some five to eight thousand. It is a town of hospitals, hotels, boarding houses and homes, with broad streets lined by beautiful oaks, elms, and other trees, with good shops and numerous restaurants and six cafeterias. With pride, they point out that there are only two factories, the Reid, Murdock Monarch Canning Co., on the out-skirts of the town, and a small Sears and Roebuck Camera factory, neither of which are in any way a menace to the health and comfort of the town. Oil furnaces are used commonly in the homes, possibly on account of the cheapness of the oil, six and one-half cents a gallon.

The town is located on the winding Zumbro river, where seven valleys meet in a shallow basin, and it is consequently surrounded by beautiful hills on all sides. The south-east quadrant of the town is distinctly hilly, and here we find located the finest homes, including those of Dr. Will Mayo, and Dr. James Addison. The elevation above sea level is about 1200 feet and the town is about 90 miles south of Minneapolis and 40 miles from lake Peppin, a great swelling or enlargement of the Mississippi River. While beautiful for its location, the climate is not all that could be desired, for they have the extremes of cold in winter and heat in summer. One doctor told me it was frightfully hot and sultry in summer.

Of the many hotels, the Kahler, a fine tall building of some twelve stories is the largest and also the most expensive, with rooms \$2.50 to \$6.00 a day. The board is reasonable and one could live here comfortably at an expense of from \$2.00 to \$2.50 a day for the board only. The Kahler is also a hospital and there are many small wards, usually containing from two to four beds each. The inclusive rates of board and room in these wards varies from \$3.25 to \$3.50 and \$4.00 a day, and up to \$7.00 for private rooms, including board. Other hotels, including the Samaritan, with 90 rooms and built eight years ago, offer rooms from \$1.00 and up or room and board for \$2.00 to \$4.00 a day. The Damon offers rooms from \$1.25 a day to \$2.50. Some hotels offer rooms at 50¢ or 75¢ a day. The Samaritan is both a hotel and a convalescent home, and has a physician attached to it.

There are many private homes in Rochester offering board and room with hot and cold water from \$1.25 a day up to \$1.75 a day, or more. Rooms without ^{board} from 50¢ a day.

The trains are met by hotel busses or motor cars, which is a free service both on arriving and departing. None of these busses or taxi cabs are allowed to cater to or call out the Mayo Clinic. Some have done this in the past, but were stopped promptly. One could not help but notice that there is no squabbling for trade among the bus drivers or taxies. There are no street cars in Rochester, but they have what appears to be an excellent bus service, fare 5¢. These busses have regular stopping places, such as the Kahler, St. Mary's Hospital, etc., but also stop at any street corner.

It might be well to mention right here that there are no trains between the hours of 9:30 at night and 7:00 in the morning, and with the added absence of street cars, one finds the town very quiet. Furthermore, the chimes which strike both the hours and quarters during the day, cease after 9:00 at night, until the morning. I noticed at two hotels that baths were not allowed after 10:00 at night nor before 8:00 in the morning; this to insure quietness.

They have several excellent cafeterias, the largest and probably the best being the Zumbro which is in the basement of the Zumbro Hotel, and located just back of the Clinic. The service of the Zumbro cafeteria is excellent, the food is good, well cooked and attractive; and the servings are generous; the prices are low, the lowest that I have seen in the United States during the past ten years. On entering, a man at the door receives your hat and coat and gives you a metal number. Then, on entering the line, a tray with a knife, fork and two spoons wrapped in a real serviette are handed to you. There is a large variety of both vegetable and fruit salads, fresh and stewed fruits, vegetables and dairy products, pastries and of course flesh dishes. The helpings of soup are large and the price is 10¢ a dish, which includes a little wax bag containing four soda crackers. Potatoes are 5¢ for a generous dish and other vegetables from 10 to 15¢, and a large variety of breads at 2¢ a slice and butter at 2¢ a square; good buttermilk 5¢ a glass, fresh iced orange juice, (about 3-4 ounces) 15¢; a sliced orange 10¢; a pot of postum containing about 2 cups, including a jug of cream, 8¢;

and a large helping of delicious ice cream 10¢; pies and cakes uniformly 10¢ with an occasional exception. The calories per helping are marked clearly on the black boards before each item, with the prices following. Three large wheat cakes with butter and syrup, 12¢; ordinary coffee after the first cup, which is 5¢, is served free, ad lib. On every tray a glass of water containing chopped ice is placed by the attendant. This cafeteria is open from 7:00 a.m. to 2:00 p.m. and from 5:00 p.m. to 7:30 p.m. daily. Another cafeteria is the Carlton, which probably only serves two or three hundred meals per day, while the Zumbro claims a patronage of about 1200 a day. I noticed the prices of the Carlton were much the same as ^{at} the Zumbro and the service was excellent.

I brought along a menu of the Kahler hotel dining room. Judging from the few meals that I took at this hotel, I could get good vegetarian board, at about \$2.00 a day, possibly a little less. They offer a noon day luncheon at 75¢ which seems to be quite generous and would make a good meal at mid day for most people. The regular evening dinners are \$1.50 but they also offer combinations from 90¢ and up. The helpings are so generous that they are willing to divide them and serve two with each helping, if requested. You will notice that the menu offers most of the dishes a la carte. The service at the different hotels and cafeterias seemed to be excellent and prompt, and the food is served in an attractive way, hot dishes actually hot and cold dishes ice cold.

I saw no tipping at any of the restaurants or cafeterias, and no evidence of it in the clinic or in the hospitals. Inquiries gave the information that tipping was comparatively rare and thoroughly discouraged. My impression was that the workers generally don't appear to expect tips.

It is obvious that the Mayo Clinic dominates the town in a general way and is the main business or income of the community. The Clinic employs 150 doctors on the staff, all of whom are known and described as consultants. The Mayo Brothers and Dr. Hugh Cabott are designated as senior consultants in surgery, Dr. Rowntree as senior consultant of the hospitals and Dr. Sheldon as senior medical consultant of the Mayo Clinic. In addition to the 150 consultants, they have 300 doctors known as Fellows. These receive their remuneration direct from the Mayo Foundation, founded by the Mayo Brothers, with an endowment of something more than three million. I understand that the remuneration

of the fellows was \$800.00 for the first year, \$900.00 for the second year and \$1000.00 for the third year. Each fellow is expected to sign on for not less than one year at a time and at the end of the year, sign on for another year, etc. A goodly number of them remain from one to three years after the first three years. The brightest and best of these obtain an assistantship which raises their stipend an additional \$1000.00. These first assistants, as they are called, have apparently but little advantage over the ordinary Fellows, but it is from them that most of the new members of the permanent staff are selected. The Clinic employs about 1250 non-professional workers, many of them known as technicians in one line or another. These technicians do much of the x-ray work, take the blood from the veins for analysis; blood counts, and similar duties. Very few, if any of these are graduate nurses. The home of the Clinic is a handsome, cream-colored modernized Gothic brick building of some sixteen stories which is capped by a beautiful bell-tower, with a Carillon of 23 bells from Croyden, England. The largest bell weighs over four tons and the lightest seventy pounds. They furnish delightful music a couple of times a day and more on Sunday. They also strike the hours and the quarters from 8:00 o'clock in the morning until 9:00 o'clock in the evening. The Clinic was planned by Dr. H. S. Plumer and was described as the dream of his life. It is not only handsome and beautiful in its exterior, but equally so in the interior, as it is trimmed by different varieties of Italian Marble, brought over as ballast. The plan of the building appears to be admirably suited to the needs of the Clinic.

The sub-basement is given almost exclusively to the records which are filed and cross-filed for any subject and are therefore readily accessible on short notice. I talked with Miss Root, who is in charge of the records, and she told me that at that time there were over 10,000 records out in the doctors hands for the purpose of research work, preparing articles, lectures, etc. The complete record of each patient is kept in a brown manila folder, something like the sample shown. This folder contains all of the history and examination records, reports of operations, etc., and also all of the correspondence in connection with the particular patient. In addition they have a very interesting record, covering four large double foolscap pages numbered 1,2,3, and 4. in which all the names of the patients are entered serially according to number on a single

line across the four sheets. This record appears to be a brief but nonetheless wonderfully complete sketch of all the essentials of ^{the} particular case. The record office is connected with each floor of the Clinic by a remarkable system of dumb elevators which enables them to communicate with any floor of the Clinic; and with the hospitals, including St. Mary's, by pneumatic tubes, in just a few seconds.

The present serial number of the patients is upwards of 741,000 and began July 1, 1907. The patient always retains his original number, no matter how many times he visits the Clinic. Last year they had about 76,000 patients, but they were by no means all new patients, for many of them were old patients returned.

What we would call the basement is known as the first floor, which is something like six or eight steps below the side walk level. A large part of this floor is also given to the records and it is on this floor that Miss Root has her office. On this same basement or first floor, is the drug store of Weber and Judd, who, I understand pay rent for the space. This is strictly a medical drug store and serves only medicine and such health supplies as enema cans, etc. Here is where the patients take their orders for urine analysis and receive in return a wide-mouthed bottle, capacity 500 cc., for which they pay 15¢/ This they take to their boarding house, or hotel and collect a 12 hour specimen from 7:00 p.m. to 7:00 a.m. They are given a label on which full instructions are printed and they are asked to tie this firmly to the neck of the bottle, and return it the next morning to desk D 1. This first floor also contains their only electrocardiograph, where they make some 35 or 45 tracings daily, and reports and tracings go to the doctor the following day, a very prompt and much appreciated service. Indeed, their punctuality and promptness in their various services seemed a marked feature of the Clinic. On the first floor are also taken blood for hemoglobin and blood count.

The second floor is known as the main floor, and here is the one general entrance to the Clinic. Two sets of four large doors, with a commodious recess between them, is the entrance. In addition, on the out-side of these, are two enormous bronze doors, beautifully embossed, depicting various scenes, and weighing about two tons each. It appears that these are rarely, if ever used, for I never saw them closed. There is a side entrance not far from the main door, with an incline for wheel-chair patients.

This side door entrance is also used by the workers, but not exclusively. From the basement of the first floor there is a well-lighted, nicely tiled subway which leads to all the hospitals and power station, except St. Mary's, which is too far away. This subway is used by both patients and workers, as well as the doctors. Near the entrance of the subway and on this same first floor, is a large coat and hat room which contains four registering clocks where the workers register in and out. I was given the privilege of using this room for my coat and hat, a very considerable convenience. This cloak room is under observation, and therefore no ticket is required. From the first floor, five elevators, arranged side by side in a row go to the twelfth floor, while two of them go on to the sixteenth floor, if I remember right. Consequently, the elevator service is excellent. The elevator cubicles are the nicest and most elegant I have seen, being paneled with Spanish leather. They are run by pressing a button, but more quiet, and with less evidence of movement than usual. They point out with pride the comfort of their elevators. Nevertheless the speed is six hundred feet a minute, so that they are by no means slow. One scarcely realizes that he is going up, until the floor is called out. These elevators are run by experts, young men of maturity, I should guess from twenty-two to thirty or thirty-five years. On the main floor they also have an elevator man standing outside to help the guests and to give instructions as necessary. He seems to be in charge of the elevators and the elevator men are under his direction.

On the second or main floor there is a large lobby to the left of the entrance where the patients wait to register. In the center of this is a fountain which is said to mark the spot where Dr. William or Charles Mayo was born, I am not certain which one. The lobby is seated with light, strong, very comfortable reed arm chairs, with leather cushions and leather backs. In front of the lobby are the registration windows, eight in all. Opening from the lobby are toilets for both men and women. The men's toilets have a small lounge or sitting room in addition to the lavatory and toilet, all beautifully tiled in Italian marble, with vitreous fittings; all are supplied with loose towels piled up in abundance, as well as soap and running water, and

almost all of them, I think except the basement, have outside windows, insuring good ventilation. In addition to the eight registration windows, there are three clerks and also a lady by the name of Miss Fitzgerald, at tables, who are there to furnish information to the guests and give them guidance. In the early morning, when they are the most crowded, one or two of these three uniformed young men walks among the patients and one stands by his desk ready to answer questions and show the way. Miss Fitzgerald's special duty is to wait on visiting physicians and assist them in making out a program for the seminars, conferences, clinics, lectures, ward rounds, etc., which they wish to attend. She and her assistant help them in making a contact with the different doctors and surgeons, and they are always available from early morning until 5:00 p.m. or later.

The patient, on entering the main floor of the clinic, sees ahead of him an information desk with ample room for three or four men, according to the hour of the day, or the number of guests entering. To the right are five elevators, and to the left, the corridor leading to the lobby and registration.

The business office with two doors, each numbered 280, is on this same main floor, just opposite the registration place, and has four windows. One notices the modest equipment and the small space the business department appears to occupy. Both men and women serve at these windows and receive the payment. In spite of their small space, and rather insignificant appearance, the business office appears to work efficiently. A patient on being dismissed by the consultant, is handed a card by the desk woman and told to take it to #280. He steps out into the elevator, drops to the main floor and walks straight to #280, steps up to the window and hands the card. The one in waiting says, "I will step back and get your account," and with little or no waiting the account is ready. Their promptness in this respect is also noticeable . . .

The same lobby already described is used for the weekly staff meetings at 8:15 Wednesday evening, 52 weeks in the year. The only exception is if the Wednesday falls on Christmas, then it is omitted. I was only able to attend one of these staff meetings and did not see a very large attendance. I cannot imagine there were

than two thirds, if as many, of the 450 physicians in attendance. Although I looked carefully, I saw no evidence of roll call or of any record of the attendance. The meeting began promptly on time and closed with equal promptitude.

The third floor is occupied by various medical and surgical offices at which patients rarely are received. The Mayo Brothers have their offices on this floor and others of the foremost leaders. The fourth to the eleventh floors inclusive, are practically identical and are divided into a large central lobby or waiting room and two sets of offices, one on the north side and one on the south. The south side is lettered S 4, and the north side is lettered N 4, meaning the north side of the fourth floor, etc. I saw no carpets in the Clinic, although they may have them in some special rooms for ladies. Two doors led into the waiting room on each of these floors, one on the north side and one on the south side. There we find a strip of carpet about five feet wide, leading to the middle of the room where a similar strip of carpet leads from the north to the south offices. These waiting rooms are also furnished with the same style of comfortable reed arm chairs. They are well lighted and well ventilated and give a good view of the north side of the town and surrounding country. Each set of offices is flanked by a counter and an office room which is occupied by two women, one in charge and one assistant. Going to the desk the patient hands his envelope with his name and number and appointment card, if he already has one, and then the patient is either told he will be seen in a few moments by the doctor or given an appointment later on. There are usually nine medical offices of similar size and equipment on each side of the waiting room, and also a larger conference room for clinics. Each of the consultants has his own private office, the fellows using the extra offices as necessary. Each office is fitted with a wall desk, with brackets and the usual drawers and pockets, and an oak examining table, two thirds length, with a step at the end where the patient can sit down with feet on the step or use in getting on the table. Each table is fitted with supports for the feet for giving pelvic examinations. A little dressing room or large screen near the entrance door is used for disrobing. It will be noted that there are two sets of these offices on each floor from the third to the eleventh, inclusive, although as far as I could observe patients are not seen on the third floor, unless an exceptional case. I was told that they

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have over one hundred and fifty ^{offices} in use.

The various examinations and tests are facilitated by duplication of technicians. I saw four x-ray men doing teeth only. They work from six to seven hours a day, sometimes longer, if extremely busy. There were also four or more dentists (fellows) at work. They have a suite of nine offices. Like the medical fellows, they see the patient first and later the patient sees the dental consultant, if necessary.

Several women were taking blood from the veins with facilities for four to six working at one time; and some pricking the ears for the blood count.

On the 12th floor, they have an excellent medical library open from 8:00 in the morning, till 9:00 in the evening, to visiting physicians as well as their staff. The ^{reading room} library is beautifully furnished and on the ceiling is engraved the names of many of the leading physicians and surgeons of past years.

There seems to be a consensus of opinion among the town people that the Mayo Clinic is generous to poor people and in some cases actually gives the patient a supply of money to pay the local hotel expense. I was told by Mr. Cowan, the manager of the Milton hotel, of a foreign servant girl being brought to the Clinic with acute appendicitis. She refused to go into the hospital because she had no money, but they told her it would be alright and took her in and she was discharged on the eleventh day. They rendered a small account, on which she was to pay \$5.00 a month. This money the Clinic banked and when she had completed the payment they presented her with the bank book. One of the doctors told me of another case with which he was personally acquainted, when Dr. Will Mayo handed a woman \$100.00 when she left for home. Of course, there was no bill for her. I could not help but notice a friendly feeling on the part of the town people, including the barber I visited. He told me of the very generous treatment that his wife received when she had to have a thyroidectomy.

One of the men in the business office told me that they have a special method of dealing with some of the Hebrews and the southern races of Europe. These people are required to deposit \$100.00 before beginning the examination, When they have reason to think the people are unreliable and might want to leave without settling their account. They have had plenty of such experiences. When these people are ready to leave, the balance, if any, is returned. Some of these people are inclined to give false

names and false addresses, and in various ways try to escape payment. If the patient is honestly poor and not trying to beat the Clinic, they are perfectly willing to give whatever charity is necessary. I was told that they never bring suit for any collection. The consultant who sees the patient is expected to give an intimation as to the financial status, as you will notice on the sheet. Furthermore, they try to avoid running an account for any length of time, and feel that it is better to reduce the account and collect what they can at the time than to let it run a long time. They say the patient is liable to criticize and find fault and complain to his relatives and friends of the treatment he has received, if the account is pressed for a long time. This is bad advertising. They think it is wiser to take the loss than to permit such advertising. They also find it expensive to keep the accounts, send bills and follow up with correspondence.

REGISTRATION OF THE PATIENTS

Patients who have written, or whose doctor or friend has written to the Clinic, receive first attention and are always seen within twenty-four hours, usually the same day, if possible. Others, who have made no previous arrangements, are sandwiched in as fast as possible.

The patient, after registering, and receiving an assignment card and a manila envelope, goes to see the doctor who is to take his history and examine him, from whom he receives cards giving directions for the various appointments for special tests and examinations. After giving his history in full, and answering questions, and also being encouraged to tell his story as he wants to, he is asked to disrobe in the dressing room and then goes into the office for his examination. Nothing seems too trivial to these doctors and they are expected to note the negative things as well as the positive things. The patient is examined first in the standing position and then the sitting position, sitting on the end of the examining table. The blood pressure is taken, heart and lungs examined, important reflexes taken. I noticed that for the eye reflexes they use a small electric lamp with a suitable reflector. Then the patient lies down and the heart and chest are examined again, and also the abdomen, liver etc. The doctor

seems to have ample time for the examination and is in no hurry. He examines the rectum and pelvic organs as well as the rest of the body, making an all-around complete examination.

After completing this, he decides the special tests and examinations that he considers necessary and gives assignment cards for each one of these. There doesn't seem to be any set routine entrance examination, but each patient is treated on his merits. These special tests and examinations are usually completed within twenty-four hours and the patient is asked to return for consultation on the third day.

They usually require three days for the complete examination and tests and for the diagnosis and recommendations as to treatment, but, if it is an unusual case and there are complications, another day may be necessary. I was told that the average patient can usually leave on the third day, if no surgery is required, and more than four days is rarely necessary. They find that something like thirty to forty percent of their patients require surgery and the majority of these have it done at the Clinic.

As a rule, only verbal reports are given to the patient and he is told that they will communicate with the home physician and give him an abstract of the case and also advice with regard to the treatment.

In the year of 1929, they had a total of about 76,000 patients visit the Clinic. The vast majority of them came from within a radius of about three to four hundred miles. Outside of Minnesota, Iowa probably furnishes the largest number of patients, but many come from Ill., Wisconsin and both Dakotas. They also get patients from Ohio, Indiana, Montana, Oklahoma, Texas and California and other states. I saw no car license from Michigan and from only one or two other states not mentioned above. I was told that they get comparatively few patients from the East, such as New York and Philadelphia.

On Monday they have the largest number of arrivals, for the patients like to come early in the week, get examined and return home at the end of the week. On Monday, May 12, 460 patients presented themselves for examination. On Monday, May 19, 506 patients presented themselves, and on Monday, May 25, 506. The next largest number would probably come on Tuesday. Very few arrive near the end of the week, as it would mean

a waste of time, a day and one-half of needless expense. Of course, emergency patients arrive at any time, and are taken straight to the hospitals which are always open. The Clinic is closed from Saturday at 1:00 until Monday morning.

I had an opportunity of mingling with a number of the patients and heard only words of commendation with regard to the Clinic and their own experiences. I heard no words of criticism, or words of complaint about charges. One farmer from Kansas who appeared to be reasonably well to do, complained because of the long stay for he had been there with his wife nearly three weeks. I happened to know about his wife who is suffering from a comparatively mild confusional psychosis, but was improving. Except those that have surgery, the vast majority of the patients appear to leave in the course of three or four days.

The Clinic and hospitals too seem to be well organized and run smoothly. Their system of handling a patient and dealing with him, appears to be very satisfactory, both to the Clinic and hospitals and also to the patient. I should think that the majority of the patients or almost the majority are farmers.

I am glad to add that I heard many kind words of the Battle Creek Sanitarium. "A wonderful place," said a doctor Newell of Chattanooga; his father had been a patient at the Sanitarium, and evidently was well satisfied. Another doctor said, "A very good place." "I had a friend who committed suicide there, but no one was to blame." Both the doctors and strangers who had known about the Sanitarium had only words of praise to offer. A number said that they expected to visit the Sanitarium sooner or later and this was particularly true of the doctors I met, who had not been here.

DIAGNOSIS

The fellow who takes the history and examines the patient, is expected to make the diagnosis when he gets the report on the special tests. But, this is not a definite requirement. One consultant told me that a difficult diagnosis should not be entered finally upon the record, until the patient was ready to leave.

One reads this statement on the records at times, "This patient has such and such symptoms, and may have a peripheral neuritis, although I am not ready to say definitely," an actual case. It appears that they do not make a tentative diagnosis as

a rule, except as above. Dr. Ziegler told me that sometimes he disagrees with the diagnosis of the fellow who has taken the history and made the examination, and writes a quite different diagnosis. Later on, he finds that the fellow was right and he was wrong, but more often the contrary happens. Every opportunity is given to the fellow to discuss the patient with the consultant before attempting to make the diagnosis but they seem to have no definite rule about it.

If a patient is incurable he or his relatives are told at once, and they are not encouraged to remain. Instructions are sent to the home physician with regard to the patient's care.

Patients often go into the hospital for a day or two and have some special operation or test, possibly an injection, and then go back to the hotel the following day, thus saving a considerable expense.

There are three definite financial bodies that work hand and glove with each other. First of all, there is the Clinic which renders its own bills for all medical and surgical service. Second, there is the Mayo Foundation, which furnishes stipends for the three hundred fellows. Third there is the Kahler corporation which owns and controls the Kahler, the Damon, the Colonial, the Worrall, the Diet Kitchen, the large model laundry and the power house. The Kahler Corporation had planned to tear down the Damon hotel and put up a twenty-two story construction in the middle of that block which they own, but Dr. Will Mayo decided to postpone this improvement. They are now pleased that this postponement was made. The hotels mentioned are both hotels and hospitals combined, some floors being given over to patients exclusively. Many operations are done in the Kahler and Colonial hospitals, as well as the St. Marys.

The power plant has been in use about two years and four months and was installed by the Badenhous Corporation of Cornwell Heights, near Pittsburgh, Pa. It furnishes light, steam and hot water to all of the buildings controlled by the corporation and the Clinic. The consumption of coal in winter may reach seventy tons a day with an average of fifty to fifty-five tons. They seem to have solved the smoke problem perfectly. I looked at the smoke stack many times, but never saw more than a whitish vapor, and sometimes not even that much. Briefly, the method is to feed the

furnace with the coal dust and air heated to 500 degrees Fahr. before it is brought into contact with the coal. This they told me insures complete combustion and no soot. The steam is at 180 pounds pressure. The pipes are distributed in separate tunnels to the various buildings.

Diet Kitchen.

They have what they call a diet kitchen, a special boarding house run by the Kahler Corporation. Here patients are referred who require any special diet. They have several dietitians attached to the diet kitchen, with Miss Foley in charge. No patient is received as a boarder unless he promises to stay not less than four days, for that is considered the minimum length of time necessary to give them adequate instruction. The first interview usually lasts one hour and further interviews follow, if necessary. Here they can receive anything that the doctor prescribes. If they don't have it, they get it and prepare it for the patients. The charge for this special board with the instruction is \$3.00 a day.

Business Office.

Since January 1, they have been working on a basic cost system and the various tests, examinations, etc. are entered at the basic cost. I was given a hypothetical case, the basic cost of which was \$68.00. For such an examination the patients would be charged as follows:

\$30.00 to \$35.00, or nothing to charity patients.

\$60.00 to \$65.00, for poor patients.

\$75.00 to \$100.00 for patients in moderate circumstances.

\$100.00 to \$125.00 for well-to-do patients.

\$150.00 to \$200.00 for rich patients;

all of which is for the same service. As briefly mentioned, they pay strict attention to the doctors statement about the patients circumstances. They use Bradstreets if necessary, but look up the patient's financial status only in exceptional circumstances. About twenty-five percent of the patients leave the Clinic in debt, and most of them without being required to give a note. The Clinic collects only about seventy percent of these debts.

Weekly Health Lectures.

Dr. Charles Mayo is city health officer, with Dr. Lohead as deputy. Every Tuesday evening at 7:30, an open meeting for the patients, visitors and the town people is held in the Clinic lobby. This meeting lasts about one hour and one-half hours. On the two times that I visited, they were both interesting and instructive. There are usually two speakers, and both times they also gave several health films. The meetings were well attended and the people seemed to be interested. I was told by one of the doctors that Dr. Will Mayo supports the 18th Amendment and has spoken favorably of it in public. He seems to be the dominating member of the Clinic and no one, not even his brother questions anything he plans or does. He has always been the guiding spirit of the Clinic. He is described as a good organizer, and keen business man, a liberal minded man who is willing to give attention to the views of others. I was told that he and his brother have given their entire fortune to the Mayo Foundation, and that they are leaving nothing to their children, as they "don't want to run the risk of their developing into degenerates," as Dr. Will Mayo put it.

The consultants begin work from 8:30 to 9:30 a.m. and leave at 12:00 a.m. or sooner if not busy, except when they have conferences. In the neurological department they have conference clinics at 8:00 a.m., on Monday, Wednesday and Friday, lasting till 9:00 or 9:30 when they show the interesting cases. These conferences are very informal and all, including visiting doctors, are encouraged to ask questions.

The fellows begin work between 8:00 and 9:00 a.m., as a rule, and appear to put in a little more time than the consultants. I saw no office hours marked on the doors.

The neurological department also holds conference clinics in the Colonial Hospital from 1:30 or more often 2:00 to 3:00 p.m., or later on Tuesdays and Thursdays. *The afternoon hours vary from two or three to five.*

There are six consultants in the neurological department; one of these takes the hospital service for a month at a time so that each gets two months hospital service during the year.

Nursing.

In an interview with Miss Saunders, head educational nurse, she told me that they take in about 40 probationers in January, and ^{or more} 60 in September, and always have a long waiting list. They take only the up ^{per} 2/3 in quality ^{of the} high school graduates, giving special attention to the recommendations of the teachers; and are very particular in their selection. There is a matriculation fee of \$10.00. After passing successfully the probation of four months, the student nurses receive \$10.00 a month until graduation, and three weeks holiday each year. This money pays for uniforms, shoes, books, etc.

In their hospitals they have three lines of service for the graduate nurses:

(1). Private nursing twelve hours a day for seven days a week for which the nurse receives \$5.00 a day direct from the patient. The patient also pays the hospital direct \$1.75 a day for the nurses' board, room and laundry.

(2) Ward or floor nursing, three shifts of eight hours each, i.e., eight hours duty for each nurse, for which the patient pays the hospital \$4.00 per diem (24 hours) For this service the nurse is paid by the hospital \$100.00 a month and board, room and laundry. Miss Saunders said this service was not profitable to the hospital. A floor nurse usually cares for three patients, sometimes two and sometimes four or more, according to the conditions of the patients and the amount of care they require.

(3). Office and general duty nurses. This service is usually eight hours a day, but the supervisors put in nine hours. For general eight hour duty the nurses receive the same remuneration as for Ward nursing.

The hospitals employ about 800 graduate nurses and ^{nearly} half as many more student nurses.

The Mayo Clinic does not advertise its medical work in medical journals as far as I could ascertain. Neither was I able to get hold of any advertising circulars or advertising literature of any kind.

There is a weekly Bulletin published in Rochester, but whether by the city or not, I do not know. I don't think the Clinic is responsible for it.

From my brief observation of the Clinic and hospitals, it would seem that

Rochester is the choice for the poor sick man.

Occupational Therapy at the Mayo Clinic.

They have a place called, "The Little Green House," given over entirely to occupational therapy. To this house, the ambulatory patients go for instruction and also engage in work. Instructors, of whom there are about one-half a dozen, are sent to the different hospitals to see the patients who are to engage in this work therapy. A goodly number of these patients are confined to their rooms and the work has to be brought to them and instruction given in their room or ward. They seem to make a good deal of work therapy at the Clinic. This instruction and service is entirely free. Patients are allowed to make almost anything they desire, without any expense whatever, and the Clinic takes the responsibility of selling these products. Of course, if a patient wants to retain what he has made, he pays the exact cost price of the material, and nothing, not even a small extra percentage, is charged. They have a very considerable variety of work to offer there, and the lady in charge, who showed me around and told me of the work, seemed to be quite enthusiastic about it. This work seems to be approved by the rank and file of the doctors, as far as I could understand, and not only approved, but encouraged.

The Spirit of Hospitality and Helpfulness.

A real spirit of hospitality seems to pervade the Institution and the genial courtesy and kind consideration exhibited by the personal was palpable. There seemed to be a pains-taking effort to make all the guests and visitors welcome, and to guide them, in their examinations and make it as easy for them as possible. On every hand one received pleasant and kind attention and the doctors, and nurses, and other workers showed a fine spirit of welcome and willingness to help.

Their memory for names seemed exceptional, "Good morning Dr. _____," said an attendant. "Why, how do you know my name? Another attendant waited on me yesterday." "Yes, but I saw you and looked up your name," she replied. I mentioned

this little incident, and similar incidents, to Dr. Ziegler, and he told me that they were expected to remember the names, and especially those of visiting doctors. Dr. Adson, whom I had seen for a brief moment at the Sanitarium a couple of months previous, seeing me cross the hall of the Colonial hospital, came over and shook my hand, and invited me to his Clinic, and inquired about the Sanitarium. They have a happy way of setting strangers at ease and making them feel at home, at least that was my impression.

Further Notes on the Mayo Clinic.

My report is already too lengthy, but perhaps I ought to intimate that I have further notes on the following subjects: --

Management of the fellows.

Advantages offered to visiting physicians for study and observation.

The Governing board of the Clinic.

The attitude of the Clinicians towards the home doctors of the patients who come to the Clinic and especially towards those that have made a mistake in diagnosis.

Their methods of selection and the requirements of qualification for the fellows that they receive.

Giving aid to members of their staff who build fine homes.

Their methods of advertising.

Members of their staff leaving from time to time and setting up what might possibly be looked upon as competitive service.

Rochester politics.

Informants.

My chief informants were: --

Rev. Wm. W. Bunge, a former Lutheran minister, a fine type of Christian gentleman in his early 50's, who spent almost all of one forenoon and an extra hour in the afternoon with me. He was instructed to show me everything and answer all questions, and he certainly took pains to do so. It seems that he gives most of his time to visiting physicians who are interested in the management of the place, as I was.

Dr. Lloyd H. Ziegler.

Dr. J. B. Doyle.

Dr. H. W. Woltman.

Miss Fitzgerald.

Miss Foley, in charge of the diet kitchen.

Miss Saunders of the Kahler hospital, head educational nurse.

Miss Root, in charge of the records.

One of the business men from the office, whose name I have forgotten.

Res

Mecca, Calif.

March 17, 1921.

The Vir Publishing Co.,
200-214 North 15th St.,
Philadelphia, Pa.

Gentlemen:

I am sending herewith a little article which you are at liberty
to use wholly or in part as you may find expedient.

Sincerely yours,

What it costs

Says Holy writ, "The wages
of sin are death."

And science says the
same. The wages of vice,
the cost to society of ~~the~~
violation of the law of
chastity, is a death toll
greater than that of ~~the~~ all
the battles of history. Which
the ~~great~~ World War was killing
millions, venereal disease
was destroying the souls
and bodies of ten times

2

or great a number.
Stouty before his death
the late prisoner showed
that myplulis is veritably
the "Captain of the men
of death." Tuberculosis is
a great plague. Pneumonia
is a scourge. Heart disease
and Bright's disease are
terrible slaughters, but
myplulis kills more than
they all. The deaths from

this loathsome malady
 as well as those from
 other vice diseases do
 not appear in the mortality
 lists. The ~~the~~ horrible parasite
 of syphilis does not kill
 its victim outright; it
 tortures and roams his
 guts out his vitals, and
 leaves him a seething
 wreck of disease. Of all
 of some other malady
 which gets the credit

4
of his demise and hides
from the public eye
the real cause of his
death.

The chief contributing
cause of venereal disease
is ignorance. No intelli-
gent man would willingly
and knowingly inoculate
himself and his posterity
with a disease that he knew
would fill his body with
^{filthy} ~~wringling~~ parasites, savage
creatures ~~like~~ that would

congregate in his blood,
swarm in his brain, fill
his liver with abscesses,
turn his kidneys to gristle,
plant rotters in his
bones, ~~and make his~~
make him wrinkled and
old at forty, rob him
of ~~manhood~~ virility, of
~~all~~ vigor, ambition,
and verity, and make of
a waddling, labeetic, or a paralytic,
him, a driveling imbecile
when he ought to be in the
prime of his manhood,

rejoicing ^{left} in his manly
achievements and reaping
the harvest of a well spent
life.

How many times have
I heard the agonizing cry
burst forth from the lips
of a ~~youth~~ ^{man} reaping the
harvest of "wild oats"
soon in youth, "O why
didn't I know this before"
and the look of unpled
despair and reproach
which he turned upon

me made me shrink in
my chair conscious that
~~the~~ entire medical profession
was neglected to do its
duty to the ~~world~~ ^{society}, to the
race in failing to give
such publicity
to the known facts
about venereal disease
as will serve as a warning
to every man and every
woman, every ~~girl~~
boy and every girl of
high school age. ~~the~~

and will place upon
~~him~~ the ~~onus~~ ^{full} ~~responsibility~~ ^{responsibility}
of them the ^{responsibility}
of neglecting himself against
the most ^{of} ~~of~~ ^{of} human
maladies!

A wide campaign of
education is ~~needed~~
imperatively demanded.
The ~~campaign~~ work done
for the young men of
the army through the
splendid efforts of Dr.
of the Social Hygiene Society
now ~~and~~ ^{and} ~~at~~ ^{at} ~~the~~ ^{the} ~~War~~ ^{War ~~Department~~ ^{Department} ~~of~~ ^{of} ~~Hygiene~~ ^{Hygiene} ~~and~~ ^{and} ~~at~~ ^{at} ~~the~~ ^{the} ~~Trattle~~ ^{Trattle} ~~Creek~~ ^{Creek} ~~Sanitarium~~ ^{Sanitarium}}

and others were of incalculable service, and helped
was the chief factor
in making the American
army the cleanest body
of military men so far
as venereal disease is con-
cerned the world has
seen since the time
of Darroswell's hymn-
singing warriors; and
these young men ~~had~~
~~could~~ ^{brought} back to their
homes instruction which

will be of life long ad-
vantage to them and to
their wives and chil-
dren. But there are
millions of other men
who have not been
informed, and still
more millions of women.

~~It is time of~~
concealment of the
facts is no longer possible
the truth must be told and
must be kept impermissibly
before the records of the

young. ~~These~~ Infections
venereal diseases must
be placed, ^{belonging} in the same
category with smallpox
and ~~typhoid~~ typhoid fever,
and ~~other~~ measles and
other "catching" diseases,
and must be subjected
to equally ~~strict~~
effective quarantine
measures. The leper is
shunned and ~~isolated~~

imprisoned. The victim of
syphilis is vastly more
dangerous, and yet
he is still permitted
to roam at large, to
engage in every sort of
wicked activity. The
man who shares your
may have syphilitic
sores in his throat, ~~and~~
and every drop of saliva
which escapes his lips
may be alive with virulent,
wriggling, Spirochetes and

convey
may, ~~spread~~ the ^{poor} infection
to many, ^{an} innocent and
suspecting victim of
our inexcusable neglect to
protect the public by an
effective guarantee against
the most dangerous of all
infections.

The baker, the grocer, the
tailor, the chambermaid, the
hotel or Pullman porter, ~~the~~
even the milk man or
the laundry woman, ~~may~~
~~may~~ and men and women
in hundreds of other vocations
may, ^{be} ~~wittingly~~ or unwittingly,

constantly scattering infection
while rendering their ac-
customed service.

The U. S. Public Health Ser-
vice is starting a campaign
~~where~~ of enlightenment which
should have the support of
every teacher, every preacher,
every physician, and every
~~well-wisher~~ friend of the
human race, every color.

May 14, 1921.

Kellogg Co.,
Battle Creek, Mich.

Dear Sir:

Will you please send me 6 boxes of Kellogg's Bran not Krumbled. The stores here have been without. Thank you so much. If you dont send as few as six packages let me know how few you will send.

Yours truly,
Mrs. Augustus Dudley,
1327 5th Ave.,
Columbus, Ga.

C O P Y

Sept. 30, 1921.

Memo. for J.H.K.

You wished to see the F.J.Kellogg letters.

B.S.

October 2, 1921.

Dr. Kellogg:

We are enclosing herewith three letters which we secured from our files at your request.

P.J. Hendricks,
615 Harvey St.,
Petoskey, Mich.

Ira S. Goff,
167 Box #
Stratford, Texas.

Mrs. Augustus Dudley,
1327 5th Ave.,
Columbus, Ga.

Do not know whether these will be of any use or not.

THE BATTLE CREEK FOOD COMPANY.

SETTING-UP DRILLS

Rep Practice

Running in place

Warming up

Swimming

Heel raising with arm movements

Trunk bending

Squatting

Knee raising

Running on all fours

~~Wall standing~~

~~Wall exercise~~

Legs raising

Back bending

Breathing exercises

Arm exercises

Foot placings

Trunk twistings

Setting up Drills

Pap. Practice -

Look up
Sewing machine
tackle

See Dobbins
See abt. Phys.
of Exercise

Pap. Practice

Running in place

warming up

Swimming

Ball raising with arm movements

Trunk bending

Squatting

Knee raising

Running on all fours

Getting up drills

Wall standing

Wall exercise

Legs raising

Backbending

Breathing ex

arm exercises

mount placements

Trunk Rotations

~~21~~ 21

Natural Symmetry and Acquired Deformities.

God made man upright.

Man through neglect and abuse has made himself misshapen and deformed.

Symmetry of form is an element more essential to beauty

than prettiness or comeliness of countenance, although a symmetrical face is quite likely to be accompanied by bodily symmetry in other respects.

There are two elements in symmetry:

The relative size of the different parts of the body

The form of the curves produced by the body in its various attitudes.

The Greeks gave great attention to the symmetrical development of the body, and their sculptors made a close study of proportion.

A noticeable feature of Greek statues is smallness of head-- often not more than one-ninth the height of the body.

The dominant proportion in moderns is a height $7\frac{1}{2}$ to 8 times the length of the head.

Short persons always have short legs, the central part being at the pubic bone.

In tall persons, the increased height is chiefly due to length of legs.

Long limbs give grace and ease to movement.

Prof Giovanni, of the University of Padova, Italy, has recently published the results of extensive researches in propor-

miss makers + statos testify

*Proximity more than skin deep - 2.4 given
Modily Expression (lecture? by April 11 91)*

3 numbers - 1st part of face, 2nd part of face, 3rd part of face

	Average height.	Average waist.	percentage of waist to height.
American women.....	61.64 in.	24.44 in.	39.6
Telugu women of India.....	60.49 in.	24.65 in.	40.6
English women (brickmakers who wear heavy skirts).....	60.04 in.	25.00 in.	41.3
French women.....	61.06 in.	28.00 in.	45.4
Chinese women.....	57.85 in.	26.27 in.	45.4
Yuma women.....	66.56 in.	36.84 in.	55.2
Civilized men — American.....	67.96 in.	29.46 in.	43.3
Mrs. Langtry.....	67.00 in.	26.00 in.	38.8
Venus de Milo.....	47.6

SYMMETRY.

Ideal Average
Man.

Inches.

Height,	68.8
Stretch of Arms,	68.8
Circumference of Chest,	34.4
Height, (length) of Sternum,	6.8
Height of Abdomen,	13.6
Sternum to Umbilicus,	8.8
Umbilicus to Pubes,	6.8
Bi-Iliac Diameter,	10.9

SYMMETRY.

Ideal Average
Woman.

Inches.

Height,	64.
Stretch of Arms,	64.
Circumference of Chest,	32.
Height, (length) of Sternum,	6.4
Height of Abdomen,	12.8
Sternum to Umbilicus,	6.4
Umbilicus to Pubes,	6.4
Bi-Iliac Diameter,	10.2
Waist) Venus de Milo proportion, (30.
) 47.6 per cent of Height (

tion and symmetry. He established the following relations between the height of an individual and other bodily proportion:

Curves of the body still more important in symmetry and beauty than proportion.

Describe spinal curves.

Describe anterior and posterior curves of the trunk.

Lateral lines.

Is there a waist line?

Curves of the limbs.

Articulating surfaces .

Differences between men and women.

Man: Shoulders broader than hips, joints angular; whole body more or less angular.

Woman: Shoulders the same width as the hips, although slightly broader; waist fully as large or larger in proportion to height than man.

Give figures respecting the waists of Chinese Indian women.

*Chinese statues
of Saveroy's*

Joints in women smaller and rounder; particularly noticeable in knee joint. Pelvis shorter, trochanter more nearly right-angle than femur, hence muscles of hips shorter.

Legs of women and children shorter than in men--less adapted to walking.

Deformities of proportion, ^{usually} due to heredity, or arrest of development as the result of lack of exercise, bad attitudes, bad dress.

When hereditary, may be the result of bad habits in ancestors.

Deformities of proportion may be due to excessive development of particular parts, as in the case of the blacksmith--not only his arm muscles become large, but the bones of the arm, collar bone and shoulder blade.

Deformities through loss of natural curves or change of surface lines of the body, ^{are usually acquired, due to the frequency of, dressmakers, tailors, clerks, English schools} include

1. Lateral curvature of the spine. It may be single or double, with or without rotation. Indicate different varieties.

2. Posterior curvature, which may involve the upper dorsal or lumbar.

Different effects according to the part affected.

The consequences of deformities of proportion.

Small chest means weak lungs and heart.

Naturally small waist means small liver, weak stomach, and weak digestive organs.

Acquired small waist means deformed liver, prolapsed stomach, liver, kidneys, ~~and~~ spleen, pancreas and bowels, and its consequences.

Lateral curvature means weak muscles on convex side, or both sides in case of double curvature; compression of nerves and other organs on one side in case of double curvature; shortening of the trunk, displacement of internal organs in case of single curvature.

Lessened activity of vital organs.

Twisting or rotation occasions displacement or distortion of viscera.

Posterior curvature generally overlooked. shown by round, drooping shoulders, flat or hollow chest, flattened waist, protruding abdomen, prolapsed viscera.

Most dangerous form of curvature.

Dr. R. K. ...
2h
-1-
Apr. 11 '92.

MEMORANDA. Natural symmetry and acquired deformities. Attitudes.

Sitting, proper: erect, or energized sitting.

Relaxed sitting: sitting on stools; forward sitting in an ordinary chair; forward sitting on wide seat; forward sitting on high seat; relaxed sitting in rocking-chair; relaxed sitting in easy chair; relaxed sitting in arm chair; school-seats; sitting with heels high.

Standing: correct standing; relaxed standing; one-sided standing; heel-standing; blackboard standing; how to acquire a correct standing position.

Walking: correct style of walking; balance over balls, as in correct standing; carry the chest well forward; chin drawn in; swaying arms gently; arms useful in locomotion; legs alternately active and passive; body moves slightly in direction of active leg; walking, falling forward; little force used in propelling body in walking; constantly falling forward and recovering; proper length of step, 30 inches.

Incorrect styles of walking.

1. Relaxed walking; 2, swaying gait; 3, long step; 4, teetering gait; 5, exaggeration of swaying; 6, mincing gait; 7, short step, stiff legs; step too short; 7, wriggling gait, common among women hampered by clothing; 8, downcast or stooping gait; 9, conseited gait; 10, heel-stepping; 11, shuffling gait; 12, elbowing gait; 13, waddling gait; 14, straddling gait; 15, toes too widely spread; 16, pigeon-ted gait.

women broad hips

Stair-climbing: correct method, trunk held erect; keep the weight ^{as} nearly vertical over the legs as possible; lift the by the muscles of the legs.

Another way in which exercise opposes the advance of old age is by maintaining the vigor of the heart and other vital activities. The modern neglect of exercise is responsible for the deteriorating tendency in both sexes. Recently a very interesting inquiry relating to this subject has been conducted in England. A committee was appointed by the psychological branch of the British Medical Association a few years ago, to investigate the defects of school children, and recently they made their report in the *British Medical Journal*. By it we find that they examined 50,000 school children—27,000 boys and 23,000 girls—and of this number, there were found to be some 5800 who showed visible defects; of these, 3600 were boys, and 2200 were girls. Those who examined these boys and girls were only looking for physical deformities; and when they observed a deformity, they noted it down; but they did not go into a minute investigation of each individual; they simply made note of visible palpable defects which they found (and the children were not of an age when inherited deficiency or morbid tendencies would be most apparent), and they found 5800 among about 50,-

minutes

000. It thus appears that the number of deformed children found was nearly twelve per cent of the whole number examined. In other words nearly one eighth of the entire number of school children were found to be more or less deformed. This indicates a deteriorating tendency of a very pronounced character. It was noted also that among the deformed children were many children of the upper classes, so that the deformities could not have been the result of hardships and exposure, but rather the result of some cause to which the upper classes as well as the lower must be liable.

There are many factors which might contribute to this deteriorating tendency: it might be from the indulgence of luxurious habits, bad dietetic practices, etc.; but I think it must be largely charged to neglect of physical development on the part of the parents. During the last century there has been great neglect of physical training by civilized people. As the result of the introduction of improved agricultural implements, a great amount of labor has been accomplished by machinery that was formerly performed by hand. These improvements in modes of agriculture and machinery in all departments of manufacture have led to less and less development of the muscles. A thousand years ago, or even a hundred years ago, the strongest man was the best man. Now it is not so; it is not the man who has the strongest muscle who is the best man, but it is the man who has the keenest brain and the nimblest fingers. It is not the man who can lift the most and carry the most, but it is the man who is the sharpest intellectually who makes his way in the world; and so physical development has been allowed to fall into decay, and we see the result of this when we find so considerable a proportion of the entire population of children attending school growing into palpable defects. Many have been injured in this way while school children, but did not, while attending school, reach an age when all their defects were plainly visible.

Perhaps the medical examining committee to whom I have referred, would, by a more careful examination, have discovered other deformities; but they made note only of those which were most apparent, and yet found these defects in nearly one eighth of the whole number that came under their observation. Now, each one of the children who presented these defects, as well as their children and their children's children, will suffer from the results of these deformities, if there is not a decided change in the ideas and customs of society in reference to this matter of physical exercise.

Mr. Kirkland :-

Will you please have the brown dishes packed and shipped to -

Mrs. R. H. McPherson
Apton, ~~Virginia~~

The gray Porto Rican water jug sent to

Mrs. A. C. Kellogg
of Chicago Therapeutic Inst.
c/o Reliance Bldg,
32 N. State St.,
Chicago, Ill.

Shipped
2-8-22
B. Kirkland

First Lecture

Something wrong with the world, always the matter

The diseases of the body

A lesson in digestion

Things that make too

much acid

The gates

Minerary of a breakfast

What to Eat

Things that are eaten

Vegetable food stuffs

- Fruits
- Vegetables
- Seeds, Cereals
- Roots
- Stems, leaves, buds, flowers

Cooked
 =
 =
 =

Foodstuffs

- Beef, mutton, pork, horse
- Wool, cat, dog
- Chicken, turkey, duck
- Goose, birds
- Meat, eagle, bayonet

Spices, bird's nests

- Fish, oyster, clam, lobster

eat plenty of fresh foods and soups

Eat biologically Heat's, Eat moderately
check thoroughly, avoid infected
foods (meats, fish oysters, ^{state eggs,} milk,
spoiled canned foods), avoid deficient
and adulterated foods (foods lacking in
vitamin ^{and} salts), avoid adulterated
foods.

The Best Foods

An Easy Report on
Digestion James Smith

The Body is a Machine, a
Self Controlled, Self-Repairing
~~Locomotive~~, automobile

Hood, ^{supplies} fuel-gas, lubri-
cation, and repair material

~~Locomotive~~ - coaling repair shop

Self foodstuffs	} Vegetable	} Animal	} {	fruits 400	} 1200
				nuts 200	
				Cereals 300	} 300
				Vegetables - 200	

over

Food Principles

Carbohydrates - starch, sugar, dextrin

Fats - animal - vegetable

Proteins - Albumen bean, meat, white of egg
 curd of milk - rats

Salts - rats - rickets - scurvy

Vitamins - scurvy - vitamins

Cellulose - bran - agar

Easy lesson in digestion

1/5 digestible food elements

1/5 digest organs

1/5 digest glands & gates

Numerary
 of gates

Numerary

- | | |
|-------------|--------------|
| | subgate |
| Hovergate | splinter |
| Inspector | check valve |
| riding gate | Reversing of |
| knock gate | discharge |
| movil gate | exit |

write to red seat

Send Acidophilus - Lactose

Also "Pop" Laxa and

Send Biologic Living to

Exchange Club.

Crappell about cleaning
him - patent

Powers patent, - crumbing, drying, roasting

Big pieces for Johnson
dry in bell oven and
send up on elevator

Digestive Processes

102

- Mastication
- Salivary digestion
- Swallowing
- Gastric digestion } Starch
Protein
Detritus
- Intestinal digestion
- Pancreatic "
- Intestinal "
- Peristalsis
- Absorption
- Liver digestion
- Assimilation
- Elimination

Write Heyward about
Acidophiles & P.P.

Also Swatherland

Write Whitlock

Send copy of N.D. to

St Helena

Leana Leida

Paradise Valley

Miss Henderson

Ms. Dean

M

Dr. James

Dr. Kirby

Dr. Astrand

Have several concentrations
made *Acidophilus*

Get report from Shepley quick
ask about time test

Try several times in vacuum to
increase milk content.

Try adding milk and ^{also} concentrated
~~Acidophilus~~ *bulgaricus* whey

ask Shepley about welding
about car spring

Russell about Malt sugar
to serve on table

Itinerary of P. B.

Bad Foods

Least of them

Poisoned foods

adulterated foods

~~Hot drinks~~

Eyes

Preservatives - pickles

Copper

Tin cans

Pepper - coconut shells

Pigment

Infected foods

Canned goods - spinach
Canned olives, Salmon

Wet bread - green mold
Botulinus - bad wheat

Rancid butter

Old cheese

cheese water & germs

Unclean milk. Commercial

dist. germs in milk

Stale Eggs - slow candled

eggs etc
Patch

Sick animals

tubercular - cows

" chicken

Trichina oysters

Tapeworm etc

Helicobacter?

Food foods (continued)

~~Prepared~~
Extracts of animals - Liver, Kidney
(show slides)

Meat Extracts - ~~Veget~~ Meat Extract
broths

Malistics

Mushroom
flavor

Putrid odor
Horns, hides
fluids

Condiments

Mustard, pepper, etc. vinegar
Slide - 47 varieties

Tea & coffee - Coco cola

Inferior foods

renatured foods

Pineapple bread

Rice
New Juicer, ~~CORNMEAL~~
Milk breakfast foods

Wheat sugar
Maple sugar
Wheat sugar
Malt sugar
Molasses
Sorghum

Corn starch
Corn syrup
Cane sugar - candy

Mattress
Sterilized or pasteurized
milk

Meats of all kinds - Welch's bacillus
cured sausage eggs bacteria in

~~Superior foods (Continued)~~

~~Fried foods - rich pastry~~

~~Soda & saleratus biscuits, & griddle~~

~~Raw eggs,~~

cakes

~~Skimmed milk~~

Make sorghum syrup

Raise sorghum

Get sample to extract
& analyze

Test for vitamins & iron
with milk

Test sorghum, maple sugar
& sorghum for vitamins

See Kirkland about
planting sorghum

Use brown sugar in bread in
place of white

Crude Foods

(200)

All fruits, fresh, dried, cooked,
slides of ~~nut~~ ^{nut} fruits, air-grapefruit lemon,
Prest fruits ~~also~~ ^{also} apple, orange, dates.
Figs, raisins - acid

11. Fruits supply sugar (fructose)
and acids - Citric, Malic, Tartaric

all nuts (200)

Nuts supply chiefly fat and protein
crash. of meat

Fruits & nuts together form a
complete diet.

1/2 lb. nuts (almonds, hickory, hazel, pecans, walnuts)

3/4 lb. raisins or dates, a good
day's ration for a hard working man

Pat on 'Pap' making 100,000
calories. Have tested. Give

complete calories P. F. C. H.
offer to hospitals in bulk.

Start at once in drying
before washing.

All whole grain Cereals,
most in order named.

Wheat meal

Oatmeal

Corn Meal (Cold style)

Brown Rice or rice with
bran

The Virtues of Wheat Bran

Good, do not refuse

Rich in protein

Rich in iron
lime

" " Vitamin

" " Best kind of roughage

Man does not irritate

Man irritates.

Coarsest Man is the Best

Must be Clean and

Steritized by Cooking



Common Fodder
Man



Table Man
Cooker

Loggins -
94 bean (slides)

A Poor Breakfast

~~Tea~~
Coffee or tea and
toast

Griddle cakes,

Kew Corn syrup.

Fried bacon or sausage

Why Bread?

No lysine

No iron

No Vitamin

A deficient, impoverished
bill of fare.

A Good Breakfast

Feature ~~needed~~

Fresh or ~~stewed~~ fruit
Baked and Cream, with

Wheat bread & Butter,

Glassful of Clean milk

Roasted Potatoes

Cottage Cheese

Root vegetables. Slides
White potato - more valuable than fish
Sweet potato - more nutritious
Stinner oysters

Artichoke (slides)
12 hours to cook

9 Parsnip, turnip, beet, carrot
Slides

12 artichoke good
woodruff, food
nutrice value, fine
numbers,
glue cuts & acorn
etc.
Can check shape of
wedgman

~~or unworked~~
Green vegetables

Tomatoes

Leetuce

Celery

Cabbage

Salads

Greens corn

Greens

Leet

Put in (Prologie living)

Tables of food values from

San. diet lists, also list of
good & bad foods, & sample meals

Table of heights & food requirements

~~Clean milk~~

~~Fresh clean butter~~

~~Milk~~

~~Cottage Cheese~~

~~Fresh eggs, boiled or~~

~~scrambled (not fried)~~

A Bad Dinner

A Good Dinner

A good supper

A good supper

Minnesota & Sabey

men who have lived biologically

Cornaro John Bigelow Horace Plunkett

Chevreul Com. Cullen Myair Wingfield

Stephen Math Wandell Phillips

John B. Burroughs Munson about a little woman

It pays to be good! Neuman Dr. Walter James

Send NID to Bryce
Send also to British Med
Journ, & London Lancet
and some French and German
and Spanish Journals;
Also to New York Med Record;
and to Jour des Med. Assn.
Write Dr. Simmons.

of many

HIGH DIAPHRAGMCauses

High intra abdominal tension--gas, dropsy, tumor, pregnancy, contracted muscles, corsets and belts.

Relaxed diaphragm--paralysis, loss of tone.

Horizontal position.

Collapsed lung.

Paradoxical breathing.

Injuries

High diaphragm hinders circulation of the blood- congestion of viscera and lower extremities.

One-sided high diaphragm may be due to abscess, intestinal gas, tumor of spleen or kidney.

Inflammation of lung.

LOW DIAPHRAGMCauses

- (a) Loss of lung elasticity--emphysema.
- (b) Adhesions
- (c) Fluid or gas in chest.
- (d) Relaxed abdominal walls and visceroptosis.

Effects

Diminished tidal air--increased residual air-short breath.

Diaphragm is low after hard work in emphysema.

Asthma-movable kidney. In asthma, action of diaphragm lessens and may be even stopped. Is started by adrenalin.

**Overwork of heart-overweight of viscera. Heart has to lift
visceroptosis at every beat.**

Diaphragm action in vomiting ,coughing,sneezing,hiccough.

Hippocrates cured hiccough by sneezing.

POSTURE

Lie down, face up, with 2 pillows under back.

None under head, to get feeling of right position of chest.

Important thing is position of chest. Should be held high and well to the front, hip held well back, making a marked hollow in the back; none in front.

See outlines.

Perfect man's figure.

Perfect woman's figure.

Natural figures.

(Grace and beauty)

Outlines

Get abdominal supporter subject.

Important things in
position of chest. Should
be held high & well to the
front, hip held well back,
making a marked ^{hollow} ~~curve~~
in the back, none in front.

See outlines.

Perfect man's figure

Perfect woman's

Natural figures (Grace & beauty)

Outlines.

Get abed. supporter subject

Pasture

Stand against wall

Heels, hips, head

Hands clasped behind

high up as possible

Bend head back raising

Chest, look up to

ceiling

Hands on hips, press

hard, straighten

head, keeping chest

up.

Lie down, face up, with

2 pillows under back

none under head, to get feeling

of right position of chest

standing against the wall
Hips firm

Test for posture

Back up against
wall and notice
what parts of body
touch first

es
heels, shoulders, head, hips

feet, head, neck, hips

head, neck, hips, head

See Mrs Letlow

Memo
~~Purpose~~ of Teachers
not simply Exercise
Teachers not necessary
for this. Walking,
working, swimming
are simple means
of it that every ^{one} ~~body~~
Human has to use

May 5, 1922.

Note for Lecture on Self Training.

Story of the Tuskegee Convention when Jeanette Burroughs said to the negroes assembled, -

"Slavery must be a success in a thing which a man is willing to die for. The slaveholder woke the negro up, made the negro work and brought the negro in. Every one of you colored persons is the owner of a negro. If you are as much interested in him as the slaveholder was, you will wake your negro up, you will make your negro work, you will bring him in, you will keep him under control."

Self-disciplin is the most important factor in an education. Self-restraint, training of ones self in right ideals, correct standards, forming correct tastes.

We are all born wild. Education is the process of taming, bringing ourselves in harmony with the age-long accumulated experience of the race. The body as well as the mind must be trained.

Physical education deals with the muscles the training of which enormously increases their efficiency, not only in strength but in alertness, precision, quickness; not the muscles only, but the whole body requires training--the training of the skin, the training of the appetite, the training of the digestive organs--~~coffee, pepper, vinegar, mustard, meat, sugar, the training of the muscles of mastication, the stomach, bowels, etc.~~

the training and perfecting of all the bodily functions, physical as well as mental.

may was some time

July 7, 1922

(COPY)

U. S. Naval Academy,
Annapolis, Md.,

Oct. 7, 1908.

Sir:-

Our physical records from 1899 to 1908, show the following averages:-

1. The average height and weight of 153 men from 15 1/2 to 16 1/2 years, is,-

height 65 9/10"
weight 126 3/10 lbs.

2. The average height and weight of 519 men from 16 1/2 to 17 1/2 years is,-

height 66 4/10"
weight 128 2/10 lbs.

3. The average height and weight of 733 men from 17 1/2 to 18 1/2 years is,-

height 67 7/10"
weight 136 8/10 lbs.

4. The average height and weight of 1056 men from 18 1/2 to 19 1/2 years is,-

height 68 4/10"
weight 140 7/10 lbs.

Respectfully submitted,
(Signed) O. STEFFEN,
Instructor, Physical Training.

To the Superintendent.

Class End.

For Parent-Teacher's
Year Book
Feb. 1923

TEACHERS AND PARENTS THE WORLD'S LAST HOPE

At the Eugenics Congress Major Darwin, son of Charles Darwin, said, "If our present civilization survives, and I fear it will not, it will be because the United States saves it." The writer is convinced that if the United States saves its own and the world's civilization, it will be through the efforts of parents, particularly mothers, and teachers. The perversions of our modern civilization are dragging us down so rapidly we shall soon be beyond reclaiming unless by a mighty, concerted effort the down-rushing tide is stayed. A determined warfare must be organized against the growing evils which are destroying the rising generation, and one of the worst of these is cigarette smoking, which has become a national dope habit. It is dwarfing our boys physically, mentally and morally.

Professor Hooker, of Johns Hopkins, showed that young rats exposed to tobacco smoke were, at the age of six weeks, only half as large as normal rats. Professor Osborn, of New York, has shown that American men have lost $2\frac{1}{2}$ inches in stature since the cigarette was introduced into this country.

Tobacco is a heart poison, a kidney poison, a liver poison, a nerve poison, a brain poison, a soul poison.

Tolstoy said of his smoking days, "I never felt a twinge of conscience after the third whiff."

This horrible octopus, having swallowed the boys of America, now has its vicious eye on the girls. Mothers and teachers everywhere should rise in protest and join hands in fighting this enemy of the human race.

TEACHERS AND PARENTS THE WORLD'S LAST HOPE

At the Eugenics Congress Major Darwin, son of Charles Darwin, said, "If our present civilization survives, and I fear it will not, it will be because the United States saves it." The writer is convinced that if the United States saves its own and the world's civilization, it will be through the efforts of parents, particularly mothers, and teachers. The perversions of our modern civilization are dragging us down so rapidly we shall soon be beyond reclaiming unless by a mighty, concerted effort the down-rushing tide is stayed. A determined warfare must be organized against the growing evils which are destroying the rising generation, and one of the worst of these is cigarette smoking, which has become a national dope habit. It is dwarfing our boys physically, mentally and morally. Professor Hooker, of Johns Hopkins, showed that young rats exposed to tobacco smoke were, at the age of six weeks, only half as large as normal rats. Professor Osborn, of New York, has shown that American men have lost $2\frac{1}{2}$ inches in stature since the cigarette was introduced into this country.

Tobacco is a heart poison, a kidney poison, a liver poison, a nerve poison, a brain poison, and a soul poison.

Tolstoy said of his smoking days, "I never felt a twinge of conscience after the third whiff."

This horrible octopus, having swallowed the boys of America, now has its vicious eye on the girls. Mothers and teachers everywhere should rise in protest and join hands in fighting this enemy of the human race.

Out of 130,000 young men who applied for admission into the army, less than 25,000 came up to the standards of the War Department.

"This situation is a serious reflection on our civilization and upon the effectiveness of the instruction and training of the public-school system of the country."

Various agencies "endeavoring to render service in this great field of health instruction", page 830

School teachers "should be trained to teach children the fundamental principles of health practice and observance.", page 831.

10	oysters, medium,4	ounces
1 $\frac{1}{2}$	figs.....	"	"
4	dates.....	"	"
87	raisins ,small	"	"
	"		
12	pecans	"	"
	peanuts, large		
7 $\frac{1}{2}$	peanuts,	"	"
5	Brazil	"	"
	filberts		

Child Welfare

France the Originator of the Child Welfare Movement, Good Health, June, '19, p. 3

Health Inspection, Statistics, Amer. J. Public Health, June, 1922, pp 465, 519
(Josephine Baker)

School Hygiene, October, 1922, page 828 (Amer. J. Public Health)

22,000,000 to 24,000,000 boys and girls are preparing for citizens
of tomorrow.

Memo for Kalamazoo Lecture, Nov. 6, 1922.

WHAT WOMEN CAN DO FOR RACE BETTERMENT

The race degenerating.

The fate of the race in the hands of women.

Women and the school teachers must save the race if it is ever saved.

What women can do,--

1. Women must be unwilling to be regarded as the weaker vessels.
2. Women must demand help to create higher standards of manhood, hence should combat social diseases and race poisons, as alcohol, tobacco and drug habits.

3. Health inspection in schools. Amer. Jl. Pub. Health, Oct., 1922.
" " " " June, 1922.

Health opportunities for young women

Y.W.C.A.'s, athletic clubs, etc.

Public working conditions for young women

Child welfare movements. (Get statistics of improvements in infant mortality). G.H. p. 3, 1918. Amer. Jl. Public Health, June, 1922.

Boy Scouts

Public gymnasiums

Swimming pools--outdoor gymnasiums

Better housing conditions

Out-of-door sleeping

Schools for mothers

(Find some anecdotes)

Women should reform the diet. They are responsible for the habits.

They determine the mores.

Every child is born a savage. The mother tames the savage. She teaches the child the manners, customs, sanctions, the mores of civilized society.

Things mothers need to know about diet:

The study of food values reveals some curious things. Many things have much less food value than it is supposed, -- beef tea, oysters, meat.

Compare meat and milk.

Foods that give 100 calories to the ounce:

An apple
A banana
A small glass of milk
1 ounce of raisins
oysters

Cereals and legumes

Oatmeal, barley, corn, wheat, beans, peas, lentils, buckwheat, breakfast foods.

25 calories to the ounce

Artichokes
Green corn
Green peas

Articles served in 100 calorie portions

Glass of apple juice, 6 ounces.
Serving of stewed beans
1 pat of dairy butter
 $\frac{1}{2}$ ounce of nuts
Glass of orange juice, 6 ounces
Serving of potatoes
Serving of prunes

(Dr. Kellogg at Gar Wood's party, at Miami Beach, Tuesday, January 27, 1931).

When I went inside, I began to meet people who knew me. I met several who said, "How do you do, Dr. Kellogg. I was at the Sanitarium at such and such a time."

Just as I stepped inside the door, there was Mr. Firestone, and he greeted me very heartily. "Why," he said, you are looking younger than when I was at your place in 1922." He looked better than when I saw him at that time. He introduced me to several people. About every time I turned around, I met some one I knew, and they would introduce me to some one else. I was treated very handsomely.

Finally, I went into the audience room, and drifted towards the front and sat down. Pretty soon, along came Mr. Kresge, who sat down beside me; and pretty soon, Mr. Firestone, with another man. The other man sat down next to me, but Mr. Firestone changed places with him so as to sit next to me. The other man was Mr. Erskine, the Studebaker man.

Mr. ^{Erskine} Firestone told me about Mr. Barron, who came to visit him one time. They had been going about all day, looking about and talking, and about four o'clock I suggested that perhaps he would like to rest. "Oh, no," he said, "I want to see your factory." So they went over to the factory. Finally, Mr. Barron stubbed his toe on something and fell flat on his face. He hurt his knee, and had to go to the hospital and have three stitches taken in his face. After it was bandaged up, Mr. Barron went back to his room. Mr. Erskine suggested that he ~~go~~ should rest a while, ~~to bed and~~ rest, but, "Oh, no," he said, "I want something to eat." So they went to supper. After that Mr. E. thought Mr. Barron

would want to go to bed, but "Oh, no," he said, and they talked until four o'clock in the morning.

I remember very well about his knee. It was giving him trouble when he was at Battle Creek. I was not sure but there would be some infection, but by giving it treatment, we succeeded in preventing any general infection being set up.

By and by Mr. Cooper, who sent me the invitation, came around. He was a tall, ^awezened looking man, somewhat resembling Mr. Brigham,, only he was taller. He was the president of the Club and chairman. He introduced the guests. Some made speeches. As he introduced each one, he would say something nice about them and they would make a bow and sit down.

He told me he did not see me and thought I had not come. "Sometime," he said, "you must come over and talk to the Club." ^{president}

Mr. Kettering, of the General Motors Research Corporation, gave a most interesting talk about the Island of Essex. He told about the old Spanish missions that were established here on the east coast, from Cuba all the way up to Georgia. And this coast was known as the Spanish Main. I had always wondered about it but never took the trouble to look it up. It was a kind of mystical place. It seemed sort of half mythologic. He said there was a string of missions that were established a hundred years before the Spanish missions were established in California, and the remains are still there. They were away out in the woods, and no one could find them without a guide. There has a book been written about them called "The Debatable Land."

On this Island of Essex, there are very primitive Negroes living, descended from the old slaves. They still sing the old songs that were brought

Memorandum from DR. JOHN HARVEY KELLOGG
(Personal)

DATED.....

7-27-35

To.....

27, 1935

601 2564 1932

John D. ...

1/2 ...

...

...

...

...

27

Memorandum from DR. JOHN HARVEY KELLOGG
(Personal)

DATED.....

To.....

Handwritten notes in cursive script, including the word "Mental" and "100 to 7. P".

**Memorandum from DR. JOHN HARVEY KELLOGG
(Personal)**

DATED.....

To.....

[Handwritten notes in cursive script, including the word "Vanity" and other illegible text]

**Memorandum from DR. JOHN HARVEY KELLOGG
(Personal)**

DATED.....

To.....

W. H. Kellogg

W. H. Kellogg

W. H. Kellogg

W. H. Kellogg

W. H. Kellogg

**Memorandum from DR. JOHN HARVEY KELLOGG
(Personal)**

DATED.....

To.....

Handwritten scribbles and marks, including a large 'M' and 'N' with arrows, and some illegible cursive text.

To keep the "department of the interior" clean, to maintain pure blood, is vitally necessary for the maintenance of health and efficiency, and to promote length of life.

"HEALTH AND A DAY"

Handicaps to health.

Health a matter of heredity.

Oliver Wendell Holmes---Could make almost anything of a man if you could begin several generations back.

Some one else has suggested--One of the first conditions of success is care in the selection of one's grandparents.

Health largely a matter of hereditary endowment.-- We inherit health as we inherit the color of eyes, hair and form of face.

During many years I collected the names of centenarians until I had nearly a thousand names.

By.

The late Alexander Bell made an analytical study of the ancestry of these persons and found that while they had miscellaneous habits--some were great smokers, and others did not smoke, with heavy drinkers and some abstainers; some ate meat and some did not,--they were practically all alike in one particular--they had long-lived ancestors.

A Margin of Safety

Lauder Brunton says everybody should live a hundred years.

The average man barely exceeds fifty years. He lacks margin.

The average man doubtless inherits ability to live a hundred years, while many have margin enough to last 150 years or more.

The safety margin like bank deposit. We can draw checks on it, but every check lessens the balance.

Contrast with 50 years ago.

Come back to make a semi-centennial report of my stewardship.

Yale professor hoped the Yale team would be beaten in the battle with Harvard because their coach had permitted them to smoke.

Men in training give careful attention to hygiene.

The Greek and Roman gladiators and our modern athletic teams are trained for their work as carefully as race horses.

Students and professional men need equally to give careful attention to hygiene, though somewhat different training.

Diet is just as closely related to mental activity as to muscular work and endurance.

Strength and endurance two entirely different things.

Strength depends upon size of muscles, while endurance depends on cleanness of blood.

What makes a man tired? (See Good Health ,page 466,Nov.,1922)

Natural fatigue is the result of work. The bi-products of work are poisons. They lessen the capacity of brain and muscle for work until they have been washed away by the blood stream. Many other substances are fatigue poisons.

Alcohol is a fatigue poison.

Peary, Nansen- all Arctic explorers-- forbade the use of alcohol because it lessened endurance and resistance to fatigue and cold.

Nansen forbade the use of tea and coffee for the same reason.

Lombard's experiments. (Tobaccoism)

West Point - College test - 40% loss of muscle power

How to have a clear head.

Clear blood.

How to prepare for a supreme effort.

Joseph Parker's bath-tub.

Chauncey Depew

Chevreuil

Metchnikoff (?)

Herbert Spencer

Handicaps to Health and Long Life

Midnight oil

Sleep Nature's great restorer

Early morning best time for study--brain cells rested.

Word pictures and other mental images are more lasting. Not a bad idea to look lessons over at night to give the subconsciousness a chance to work them over during sleep.

Dickens

Injury from loss of sleep

Joys of the neutral bath

How to sleep twice as fast

Fresh air sleeping

Amount of sleep required

Napoleon

Duke of Wellington

Edison *G. H.*

The cold morning bath

The surface of the body a face

Morning exercise

Posture

Eating

Memo

It is more important to know whether a boy's eliminative mechanism is in good working order than to know whether he has his arithmetic lesson.

It is more important for the non-tuberculous, healthy boy or girl to have the benefit of the open-air school than for the tuberculous boy or girl.

*\$1,100,000,000 annually -
Education (1923)*

Kalamazoo Talk

Begin with New York story.

Not a new idea. Long ago, Montaigne (1533-1592) pleaded for the education of the whole man.

Training in posture,
carriage,
physical bearing.

Said Montaigne, " I would like to have the pupil's outward fashion and mien and the disposition of his limbs formed at the same time with his mind. 'Tis not a soul, 'tis not a body, that we are training up, but a man, and we ought not to divide him."

"How to live?--that is the essential question for us."

"But more is needed, and it is that we should learn the laws of life and ^{of} health."

"The vital knowledge--that by which we have grown as a nation to what we are, and which underlies our whole existence--is a knowledge that has got itself taught in nooks and corners, while the ordained agencies for teaching have been mumbling little else than dead formulas."

"Architecture, sculpture, painting, music, and poetry may truly be called the efflorescence of civilised life, but the production of a healthy, civilised life must be the first condition. The vice of our educational system is that it neglects the plant for the sake of the flower."

"People are beginning to see that the first requisite to success in life is to be a good animal."

Our education is one-sided as the result.

Ideals are improving.

The moral law means more to-day in the world than ever before.

Some ancient Bible worthies, if alive to-day, would hardly be recognized in decent society.

The "Golden Rule" has more influence in the world than ever before, as seen by the efforts of the Red Cross and other philanthropic societies during the World's War.

Posture

Exercise

Smoking

Colon Hygiene

Health Survey

Biologic Living

INTERNATIONAL GRENFELL ASSOCIATION, INC.

Memorandum To:

Feb. 1. 24

Dear Sir, a friend writes me from the
Sanitanni, he was writing as appreciatively
of Kellogg, & wanted a few words from me.

I am living on trains, & overwhelmed
with work. I can't do much - But please
hand him the enclosed. He has of Kellogg
per mission - but his name has slipped
me. Thank you in advance
Walter Frederick

He who has had to lead a life fighting with difficult problems, physical and otherwise, learns to respect any one who is a fighter. He who believes life on earth is only explained, and justified, by regarding it as one big field of honor, where success can only be won, and tasty joys only tasted by the knights who, like the Master of Men, are willing to take up or lay down their lives in the cause of a better world in which peace and righteousness shall reign, and love and mercy shall kiss each other, must love all men of the Dr. John H. Kellogg type whether they know him personally or not.

John H. Kellogg--the big name stands for better physical well being and therefore necessarily also for better moral--yes--and spiritual life. The spirit of the ages changes slowly for the better and even the primeval world that cared only for grabbing things, and for selfish indulgences can't, if they would today, physically crucify their fellows whose unselfishness and courage are a rebuke to the disintegrating influences their own lives stand for. You may talk, and theorize, and argue like the Pharisees of old, and the Devil and his agents don't care very much. But when a man gets to doing things--which in his place the Master of Men would be doing--then opposition and cruelty raise their subtle and noxious heads in ways that the advancing ages have taught it to excel in. You can crucify a tender soul without hammer and nails or a wooden cross. Perswall was a proud man when that splendid outstanding body of up-to-date scientific and sane-minded men, the College of Surgeons of America honored Dr. Kellogg, and the leaders of his staff by election to their highest honor. Hunter, Harvey, Lister, Jenner, Morton and every single pioneer of new methods in Medical Science, has had to undergo cruel persecution and today, when countless quacks

in these United States are exploiting the field of human sickness and offering, for sordid dollars, regardless of the harm their ignorance causes to their fellows, to me a humble member of that great profession, it was a big uplift to learn that the body of men alone well qualified to stamp with approval or disapproval the merits of the unusual and therefore at the time unorthodox emphasis Dr. Kellogg was placing on biological living had conferred upon him their highest honor of Fellowship. Dr. Kellogg needs no encomium of mine. It is an impertience to offer it. His work will stand and grow--that is all he cares about, and it's the only criticism he needs.

His country has endorsed in no unmistakable tones at least one of his primal teachings with her new laws of prohibition against that most obviously dangerous of poisons on toxins--known even to the man in the street as intoxicating drink. The toxins they don't know about, like secret enemies, are really quite as fatal to the people, and to the kingdom of peace and righteousness. And no man has done more in the world today to warn his fellows that "we dig our graves with our teeth" than this man. Is that not "enuff said"?

I don't know what Doctor John Kellogg means to have written upon his tombstone, if he ever gets old enough, like the one horse shay, did, to fall to pieces all at once. He still looks and works as if that day was as distant as ever. But I do know that as his claim to our gratitude his life has redeemed the physical lives of countless of his fellow creatures. That is a far better claim to immortality than the dollar and cent gauge of the so-called richest, but so often really poorest, man on earth. Beyond this I can only say I know personally the man I am writing about. I have known him for many years in the dollar and cent field, as

well as in the fields of science and ethics and that's why I have ventured out of my shell, and out of the seclusion of the subjects that have usually engrossed by life interests even as a flea might venture out to try and say a good word for an elephant in the larger field he occupies. This effort carries my affection, my gratitude and my sincerest good wishes to Dr. John Kellogg and his world acknowledged efforts for the betterment of the whole human family.

Wilfred Grenfell

Feb. 25, 1924.

Memo for Abstract of

LAWSON TAIT, by

W.J. Stewart McKay.

Alexander McKenzie Edwards, lecturer in the Extra-Mural School of Edinburgh, taught Tait to open the abdomen without cutting muscular fibres, separating the fibres so as to make a sphincter in colotomy.

Tait was a great lover of animals.

He was an intimate friend of John Brown.

John Brown

Was the author of "Rab and His Friends".

Simpson was the first man to cure ulcer of the bladder by making a vesico-vaginal fistula. Tait wrote about it in the Lancet, in 1870.

Refer to when I was a student in old Bellevue, in 1874.

I remember the announcement by Prof. Peaslee of the receipt of a cablegram announcing the completion of a series of 100 successive laparotomies without a death. The operation was at that time so fatal that only a few intrepid surgeons ventured to undertake it.

It was several years later before the average mortality rate in this country reached so low an average as 15 per cent.

Only a few years before, the famous Dr. Syme, counted the most skillful surgeon of his day, appalled by the mortality rate of 100 per cent (30 cases in succession without one recovery), had denounced the opening of the abdomen as too hazardous and not to be regarded as justifiable under any circumstances, and declared that he would never again perform the operation, and he never did.

Tait, who greatly admired Syme, left Edinburgh with the resolution never to perform the operation of laparotomy, etc., etc.

Aug. 20, 1927

Memo for Dr. Tait Paper

Tait's deference to old ladies.

Love of children.

Did not approve of Battey's idea of removing healthy ovaries.

Laughed at Emmett's "little crack."

Did not believe in cellulitis.

In breaking up adhesions, often tore intestine. Did not use eyes much. Said he had often torn intestine - more than 30 times.

Sometimes saw feces pouring out like meat out of a sausage grinder.

Discussion about removal of diseased ovaries, -Hegar, Battey, Trenholm. Trenholm told me of his work, claiming priority, when patient at B.C., a few months before he died of brain tumor.

Battey was born in the village of Marshall, 12 miles from Battle Creek.

Used to go to B.C. to attend dancing parties in the little tavern.

Tait made sport of Queen Victoria; disliked her very much. Called her a "stingy old woman," chiefly because he admired the Prince of Wales, with whom he chummed, and disliked the old lady because she would not supply the prince with as much spending money as he wanted.

Tait was an ardent admirer of Darwin, with whom he had studied biology. His advocacy of Darwin's views at Midland Institute made him many enemies.

Tait told me he had often passed the sound through the fundus and had never seen any harm result.

In 1872, Spencer Wells advocated the external treatment of the pedicle in ovariectomy.

Tait recognized the value of the method in cases in which the ovary had a long pedicle, but preferred controlling the hemorrhage with the écraseur and dropping the stump, closing the abdomen.

Tait, in the 80's, had abandoned the clamp recommended by Spencer Wells, concerning which he said, "My results with it were so bad that its employment will ever be to me a matter of bitter and lasting regret."

6 As late as 1883, Tait still recommended restriction of bowel activity after ovariectomy, recommending that the bowels should be confined for ten days to two weeks after operation.

Though in the early 80's, Tait had opposed the use of the drainage tube, referring to it as a "Seton" in the peritoneal cavity and likely to give rise to peritonitis, he had become by 1889, an ardent advocate of the drainage tube, and never opened the abdomen without introducing a glass tube for drainage.

~~Treatment of the pedicle~~

3 Tait opposed the spray as being "by no means either a simple or a safe proceeding: and when its advocates can perform fifty ovariectomies, aided by its hindrance, and have only six deaths, then will be the time to listen to them."

The bowels.

In 1883, Tait in his work, "Diseases of the Ovaries," wrote:
"The bowels may remain without action for ten, twelve, ^{or} fourteen days
after the operation, without giving rise to any uneasiness."

Tait took up the campaign of James Simpson against hospitalism, at
the request of Simpson's son.

He showed an excessive mortality rate in large hospitals.

Abdominal
Of 271 cases operated on in hospitals with more than 100 beds,
each, 157 died, a mortality of more than 58 per cent.

Hospitals in those days were so bad that after the revelations
of Simpson and Florence Nightingale, it was proposed that the old
hospitals should all be pulled down and new ones built. The situation
in America as late as 1899, was no better.

In the State hospital, at Ann Arbor, Michigan, in the year
1888, ten failed to recover.

Of 12 cases of abdominal surgery operated on in the state hospital at Ann Arbor, Michigan, in the year 1888, 10 failed to recover.

Silk and catgut used for ligatures by Galen, 130 A.D.

During the 80's, Tait established the principles of aseptic surgery. He ridiculed Lister and abhorred antiseptics of all sorts, but took care to boil his instruments and ligatures and used drainage in every case. He established the fundamental truth which has made abdominal surgery a success, and demonstrated the feasibility of the intraperineal^{to} treatment of the stump in ovariectomy.

His antagonism to the antiseptic methods was very intense.

5
He declared germs to be harmless. He thought the danger of to be entirely due to the collection of fluid in the abdomen. He aimed to overcome this by three methods: 1. Drainage after operation; 2. Purg-
ing the patient before operation; 3. Withholding liquids for two days after operation.

4
On one occasion, when I asked him his views respecting Pasteur's discovery, he declared that germs were harmless, that he would as soon use a mess^a of germs in place of a sponge, if it were only dry.

Emmett and Peaslee regarded pelvic cellulitis as the most common of pelvic disorders, and taught the doctrine of perimetritis and parametritis.

Tait, by his operation for diseased appendages, proved that perimetritis and parametritis are really salpingitis.

Thus terminated what Kelly describes as the greatest surgical battle ever fought.

At the International Medical Congress held in London, in 1881, Battey in a history of the operation of Oophorectomy, credited Tait with 29 operations, and placed the mortality rate at 18 per cent.

Tait, by his work in the 80's, practically eliminated Battey's operation by showing that the fallopian tubes rather than the ovaries were chiefly responsible for pelvic pain, with which the ovaries had been held responsible.

Tait's brief paper at the International Congress of 1881, reported cases of removal of diseased tubes or resection of the uterine appendages to stop the bleeding of uterine fibroids and other operations which, while then unique, have since become current surgical practice.

Tait also in the early 80's, showed the feasibility of operative interference in cases of ruptured tubal pregnancy.

At the time I was with him, he had operated more than 40 cases, with only 2 deaths.

New sponges soaked in dilute solution of hydrochloric acid, renewing several times until effervescence ceased.

After use for operation, soak in soda solution, one pound for twelve sponges, for 24 hours, rinsed in hot water, free from blood, thoroughly clean.

The sponges were soaked over night in a 1 per cent solution of carbolic acid, out of which they were squeezed dry and put into a cotton sack and hung from the kitchen ceiling to dry.

Tait's places of operation were Sparkhill Hospital, a public hospital, and The Crescent, where he lived.

Tait's mode of operation. Very short incision, usually 2 inches; rarely more than 3 in length.

Tait poured water from a pitcher into the abdominal cavity.

Took his knife between his teeth.

Filled syphon tube with which he filled the abdominal cavity by putting the trocar in his mouth and on withdrawing it, thrusting it immediately into the abdomen.

In 1884, Tait credited Dr. Charles Clay with being the father of ovariectomy in Europe, who before 1884 had performed nearly 400 laparotomies, with a mortality of 25 per cent, though Spencer Wells had performed 1000, with the same mortality rate.

Tait seems to have copied from Baker Brown the short abdominal incision and the intraperitoneal treatment of the pedicle.

Baker Brown in 1864 had lost only 4 patients out of his last 40 cases.

Tait's wife and also Keith's wife, prepared the sponges.

When Tait soiled his hands and his hands became infected, he avoided operating for several days.

Operations

Op. woman. Patient's bedroom.

Table, plain, narrow board supported by two wooden horses,
and carried from room to room.

Preparation of patient.

Purged for two days with saline. Must be free from any
narcotic. Refused to operate upon the wife of a missionary physician
who had brought his wife all the way from the Interior of India on a
stretcher because she was taking opium to relieve the pain due to
chronic peritonitis.

Skin. Scrubbed with soap and water. If very dirty, turpentine.

Never shaved the pubis. Careful of hands. If they became infected
by contact with virulent fluids, he declined to operate for several
days. He had lost several patients from sepsis after having operated
two days after infection, though he had soaked his hands *(not finished)*

Sponges Finest sea sponges. Always looking for new ones.

Took great pride in several large, flat, very fine Mediterranean sponges.

Prepared by himself at first, then by his wife. By matron.

Instruments. Boiled with washing soda. Wiped with ordinary towel.

At operation, trays covered with hot water poured over them.

Ligatures. Silk and silk worm gut. Closing abdomen wound and tying pedicle, very large suture was used.

Boiled, dried and placed in hot water just before using .

Hands. Soap and water.

Dress. Removed coat.

Rolled up sleeves.

Machintose^K apron.

Tait invited to London.

Moynihan, Mayo, Robson.

Hot temper - nurse episode.

Courtesy to old ladies.

Love of children.

Pets - ^{Persian} ~~Maltese~~ cats.

After operations, sometimes invited me to walk through the market with him. He greatly enjoyed looking at the fish, which seemed to interest him as much from the scientific, or biologic, as *(not finished)*

gustatory point of view
conestible

Operations

Swift operator.

Small knife. Careful opening of the peritoneum; always took care to split muscle instead of cutting fibers. Took great care in opening peritoneum, cutting between forceps.

Did everything himself.

Assistant only held forceps. Never a chance to tie a knot.

Small incision - 2-3 inches.

Rarely appendages until drawn out of wound.

McKay, who wrote his biography, says he never talked at operation. This is an error. He worked so intensely he did not talk much, but did converse with visitors. However, if I had questions to ask him, I always reserved them until afterward, when Tait usually took me in his carriage and drove home to The Crescent from Sparkhill, when operations were there.

During operation, never covered field of operation, as did Lister, whose work I saw at King's College Hospital.

Tait was fast. $1\frac{1}{2}$ minutes perineal operation.

Dressing simple. Gauze (gamgee?)

Tait father of aseptic surgery. Got idea from Syme, Lister's father-in-law. Evolved it during 1880. Assistant's hands rarely allowed to touch raw surface of wound. In his impetuosity sometimes did very odd things which we now know were most septic, such as holding knife between teeth; putting end of trocar in mouth to fill tube.

7 min laparotomy - Searle

Repeated

Tait was getting excellent results from asepsis, long before the publication of von Bergmann's system of asepsis by Schimmelbusch, in 1893; translated 1894. Von Bergmann introduced gauze sponges, dispensing with the old red sponges, a constant source of worry to surgeons of that period.

Tait was not the first to operate upon the gall bladder, but I think deserves credit for doing the operation first in England, and his brilliant success with the operation and his able defence of it were the means of establishing it as a standard proceeding.

Tait was fond of argument. His disposition was to question any new proposition. Any new idea put forward by a rival was almost certain to be made the object of vigorous attack. He was highly ingenious.

Deft with his hands, which, though large and clumsy, looking, were capable of most delicate manipulations.

He had very progressive ideas about medical education.

He advocated manual training. He attacked very vigorously the methods in vogue in medical education at that time in England, still, in an address on surgery as president of Mason College, Birmingham, he said with reference to his own medical training:

① "I remember that we had to learn that the direction of the anterior cornu of the fourth ventricle of the brain ran a course which was backwards, outwards, downwards, forwards, and inwards, and we were enabled in the most improper way to remember these important facts by the word 'bodfi.' Has 'bodfi' ever served any of you at the bedside? Is there any conceivable condition of human accident or ailment in which 'bodfi' could assist you to relieve your patient?"

(2) He insisted upon the importance of training of the hands in the use of tools as a necessary part of surgical education. He said ^{of} the medical students' program, "I should set him so many hours in the week into the shop of the village carpenter; and I would have him trained to use a saw, a chisel, a plane, and a skew so that he should be able to make a long aplint if need be, as well as to put it on. And into the blacksmith's shop he should go, till he knew how to strike properly with a hammer."

Tait himself had served time at the ^(?)lathe, the bench and the forge, doubtless, as a young boy, for he told me one day while walking home from an operation, that his father was a blacksmith, although there was a current rumor that his real father was James Y. Simpson. Tait did not hesitate to favor the notion when opportunity arose and was proud of the fact that he looked much like the great surgeon.

When my successor, McKay, asked him one day with reference to the truth of the rumor about his parentage, he replied, "~~We will look this up.~~"

~~"That's what people say and if it may be true, I do not know"~~

Tait had curious prejudices.

Opposed animal experimentation.

Emmett's little crack.

Pylorotomy - always malignant.

Gastroenterostomy - always and permanent fecal regurgitation.

Tait's description of his operating table and dressing (p. 432),

Tait's accomplishments in the 80's established his aseptic method.

He had the theory that germs were not dangerous if they didn't have anything to feed upon. He depended for protection against bacteria upon keeping the wound clean, freeing the abdominal cavity from all clots and other detritus, thoroughly clearing the intestinal tract and systematic drainage.

In the 80's did many successful operations for gall bladder, and established the operation of cholecystotomy on a sound basis.

His latest accomplishment was the radical departure from the old method of confining the bowels by the use of opium.

The late Dr. Joseph Price said on one occasion, "Tait in pelvic surgery stood first; taught us the best we know."

Tait's efficient method for flushing the abdominal cavity was a useful innovation in surgical practice, though doubtless sometimes misused.

The use of hot sponges and hot water for stopping oozing, another highly useful method.

Draining the abdomen by the use of a simple rubber bulb with tube attached, which he called a sucker. This the nurse inserted into the drainage

*the pamphlet
about fecal bladder*

Tait's description of his operating table and dressing.

"(1) The patient upon an operating table, which is simply a deal board resting upon two trestles; as I deprecate any kind of complicated apparatus, I deprecate any kind of complication in the table upon which I am to perform the operations.

"(2) Again, I say that in all my instruments two things have to be regarded; first of all, scrupulous simplicity, and, secondly, scrupulous cleanliness.

"(3) We, who are opposed to the antiseptic doctrines and the antiseptic practice, argued that the germs were harmless if dead and dying material upon which they might feed were removed from the wound. The washing out of the abdomen, therefore, for the careful removal of all clots, dirt, and debris, and the free use of the drainage-tube, form the complementary practice of essential cleanliness, and paved the way to our recent enormous advance in abdominal surgery.

"(4) Simplicity of apparatus is the end to which I have ceaselessly striven, and you will see, therefore, that my whole armamentarium of weapons consists of simple little knives, simply catch-forceps, a simple cannular trocar, and, for the special operation of hysterectomy, a simple wire clamp. You can carry the whole set of instruments in one coat pocket."

"Your dressing need consist only of a piece of unmedicated dry cotton-wool; or if you adopt, as I have done for the last few weeks with one advantage, an additional agent for drying your wound and keeping it dry (for that is the best of all forms of true antiseptics), the powder of boracic acid will be found the most satisfactory drying agent for any kind of wound."

tube at regular intervals to make sure that the abdominal cavity was kept as dry as possible.

Tait's sucker was a rubber bulb in which was inserted a glass tube ; ^{with a} the reservoir at the end next the bulb.

Tait was first to operate for stopping bleeding in case of rupture in tubal pregnancy.

Tait operated upon the appendix. Reported cases of appendectomy in an article in the British Medical Journal in 1889¹.

Tait gave no water the first 24 hours.

Mention the stench of putrefying stumps.

Tait adhered strictly to the intra-peritoneal method of treating the stump in hysterectomy.

In his early practice, he confined the bowels for 7 or 8 days, sometimes 12 or 14.

Sometimes gave a small dose of morphia immediately after operation, which was very rare. During the five months I was with him, I never saw him use opium in any form.

Tait advocated the use of modelling in teaching anatomy. He would have the students model the bones from memory, repeating the process until able to make a perfect model without ^{the} a bone in sight.

where does this
go?

Although Tait laid the foundation for surgical asepsis, his theory was wrong. He contended that germs could do no harm unless there was present dead or dying matter for them to feed upon. But, fortunately, there is always present material which may serve as a nutrient media for bacteria of the highest potentiality. William Mayo has said that Tait was "the father of modern abdominal surgery."

According to Kendall, the colon bacillus may "become invasive if conditions arise which weaken the intestinal mucosa."

It is sometimes found in pure culture, in peritonitis and in purulent perforated appendicitis. It may also cause cystitis and bronchial pneumonia.

"It is not surprising to find that bacterial proliferation is greater both in nature and extent in the intestinal tract than in any

o

(Talk at Kalamazoo, Apr. 25, 1924)

Practical Bearings of Biology upon
Human Life and Living

What Biology has done for Medicine.

Minute organisms greatest enemy of life and industry.

Pliny

Bastian

Pasteur

Germ theory

Malaria

Syphilis

Lamarck

Weisman

Debries-Mutation

Morgan's Chromosomes

~~Boldyreff--take him along~~

~~Dr. Key~~

~~Dr. Roderick~~

~~Dr. Mitchell~~

Biologic living

Great progress of last century in saving human life due to applying biology.

100 years ago doctors fought nature--Cullen.

Nature the greatest teacher

Animal experimentation

Pavlov

Evvard--hogs

Hopkins, McCollum, Mendel--rats

Biologic living.

Decatur Michigan.
April 23, 1924.

APR 24 1924

Dr. J. H. Kellogg
Battle Creek, Michigan.

Dear Sir:

Since you wished me to drop you a reminder of the meeting next Friday, I am enclosing you a program which will give you a better idea of the scope of the entire convention.

Sincerely yours,

D. W. Slagg
Chairman.

SIXTH ANNUAL MEETING
Science and Mathematics Association
OF
Southwestern Michigan

HELD AT THE WESTERN STATE NORMAL SCHOOL
Kalamazoo, Michigan

April 25 and 26, 1924

**(All meetings will be held on Eastern Standard Time, which is
one hour faster than railroad time)**

OFFICERS FOR 1923-24

President, Percy Hammond, Marshall (resigned).

Vice-President, E. W. Kiebler, Hillsdale.

Secretary-Treasurer, Miss Florence Winslow, Kalamazoo.

Executive Committee

The above Officers, ex-Officio.

**Dean W. Flagg, High School, Decatur, Chairman of Biology Sec-
tion.**

**Miss Lillian Brown, Principal Woodward Ave. School, Kalama-
zoo, Chairman of Mathematics Section.**

**Mrs. Anna C. Williams, Vine St. School, Kalamazoo, Chairman
of General Science.**

**Paul Rood, Western State Normal School, Chairman of Chemistry
and Physics Section.**

**Harold Blair, President of Science Club of Western State Normal
School.**

Walter Horst, Three Rivers, Past President.

W. C. Marburger, Battle Creek, Past President.

Miss Lida Rogers, Holland, Past President.

Enrollment in main corridor, Administration Building.

Registration fee, 50 cents.

FRIDAY MORNING, APRIL 25, 10:00 O'CLOCK
(Eastern Standard Time)

Science Building, Room 111

Conference on Educational Tests and Measurements

T. S. Henry, Western State Normal School, Chairman

1. **Administrative Uses of Mental Tests**
Ray C. Pellett, Western State Normal School
2. **The Program of Educational Measurements in the Elementary School**
Manley M. Ellis, Western State Normal School
3. **General Discussion**

FRIDAY MORNING, APRIL 25, 10:00 O'CLOCK
(Eastern Standard Time)

Science Building, Room 205

General Science Conference

Mrs. Anna C. Williams, Kalamazoo, Chairman

1. **A Proposed General Science Curriculum**
Miss Ruth Cooley, Western State Normal School
2. **Of What Should the Note Book Work Consist?**
Mrs. Walter A. Wood, Strong Junior High School,
Grand Rapids
3. **General Science Tests**
Mr. George W. Beckwith, Washington Junior High
School, Kalamazoo
4. **Forty Common Michigan Birds—Illustrated**
Mrs. Edith Munger, President Michigan Audubon Society
5. **Election of Officers**

FRIDAY AFTERNOON, APRIL 25, 1:30 O'CLOCK
(Eastern Standard Time)

Western Normal High School Auditorium,
Administration Building

1. **Forward Steps in General Science**
C. J. Pieper, Professor of General Science, Chicago
University High School
2. **Early American Arithmetics**
L. C. Karpinski, Professor of Mathematics,
University of Michigan
3. **Meetings of Conference Groups in the Science Building, 4:00
o'clock**

A. Mathematics Conference, Science Building, Room 111

Miss Lillian Brown, Kalamazoo, Chairman

1. Vitalizing the Teaching of Freshman Algebra
Inez Sheldon Tyler, Hillsdale High School
2. Mathematics in the Tenth Grade
Felix E. Wilcox, Grand Rapids
3. Shop Mathematics
Mrs. Howard Buckhout, Central High School, Kalamazoo
4. Discussion
Prof. L. C. Karpinski, University of Michigan
5. Election of Officers

B. Biology Conference, Science Building, Room 205

D. W. Flagg, Decatur High School, Chairman

1. Practical Bearings of Biology Upon Human Life and Living
Dr. J. H. Kellogg, Battle Creek Sanitarium
2. Ecology and Human Welfare
Dr. L. A. Kenoyer, Western State Normal School
3. Tests and Examinations in Biology
Samuel Renshaw, Western State Normal School
4. Election of Officers

C. Physics and Chemistry Conference, Science Bldg., Room 301

Paul Rood, Western State Normal School, Chairman

1. Some Experiences with Chemistry Projects
E. M. Shumar, Kalamazoo Central High School
2. The High School and the Paper Industry
Frank D. Libby, Chemist Vegetable Parchment Co.
Kalamazoo
3. The Principles Underlying the Operation of the Radiophone
(with a demonstration of a miniature radiophone sending
and receiving set)
W. G. Marburger, Battle Creek High School
4. What Apparatus I Would Buy for My Science Department in
Physics
Discussion led by Roy Mesick, St. Joseph High School
5. Discussion of Replies Received to a Science Questionnaire
Sent to Teachers of Science in Southwestern Michigan
6. Election of Officers

FRIDAY, 6:30 P. M. (Eastern Standard Time)

Annual Science and Mathematics Banquet

Training School Rotunda

(One dollar a plate)

FRIDAY EVENING, 8:00 O'CLOCK

Gymnasium

**Western State Normal Science Club Lecture—Complimentary
to the Association of Science and Mathematics**

**Illustrated Address—Dinosaurs or Reptiles of the Mesozoic
Ermine Cowles Case, Professor of Historical Geology
and Paleontology, University of Michigan**

SATURDAY, APRIL 26, 9:00 A. M.

(Eastern Standard Time)

**Western Normal High School Auditorium
Administration Building**

Professor John Fox, Western State Normal School, Presiding

- 1. Business Meeting**
- 2. Brief Reports of Conference Groups**
- 3. Tribute to the Memory of Professor Clarke Benedict
Williams, Dean of Kalamazoo College
Professor J. P. Everett, Western State Normal School**
- 4. Address—"The Background of Mexican Unrest"
Miss Lucia Harrison, Western State Normal School**
- 5. Address—"Teacher and Taught"
Dr. William McCracken, Western State Normal School**

July 8, 1924.

Dr. Case:

Will you please order for Dr. Kellogg the following:

Studier Over Kraeftstatistik - Kraeft og Diaet"by Dr. Hindhede

Modern Medicine Pub.Co.

Physiology of
Gen Principles

Aug 2/24

Electricity

Fraser
Verity
Murray

Jeppies
Blair
Pierce

Doggs
White

Rath
Mitchell
Lewin

Postgraduate School
of Physiotherapy

General principles

What is disease

Natural methods of defense

The skin & mucous membrane

The blood

Leucocytes

Serum

Immunity

Antibodies

Alexins

Opsonins

Saliva

Quartan juice

Mile

Mucus

Metabolism

Liver

General functions

New tests

Kidneys

Natural curative process

Leucocytosis

Heat regulation

Chill - shivering

Fever - reason for

Exudates

Control of

Regeneration - hyp. of thyroid
Liver, Kidney, Heart
Glands

Artificial acids

low resistance (see Hydas)

Def. Metabolism (see
p. 100)

Aug. 2, 1924.

PHYSIOTHERAPY

General Principles

Electricity

Frazer

Pierce

Verity

Mitchell

Murray

Lewis

Jeffries

White

Bilan

AUG. 2, 1924.

PHYSIOTHERAPY

General Principles

Electricity

Frazer

Pierce

Verity

Mitchell

Murray

Lewis

Jeffries

White

Bilan

POST-GRADUATE SCHOOL OF PHYSIOTHERAPY

General principles

What is disease?

Natural methods of defense

The skin and mucous membrane

The blood

leucocytes

alexins

opsonins

Saliva

Gastric juice

metabolism

Bile

Mucus

Liver

several functions

new tests

Kidneys

POST-GRADUATE SCHOOL OF PHYSIOTHERAPY

General principles

What is disease?

Natural methods of defense

The skin and mucous membrane

The blood

leucocytes

alexins

opsonins

Saliva

Gastric juice

metabolism

Bile

Mucus

Liver

several functions

new tests

Kidneys

Natural curative process

Leucocytosis

Heat regulation

chill--shivering

fever--reason for

Exudates

Antitoxins

Regeneration--hyp. of thyroid

Liver, kidney, heart

Glands

Artificial aids

Inc. resistance (See Hydro.)

Inf. metabolism (Inc.
(Dim.)

Natural curative process

Leucocytosis

Heat regulation

chill--shivering

fever--reason for

Exudates

Antitoxins

Regeneration--hyp. of thyroid

Liver, kidney, heart

Glands

Artificial aids

Inc. resistance (See Hydro.)

Inf. metabolism (Inc.
(Dbi.

Met. Clement

Sept .6, 1924.

Discussion of Dr. Eastman's Paper

American people tired--they need rest.

Tension expends 30-50 % of energy.

One gets tired waiting for a train or for a dull preacher to
finish.

Metabolism tests show a difference of ----- to -----%

between complete rest and rest with nervous tension.

The movie, the club, speculation, politics, business competition
and worries make men tired.

American people are tired and need rest.

Other things cause fatigue.

Posture--Splanchnic stasis

Fisher--abdominal belt temporary

Mosso--fatigue poison

Benedict showed real mental work causes little expenditure of energy.

Worry, tension.

Other poisons cause fatigue

Herter, Lee, skatol, indol.

High protein diet

Roosevelt- lion-horse

Endurance tests always favor low protein feeders.

Ceasar's army was fed on wheat

Hunting dogs on bread, corn meal mush, little or no meat.

Memo for paper

Amount of coffee used up to date *1,398,176,000 lbs.*
nearly 14 lbs. per capita
" " tobacco *1,436,738 lbs. produced*

Add about Fisher dispensing with two hours of sleep.

Voltaire-well washed out

Hunter, blood-pressure

Huxley

Battling Nelson

Firpo

The Finnish Hohlemainen

Lit. Digest

Tea and Coffee

Nansen across Greenland

in three days made them so tired glad to drop it.

Tobacco

Lombard

75-15

84-12

strokes

Effects lasted several hours.

9-17-24

Change order of Animal Food, thus

Milk

Eggs

Meat

Has been
changed.
Paging will
need to be
changed.

ous nature. If a well is located within the area of saturation, from whatever cause, it will certainly be contaminated. Under such circumstances a well becomes a drainage pit for the filth-impregnated soil, and with every rain great quantities of soluble excreta, and, in many cases, germs of disease, are washed down into the well. The only proper remedy for this danger, as it is often impossible to get sufficiently far away to escape danger, is to abolish vaults altogether; but as this cannot always be done, the next best thing is to cleanse them frequently.

THE DANGERS IN MILK.

The general use of milk as a food for both children and adults renders it important that a special chapter should be devoted to this subject, especially in the light of modern researches which have connected with the use of this common article of diet a large number of grave maladies.

Omitting maladies concerning which authorities are still somewhat in doubt, the following may be mentioned as those concerning which the fact of the communication by milk is well established: Typhoid fever, cholera infantum, and tuberculosis, or tubercular consumption — three of the most deadly diseases known. It is very probable, also, that diphtheria, scarlet fever, and several other maladies are communicated through the medium of milk.

But if no other maladies than the first three named are liable to be disseminated by the use of milk, there is ample reason for regarding this article of food with grave suspicion until its purity and innocuousness have been established.

Numerous observations during the last twenty-five years have shown that milk is a frequent means of communicating typhoid fever infection. Infection of milk has sometimes been traced to the adulteration of the milk with water which had been contaminated by excreta from typhoid fever patients. In other cases the infection has occurred through the washing or rinsing of the milk cans or pails with infected water. There is, however, another source of infection which has been frequently overlooked.

It is generally held that cows are not subject to typhoid fever; nevertheless it is entirely probable that the capacious colon of the cow may serve as an excellent field for the development of typhoid

346

346 1/2
lost
Subbookalso goat and worth
disease and septice
fever

See book for p. 451

*Copy of conversation Count Tolstoy
and Dr. Kellogg when at
Bastleruk. Mar. 16, 1924 - 1 page.*

COUNT TOLSTOY: I think it was foolish to teach us children the Greek language.

DR. CASE: The Russian language is not related to Greek?

COUNT TOLSTOY: If I remember how many hours of my life were killed by Greek -- my life was so badly spoiled by this Greek language.

DR. CASE: Did you find Latin helpful?

COUNT TOLSTOY: Very little; a little for understanding some words -- some scientific words maybe.

DR. CASE: I found Latin very helpful in studying the Romance languages.

COUNT TOLSTOY: For Spanish, for instance, and Italian.

DR. CASE: And French also.

COUNT TOLSTOY: The next time when I come to this world I will study Chinese.

DR. CASE: You think it would connect you with a larger number of people?

COUNT TOLSTOY: It is a very interesting thing to study Chinese.

DR. KELLOGG: Did you spend some time in England when you were young?

COUNT TOLSTOY: Not much; no.

DR. KELLOGG: I was very much surprised in Russia to find so many Russians who spoke the English language very well.

COUNT TOLSTOY: They have governesses in childhood, that is how it comes.

DR. KELLOGG: You learned to speak English when you were very young?

COUNT TOLSTOY: Not very young, when very small.

DR. KELLOGG: You make some use of the English language in your family at home?

COUNT TOLSTOY: Not much.

DR. KELLOGG: Your father spoke the language very well?

COUNT TOLSTOY: He did not speak it well but he knew it well. His pronunciation was bad because he did not speak it from childhood. He learned it later, but he knew the language. He used to read English very much.

I think that is exactly the way they make it in Russia (speaking of raw sauerkraut). This sauerkraut with kwas and black bread is very nice. It is non-alcoholic beer. The peasants make it themselves. It is made of rye flour and barley.

DR. CASE: You say that is very commonly used.

COUNT TOLSTOY: Every peasant used to have it in his house.

DR. CASE: How long will it keep?

COUNT TOLSTOY: On ice it will keep a month; without ice it will keep a week or two.

DR. KELLOGG: It continues to ferment -- becomes a little more sour, I suppose?

COUNT TOLSTOY: Yes; that is the trouble. The first two or three days it is too sweet. It is not fermented. Then it becomes good. It keeps a week or two good, then it becomes sour, more and more sour, and then the peasant adds water.

DR. KELLOGG: It becomes a sort of vinegar.

COUNT TOLSTOY: Finally it becomes a sort of vinegar and then he throws it away.

DR. CASE: You say it is non-alcoholic altogether?

COUNT TOLSTOY: Scientifically it must contain alcohol. There must be some alcohol in it, but so little you will never notice it.

DR. KELLOGG: Was your father writing systematically up to near the time of his death?

COUNT TOLSTOY: Yes; every day.

DR. KELLOGG: He was writing philosophical books mostly?

COUNT TOLSTOY: Sometimes he would write a story or a novel.

DR. KELLOGG: Have your father's writings all been published?

COUNT TOLSTOY: I think they are all published now. There were some things that were not finished. They are all published now anyhow.

DR. KELLOGG: Do the Bolshiviks confiscate copyrights and everything of that sort?

COUNT TOLSTOY: Yes, they do. No copyrights.

DR. KELLOGG: Manuscripts?

COUNT TOLSTOY: No; manuscripts are in the museums. They are safe there, but the copyright is abolished altogether. No copyrights exist.

DR. KELLOGG: Patent rights the same?

COUNT TOLSTOY: The same, yes. But my father gave up his copyrights before. My father gave up his copyrights long ago on his last books and before his death he gave up all copyrights.

DR. KELLOGG: Do you think that that is of advantage to the people?

COUNT TOLSTOY: No, I do not think so because it makes no difference. I do not see why the publisher should make so much money.

DR. KELLOGG: There would be less inducement for a publisher to make the necessary effort to spread it abroad to increase the sale.

COUNT TOLSTOY: But finally, who makes the money? The capitalist. The capitalist makes the money.

DR. KELLOGG: Surely. Do you think it was the intention of Lenine to destroy money in Russia?

COUNT TOLSTOY: At the beginning, yes.

DR. KELLOGG: You think that was the purpose of printing so many rubles?

COUNT TOLSTOY: At the beginning he thought it possible to destroy money and start a world-wide social revolution all over the world. That is why when the money was going down he did not worry.. He did not worry because he thought a world revolution would break out anyhow and money would be of no value. He was very much disappointed when he found that it was impossible in Germany and in France.

DR. KELLOGG: He thought Germany and France would follow the example of Russia?

COUNT TOLSTOY: Yes. Then he had Indian and he had China. When they would be expelled from Russia they would go to China.

DR. KELLOGG: You mean the followers of Lenine?

COUNT TOLSTOY: Yes, sir; the next place they will develop will be China and after China they hope to get America.

DR. KELLOGG: Do you think that the failure of this movement in Russia will put an end to the experiment?

COUNT TOLSTOY: No.

DR. KELLOGG: You think they will try it again?

COUNT TOLSTOY: In China. Maybe it will be tried in other countries also, but in China it will be tried because they do not admit that it is a failure. They would never admit that it is a failure.

DR. CASE: It would take generations to bring that about, don't you think?

COUNT TOLSTOY: Oh, no; not so long. They have everything prepared there.

DR. KELLOGG: Do you think there is any probability of a close union being formed between Russia and Germany?

COUNT TOLSTOY: No, I do not think so. I do not think Germany needs anybody now. They have poisonous gases now developed to such an extent that they are not afraid of anybody. They are only just waiting for the moment to start again.

DR. CASE: They have kept up their development in air work.

COUNT TOLSTOY: Yes. They will come with five or ten aeroplanes over Paris and there you are. "Pay us so much or otherwise we are going to murder the whole population of Paris in five minutes" What shall they do then? They cannot do anything.

DR. KELLOGG: Your father took much active exercise say when he was 60 or 70?

COUNT TOLSTOY: Just walking and writing.

DR. KELLOGG: He walked every day. Did he take exercise?

COUNT TOLSTOY: He worked. He worked in the fields while he had the strength to do it.

DR. KELLOGG: Until he was past 70 or more?

COUNT TOLSTOY: Past 70; and the last ten years he probably could not work any more.

DR. KELLOGG: His purpose of working was philosophical, I suppose?

COUNT TOLSTOY: His idea was that he would spend his energy in a useful way. His idea was that every one of us has to gain his bread by physical work.

DR. KELLOGG: Has his philosophy been accepted by any group of people anywhere and put into practical use?

COUNT TOLSTOY: I think very much.

DR. KELLOGG: By any group?

COUNT TOLSTOY: And groups. Communities were organized for working on the land, but they did not keep these communities. They always had trouble.

DR. KELLOGG: Between individuals?

COUNT TOLSTOY: Mostly women. They quarreled.

He was very much interested in those who would refuse to enlist in the military service. There are now very many in Russia who refuse.

DR. KELLOGG: Indeed! What do they do with them?

COUNT TOLSTOY: They find out if they belong to such idealistic families, and if they find out that the parents also

believed in that then they let them alone.

DR. KELLOGG: Didn't they put them into the ambulance corps or some other work?

COUNT TOLSTOY: Yes, sometimes. But they have to find out if he really believes that the military service is wrong. If he is sincere in his belief then it is all right and they give him another job; but if they do not find out that he is sincere then they compel him to serve, because otherwise all would refuse.

I think in these times when life is so intense in Russia you cannot get people to follow the ideas of my father so well, but after a while I think it will come out more clearly. Many people come to visit his grave and his house. My sister was always showing to visitors his rooms, his grave and all that and she wrote me that there were never so many visitors as these last years.

DR. KELLOGG: Notwithstanding the agitation and the condition of the government?

COUNT TOLSTOY: Yes; and that means something.

DR. KELLOGG: His influence was larger in Russia than in any other country, you think?

COUNT TOLSTOY: I don't know. Maybe in India -- Gandhi.

DR. KELLOGG: Oh, indeed! Gandhi was one of his followers.

COUNT TOLSTOY: Yes, certainly. Gandhi has three hundred million followers himself.

DR. KELLOGG: A great number. You think he has pursued just the right course?

COUNT TOLSTOY: Gandhi? I think so.

DR. CASE: He has just been released I see.

DR. KELLOGG: I know he has been released.

COUNT TOLSTOY: He was dying in prison. Since he has been released he is a little better.

DR. KELLOGG: I should think he would die of beri-beri or something else from his very meagre diet. He apparently had no vitamins in the diet account I saw.

Were you acquainted with the Doukhobors?

COUNT TOLSTOY: I don't know them personally. I have met several of them.

DR. KELLOGG: You knew of their mode of life in Russia before they came to this country?

COUNT TOLSTOY: Yes. There they were very badly persecuted by the government, and finally they brought all the arms that they had into the middle of the town and burned them there as a protest against war. After that the government exiled some of them to Siberia, and that is why they had to leave the country. That is why they went to America.

DR. KELLOGG: The Russian government permitted them to leave?

COUNT TOLSTOY: Yes.

DR. KELLOGG: This was before the war.

COUNT TOLSTOY: Before the war. My father had lots of trouble in getting this permit, but finally they permitted it.

DR. KELLOGG: Do you know anything of their prosperity in this country?

COUNT TOLSTOY: They are very rich. Doing very well from the American point of view.

DR. KELLOGG: It was reported in the papers that they found that the climate was too rigorous for them and that they must have meat.

COUNT TOLSTOY: That is not true. What is true is that one-third of them are planning to return to Russia, and they sold everything they had, but the rest are staying here in Canada.

DR. KELLOGG: Have you any idea why they are going back to Russia?

COUNT TOLSTOY: I don't know.

DR. KELLOGG: They have increased their wealth. I don't suppose --

COUNT TOLSTOY: They are not interested in that. They are not interested in wealth, but I think that the Bolshiviks have persuaded them to come back and I am afraid that the money that they have will be taken from them by the Bolshiviks.

DR. KELLOGG: You think that will be done when they get back?

COUNT TOLSTOY: Yes.

DR. KELLOGG: They are much imposed upon. They are very religious people?

COUNT TOLSTOY: Yes.

DR. KELLOGG: They are good and wholesome in every way, are they?

COUNT TOLSTOY: Yes; not drinking, not smoking, living in community, and they have a leader who has autocratic power. This leader is appointed by the previous leader. He is not elected. He is appointed and he appoints his successor.

DR. KELLOGG: Is he supposed to be inspired, to have divine authority?

COUNT TOLSTOY: No, I don't know. I don't know that he is supposed to be inspired.

DR. KELLOGG: How did the first man get his authority?

COUNT TOLSTOY: Now, I forget how it was.

DR. KELLOGG: Are they a very ancient people?

COUNT TOLSTOY: I forgot that.

DR. KELLOGG: Why are they called Doukhobors?

COUNT TOLSTOY: I don't know exactly. I know that the leader they now have succeeded a woman. She appointed him.

DR. KELLOGG: Did she have visions or supernatural experiences?

COUNT TOLSTOY: I don't know how it was. I read about it and I forgot about it. This sect is about a hundred years old.

COUNT TOLSTOY: Then he found his health was improved.

DR. KELLOGG: That was a period soon after?

COUNT TOLSTOY: After he was in bad health. He was in bad health when he adopted a vegetarian diet. Yes, sometimes he had these pains in the liver and in the stomach. It was after he became a vegetarian he became better and better.

DR. KELLOGG: Did he never have them again after that?

COUNT TOLSTOY: Not so badly. He had them but not so badly.

DR. KELLOGG: Very interesting indeed because that is a very legitimate result of the adoption of a vegetarian diet.

COUNT TOLSTOY: Yes, certainly it is.

DR. KELLOGG: This pain in the region of the liver -- if Dr. Case had examined him with the X-ray might have shown that he had a diseased gallbladder. The adoption of a vegetarian diet in such a case would be very beneficial.

He suffered from no chronic ailment of any sort after that?

COUNT TOLSTOY: No, he had no chronic ailment.

DR. KELLOGG: He was not subject to headaches?

COUNT TOLSTOY: No. He had this wonderful instinct some people have, the instinct for food and instinct for drink. Sometimes in the evening he would drink water and we would bring him two big bottles of water like that (illustrating) and he would drink.

DR. KELLOGG: Ordinary water?

COUNT TOLSTOY: Ordinary water. Maybe two or three quarts at once.

DR. KELLOGG: That was a common practice?

COUNT TOLSTOY: No, sometimes. Sometimes it would happen he wants water and he would drink two or three quarts of water at once.

DR. KELLOGG: That is very interesting. Did he use milk freely?

COUNT TOLSTOY: No; he ate it on mash sometimes.

DR. KELLOGG: His food at that time was very simple?

COUNT TOLSTOY: Yes, very simple. He was a strong, I would say, animal. He was very strong and powerful.

DR. KELLOGG: Great physical force?

COUNT TOLSTOY: Great physical force; impulsive.

DR. KELLOGG: He was as strong as you.

COUNT TOLSTOY: Yes, he was as strong as I and stronger. He was very impulsive.

DR. KELLOGG: Very excitable?

COUNT TOLSTOY: Very excitable. But he never allowed himself to show it. He had self-control, but that was not easy for him because he was temperamental. He had a very strong individuality, a very powerful individuality.

DR. KELLOGG: Did he practice athletics a great deal in his youth?

COUNT TOLSTOY: Yes, he did. At one time he was very strong when he practiced athletics.

DR. KELLOGG: As a runner?

COUNT TOLSTOY: No, more gymnastics.

DR. KELLOGG: In the German style of gymnastics?

COUNT TOLSTOY: You know this --

DR. KELLOGG: Bar?

COUNT TOLSTOY: Bar.

DR. KELLOGG: Horizontal?

COUNT TOLSTOY: The horizontal and parallel bars.

DR. KELLOGG: The parallel bar. The German style of gymnastics?

COUNT TOLSTOY: Yes.

DR. KELLOGG: Is that much practiced in Russia?

COUNT TOLSTOY: No, not much. It is practiced sometimes in the schools.

DR. KELLOGG: He learned that in Germany or in Russia?

COUNT TOLSTOY: No, in Russia. We had two teachers of gymnastics in the schools in Moscow. Then when he was younger he was a hunter. He used to hunt very much. Then he used to work in the fields when he was younger. He liked to take a scythe and cut grass somewhere in the garden with the peasants. He was always moving, always having some kind of exercise.

DR. KELLOGG: Did he travel much in Europe?

COUNT TOLSTOY: No, he did not travel. He was in Western Europe twice.

DR. KELLOGG: London and Paris?

COUNT TOLSTOY: I don't think he was in London.

DR. KELLOGG: He never visited England then?

COUNT TOLSTOY: I don't think he did. He was in Germany, in southern France, in Italy and in Switzerland, that I know. He was in Paris. His brother died there.

DR. KELLOGG: In Paris?

COUNT TOLSTOY: No, in southern France. So he was with his brother.

DR. KELLOGG: I judge your family is a very long lived family and very strong.

COUNT TOLSTOY: No. His mother died when she was young and his father died when he was young.

DR. KELLOGG: What was his father's age when he died, perhaps 40 or 50?

COUNT TOLSTOY: No, less.

DR. KELLOGG: Less than that?

COUNT TOLSTOY: Not more than 40 anyhow.

DR. KELLOGG: Was your father the youngest or the oldest son of his father.

COUNT TOLSTOY: Before the last. Next to the last. He was the youngest but one. His sister was younger. His mother died with the birth of her last child.

DR. KELLOGG: His father --

COUNT TOLSTOY: His father died when my father was nine years old.

DR. KELLOGG: He was born when his father was about 30, probably, then?

COUNT TOLSTOY: Yes, because his oldest brother was about eight years older than he was.

DR. KELLOGG: Were there other writers of note in your father's family?

COUNT TOLSTOY: No. There was another Tolstoy but he is not a relative. Now there is a Tolstoy, also a writer, but he is also not a relative.

DR. KELLOGG: Were the relatives noted as scholars or scientists?

COUNT TOLSTOY: No, I don't think so.

DR. KELLOGG: Your father had a university education?

COUNT TOLSTOY: He did not graduate from the university.

DR. KELLOGG: He was not a graduate?

COUNT TOLSTOY: He studied in three universities and always badly.

DR. KELLOGG: Always badly?

COUNT TOLSTOY: Always badly. He got the lowest marks possible in the university. In one place they say he was especially weak in Russian literature and the Russian language. That looks funny.

DR. KELLOGG: At what age did he leave the university?

COUNT TOLSTOY: I think about 20.

DR. KELLOGG: At about 20?

COUNT TOLSTOY: Yes.

DR. KELLOGG: He was a good deal given to sport in those days?

COUNT TOLSTOY: Yes, everybody in Russia was at that time.

DR. KELLOGG: Yes, sir.

COUNT TOLSTOY: Liked hunting and all that.

DR. KELLOGG: I think your father mentioned once in some of his writings of having given up smoking because he thought it was damaging mentally and spiritually. He did not smoke?

COUNT TOLSTOY: He did not smoke. He gave it up when he was about 50.

DR. KELLOGG: A statement has been quoted from his to this effect: that when he smoked cigars or cigarettes he never felt a twinge of conscience after the third whiff.

COUNT TOLSTOY: I see.

DR. KELLOGG: Was he very outspoken in regard to his antipathy to tobacco?

COUNT TOLSTOY: Yes. You see he tried to give it up several times, but unsuccessfully. He would stop it and then begin again. This happened several times. Then finally he met an old man, a Russian sectarian, and this man persuaded him to quit smoking. He threw his cigarette case out of the window of the car -- it was in a railroad car -- and this time he did not smoke any more after that.

DR. KELLOGG: Did he write anything on the subject against the use of tobacco?

COUNT TOLSTOY: Certainly he did.

DR. KELLOGG: I wonder how I could get hold of some of his writings upon the use of tobacco?

COUNT TOLSTOY: Well, I will try to find it.

DR. KELLOGG: I would appreciate it very much if I could get this.

COUNT TOLSTOY: I will try to find it.

DR. KELLOGG: We have organized now in this country a Committee of Fifty to Study the Tobacco Problem. Dr. Farnam of New Haven, whose name I mentioned to you, was the founder of this committee. Professor Irving Fisher is a member of it and about fifty more quite notable men, and they are preparing all the testimony that they can find against tobacco and are going to publish it. They will be very glad indeed to have it.

COUNT TOLSTOY: I will try to get hold of it. I will ask the publishers about it. I am sure I can find it because everything is translated.

DR. KELLOGG: I should appreciate ^{it} very much indeed if I could get what he said on the subject.

COUNT TOLSTOY: All right. *Book sent - "Walk in the Light, etc." -*

A. F. Little, 131 N. Elmwood, Kansas City, Mo.

Sept. 30, 1925.

JHK

*Answered
10/14*

I am sending you by express to day my M.S. "The Wolves" a complete exposure of the meat packing industry. In my M.S. I show you the terrible state of contamination as it exists today. How these people knowingly see meat from diseased animals--animals that have great running abscesses from which have been expelled 1 or 2 quarts of pus.

Then this meat is passed on for you and your loved ones to eat.

What punishment could be severe enough for these people that would endanger the health of mankind? Just to collect a few more pennies to add to their great overflowing lake of wealth.

I have been with Armour and Co., of Kansas City for over 16 years and know where of I speak. I am enclosing two clippings from today's K.C. Star One is an answer to your St. Louis speach. Instead of your putting out

(over)

page 2

propaganda as this clipping claims, this is paid packer propaganda.
The other clipping is of 11 employees of Sears, Roebuck that
were poisoned with packing house meat and after you read the M.S.
would call your attention to page 32 Chapter VII, but by all means read
it all.

egm

(Portions of MSS)

Keep
Pick up
P. 110
P. 111

THE WOLVES

by

ALLAN FORBES LITTLE

Remains of...

The Author's Preface

The author of this book of facts and figures holds no animosity toward any Packer; but is giving a true statement of the conditions in the packinghouse world, as he saw them in his sixteen years and more of service with them as foreman and department superintendent. He quit this service of his own accord and not by request.

Through conversation with people prominent in the business world, he was urged to write out his experience, putting his own and the interpretation of others on political graft and political contributions.

After you have read this book through, you farmers and stock-raisers, you who bring to the markets of the world the fruits of your year of labor, you shall be judge of the truthfulness of the statements made herein.

Allan F. Little.

Jan. 4, 1921.

Mrs. Butler:

Enclosed find a letter from Annie Bartlett Fowler,
220 Orange St., New Haven, Conn.

J. H. K.

v-m

MONKEYS

A VISIT TO AN APE COLONY IN ALGERIA

Good Health March 1926 pp.5-7 (46).

May 19, 1926.

Mental hospital

Ball court,

Pheasants,

Monkeys,

Parrots,

Prairie dogs.

I am what the ages have made me,- the product of pure chance reiterated in each one of t a thousand generations, from Adam down to me. I am a bundle of factors and faculties, potentialities and idiosyncracies. The particular combination of these fortuitous elements which chance has determined, forms the basis of my character. Education, training, volition, can not change this combination, but can only modify, and that in a variable and uncertain way.

? The function of the mechanism which I call myself, and what is true of me is true of every man. A man is little more responsible for the fundamental elements which make up his personality than for the texture of his hair, the color of his eyes. Man is certainly not an automaton, but the limitations of his freedom are so great, the pre-determining factors which influence his conduct so infinite in number, that no man can say where responsibility begins or ends. Hence, charity.

September 11, 1926.

I outlined to Dr. Kirby our whole plan for the treatment of the insane. He approved of it most heartily. I described to him our site. He thought it most admirable.

As regards the proximity to the lakes, he said he regarded this as a great advantage and no disadvantage whatever. He mentioned the fact that locations beside rivers or lakes are regarded as specially desirable. Referred to the hospital on the St. Lawrence River and the large state hospital on the Hudson River, as well as the state hospital on Ward's Island. All of these are close to the water. There is no intervening fence or other protection. He said that of their seven thousand patients not more than one or two a year ever got into the water and this he thought was usually an attempt to escape rather than to commit suicide. He said there was no special guard to prevent patients from getting into the water. Patients were taken out to exercise along the banks in groups. He said drowning is not the favorite method of committing suicide. Hanging or choking by tying something around the neck seemed to be the chosen method.

The Doctor offered to take me in an automobile to the Bloomingdale asylum near New York.

September 13, 1926.

Spent the afternoon at Bloomingdale Hospital for the Insane. Dr. Kirby took me in his car. The place was beautifully situated, a rolling site. Very little outlook, however, on account of woods. Plenty of well grown trees. A number of separate buildings, including buildings for occupational therapy, a gymnasium for men, a gymnasium for women, a hall for entertainment, and dormitories for nurses. The number of patients was about 250; nurses in attendance 600.

Foundation

A branch of a New York City hospital founded in 1821. Makes a profit of about fifty thousand dollars a year. The money is used for improvement. The rates vary from nothing to two hundred fifty dollars a week, including everything. Estimated value of buildings about four million dollars. Capacity for patients 350. About 40 per cent. of patients are received at less than cost. Quite a number pay nothing at all. Patients are mostly of the professional class or merchants or business men.

Are careful in selecting patients. Do not receive incurables. Take only those with a favorable prospect for recovery. Forty percent. of patients come voluntarily. They have them sign a paper to the effect that they do come voluntarily and they have a state law requiring such persons to give ten days' notice that they wish to leave and they can be forcibly retained if thought necessary.

Treatment

This consists chiefly in occupational therapy. Also provision for games, lawn tennis, volley ball, golf, etc. Have entertainments at different cottages. Folk dancing and social

dances. In the occupational department men make baskets, bottoms of chairs, settees and repair furniture. The women do all sorts of clay modeling, metal beaten work, painting plaques, pottery and bookbinding. Also a large variety of basketry.

September 16, 1926.

HOTEL PENNSYLVANIA TURKISH BATH ROOM

The dressing rooms are finished in dark stained birch I judge--black walnut stain. The baths occupied four sides of a square with a swimming pool in the center. The swimming pool was about 20 x 25 feet with water 5 feet deep. The floor was small octagon tile about an inch in diameter. Very comfortable for the feet. A space about 12 feet wide on one side with reclining chairs for cooling. The partitions were mostly of plate glass from ceiling to floor put up in panels. Space between the panels about six inches consisting of raised tile with raised figures. The panels were arched at the top and the decoration carried over the arch. The wall of some of the partitions consisted of light brown figured tile. Each tile was about 4 or 5 inches square. The effect was very good. In some of the rooms the walls were lined with small tile.

The douche room was about 8 feet wide. A very excellent shower bath arrangement. Heavy rain douche and 4 rows of fine needle sprays at the sides. Two douches which could be used at different temperatures. Sometimes used one hot the other cold. Pressure variable from nothing to 85 pounds. The high pressure was supplied by a tank on the roof of the building. The building is 18 stories high. The Turkish bath is located about three stories up from the ground, said to be the first floor.

They had two electric cabinet baths. The attendant said they were not much used although patients sweat sooner in this bath than in the Turkish bath. They preferred the Turkish bath

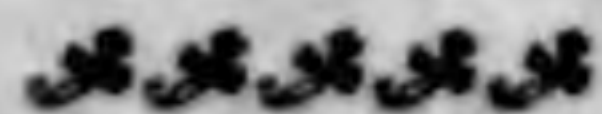
because they were not confined and could move about. This difficulty can be overcome by having a room sufficiently large for three to six beds, the walls covered with electric lights of different sorts, plain Mazda lamps, colored Mazda lamps and polymetallic arc lights. The number of lamps should be sufficient to produce the effect of hot sun on a midsummer day.

72011K upstair

about Bloomingdale

Hospital.

THE SOCIETY of THE NEW YORK HOSPITAL
BLOOMINGDALE HOSPITAL



ENTERTAINMENT
PROGRAMME

1926-1927

Entertainment Programme

SEPTEMBER

- Friday, 17—Movie
Tuesday, 28—Bridge Party

OCTOBER

- Thursday, 7—Movie
Thursday, 14—Concert
Friday, 22—Movie
Friday, 29—Hallowe'en Party

NOVEMBER

- Friday, 5—Play
8-12—Concert
Friday, 19—Movie
Thursday, 25—Thanksgiving Dance

DECEMBER

- Friday, 3—Movie
Friday, 10—Dance
Friday, 17—Christmas Play
Saturday, 25—Christmas Tea Dance

JANUARY

- Monday, 3—New Year's Dance
Thursday, 13—Movie
Thursday, 20—Dance
Friday, 28—Musical

Entertainment Programme

FEBRUARY

- Friday, 4—Bridge Party
Friday, 11—Movie
Friday, 18—Valentine Dance
Friday, 25—Movie

MARCH

- Friday, 4—Dance
Friday, 11—Musical
Friday, 18—Dance
Friday, 25—Movie

APRIL

- Friday, 1—Dance
Friday, 8—Bridge
Monday, 18—Easter Dance
Thursday, 28—Musical

MAY

- Thursday, 5—Dance
-

Musicals to be arranged to suit the convenience of the artists.

All movies start at 7.30 and dances at 7.45 p.m.

9-16-26

BLOOMINGDALE ASYLUM

They have a training school for nurses of which I have a circular, ^(sent to Miss Foy) also for occupational therapy. Those who have had training in arts and crafts are admitted to the occupation classes for three or six months. They are given board, lodging and washing. Nurses are given board and lodging and forty dollars a month salary. The courses begin October 1st.

The equipment included very good shower baths.

They give attention to tonsils, teeth, and erosions. They think all of these matters are important and must have attention, although they think their significance may not be so great as Dr. Cotton thinks. Dr. Russel, the emeritus superintendent, remarked, however, that he thought Dr. Cotton had done a great deal of good in calling attention to the importance of physical infections in these cases.

I find that these specialists in psychiatry are apparently very much at sea in relation to the nature of disease. Dr. Kirby seems to have the most clearly defined idea. He thinks it purely a physical matter like disorders of the stomach, liver and other parts. Most of the men I have talked with talk about personality in a vague way.

September 17, 1926.

MC LEAN HOSPITAL, WAVERLEY, MASS.

Twenty minutes' ride from the Canterbury Hotel in a taxi. Beautiful rolling wooded grounds. A number of buildings widely scattered over a tract of 40 or 50 acres. The nearer buildings are connected by passages partly in the ground with walks on the roof so they are used both underground and overground.

First saw the house physician for a few minutes and then Dr. Packard with whom I talked half an hour. He said a mental breakdown develops in persons who inherit low resistance. The breakdown results from physical conditions which still further lessen resistance after the removal of which the patients can return to a normal mental state. He cures 90 per cent. of his cases of manic depressive. He considers dementia praecox incurable.

For 25 years has used no sedative medicines of any kind. Depends on physiotherapy for treatment. Makes use of baths, especially douches, Zander machines, gymnastics, games, and occupational therapy. Puts disturbed patients in a tub and keeps them there all day. Does not fasten them in the tub. The patients get out of the tub and walk around the room. Uses body temperature, about 99 degrees. Notices it lowers blood pressure. He has to be careful to avoid depressing effect on the heart. Thinks the quieting effect on the patient greater than a temperature of 92 to 94 degrees.

Curable patients remain on an average three to six months. Others may remain a good many years.

Considers attention to the colon very important. Has not given attention to changing the intestinal flora. Doubts whether

there is much in it.

Thinks Dr. Cotton knows better than he talks.

The McLean institution is a branch of the Massachusetts General Hospital of Boston. It is managed by the same board. It has an endowment which yields about \$30,000 a year. Some of their buildings are erected by patients. One building I saw cost about \$40,000 and was occupied by one patient. The patient had one nurse night and day and two maids, one to do the housekeeping, the other to do the cooking. They receive for the care of this patient three hundred dollars a week. When the patient dies the building becomes the property of the institution. They have several cottages which have been acquired in the same way and two more building which cost \$40,000. They seem much larger and more luxurious than necessary.

He thought water desirable. They have no lake on the premises, but he thought they ought to have one. There is a pond across the road. It is not protected by a fence. In 25 years no one has ever been drowned. He said one patient went in the water, stayed about half an hour and then came out, saying she found it so hard to sink she thought she would give it up. Thinks hanging the favorite method of committing suicide.

They keep the doors locked everywhere. In the building where they keep disturbed patients there are gratings on the windows. Keep careful track of knives and forks and everything else with which the patient can do himself any harm. After meals or occupational periods care is taken to see that everything is accounted for.

They aim to make the institution self-supporting.

At the McLean Hospital they receive volunteer patients. They require the patients to sign an agreement that they will give three days' notice if they wish to leave. During that three days the law permits them to restrain the patient from leaving if it be necessary.

NEW ZEALAND LOWERS INFANT MORTALITY RECORD

The infant mortality rate in New Zealand for 1925, according to the weekly bulletin of the California State Board of Health, was 39.96 per thousand live births, as compared with 40 in 1924. In one of the larger cities in New Zealand, the rate was 33 and in another, 35. The provisional infant mortality rate in the United States for 1925 was 72.

J.A.M.A., Sept. 25, 1926.

REPORT OF AN INTERVIEW DR. A. E. WIGGAM HAD WITH DR. JOHN HARVEY KELLOGG
ON NOVEMBER 6, 1926.

DR. KELLOGG: A business man can get more tired by half an hour's worry than by a whole day's work.

Normal work under healthy conditions is so easy and natural for the body that it does not consume more energy than what the body can recuperate within a few hours so that a single night's rest will repair all the damage that work does.

DR. WIGGAM: Both mental and physical?

DR. KELLOGG: Both, mental and physical; that is, normal work. The tired business man is not tired because he works too hard, but because of other things which he does. Sleep ought to repair all the damage that work does. The exhaustion that the tired business man suffers from is more from other causes than from work.

DR. WIGGAM: He could overwork, could he not?

DR. KELLOGG: It is possible, of course, by extremely violent exertion to exhaust his energies unduly, his store of energy unduly, but in ordinary work a man will not. The work of the average business man ought not to exhaust him to such a degree that he would not be fully recuperated by a single night's rest. So if he gets up in the morning feeling tired there is something wrong. A man who is tired all the time is suffering from some other abnormal condition than ordinary work.

The energy expenditure of the ordinary business man is not extreme. It is not more than a man needs for actual health. It is not more than a man needs to actually maintain his health. Steady work does not

necessarily exhaust a man if he is working under normal and wholesome conditions. Work, activity of some sort is a normal state of a human being; it is a natural requirement. Exercise of mind and body is just as necessary as eating or as any other function of the body. It is a natural function of the body and it ought not to unduly exhaust him. If a man finds himself tired, constantly tired, there is something wrong which may usually be corrected.

There are eight or ten things particularly which may be mentioned as the ordinary causes of the weariness which leads the business man to say that he is tired.

DR. WIGGAM: That he is chronically tired?

DR. KELLOGG: That he is chronically tired.

DR. WIGGAM: What makes the business man tired?

DR. KELLOGG: The business man is sometimes tired because of hard work, but most often he is tired because he is sick, because there is something wrong with his machine, or because there is something wrong with his habits, for it is not normal for a man to be tired. He may be temporarily tired, but a short period of rest or one night's sleep should completely restore him to his normal condition.

DR. WIGGAM: Chronic tiredness is illness?

DR. KELLOGG: Chronic weariness is abnormal, it is a pathological condition, and it need not exist.

DR. WIGGAM: The tired business man thinks he has got to run over to a summer resort or Florida or California to take a long rest. What you want him to be able to do is to go right ahead with his work

and develop those habits that will get him rid of his chronic weariness.

DR. KELLOGG: Yes, that is right.

DR. WIGGAM: What can he do so he can go right ahead with his work and get rid of his weariness? He must correct his habits. What are his most outstanding bad habits? In the first place he does not sleep with sufficient air. Maybe that is a good place to begin.

How can the tired business man correct his chronic weariness and keep ahead with his work so he does not have to go off for a long period of rest to some summer resort or Florida? Is it because he does not sleep right, does not eat right or what?

DR. KELLOGG: As a matter of fact the business man generally gets comparatively little benefit from his rest. When he takes a rest of several weeks or several months when he comes back he finds himself very soon in the same old condition again. The reason is that he does not remove the causes, the real causes of his weariness. The real cause is not work but it is other things, other conditions aside from work which he has not recognized. Work is a very convenient thing to charge with the responsibility for exhaustion or weariness, or incapacity, or inefficiency, but it is really an alibi. We like to charge it to something that is honorable and that is creditable. We like to lay the blame upon work and activity, whereas as a matter of fact work has generally nothing at all to do with the weariness of which the tired business man complains.

I might remark that among the ten or twelve thousand patients who visit the Battle Creek Sanitarium every year at least one-fourth of that number are tired business men who think they are overworked.

I have often taken care to inquire into the conditions under which these men work. How much work, for instance, they do. I say to a man, "How much are you doing? What are you doing?" When he tells me what he is doing I am surprised to think he can be tired. A man who is only working six or seven hours a day could not exhaust himself in that length of time unless he was expending his energy in a most violent and extravagant manner, and even a man who is engaged in such violent exercise as football he is usually completely restored by one single night's rest. The football man when he is practicing for a game has his practice every day, is ready for his work every day and he gains strength from day to day. The wood-chopper, the blacksmith, men who labor, they may engage in very severe and laborious occupations and they go on day after day and year after year and do not become exhausted. As a matter of fact, their muscles gain in strength by use.

DR. WIGGAM: But your tired business man says it is his mental work.

DR. KELLOGG: The popular supposition is that mental work is particularly exhausting. Observations made with the calorimeter by Benedict, of the Carnegie Nutrition Laboratory, of Boston and by other investigators have shown that in mental work, even very active mental work, the expenditure of energy is very small. For example, in their experiment their subject, an American, was made to study advanced physics in the German language; but the increased expenditure of energy was so slight as compared with the energy expenditure when he was sitting idle and doing nothing at all that it was very difficult to measure it.

DR. WIGGAM: So mental work is not so exhausting as is popularly believed?

DR. KELLOGG: The amount of actual energy expended in mental work is small, so small that it has been found even difficult to measure it by most scientific instruments.

DR. WIGGAM: What about the common belief that it leads to nervous exhaustion? What is meant by nervous exhaustion?

DR. KELLOGG: The so-called nervous exhaustion from which business men and professional men and especially sedentary people so often suffer seldom means overwork.

DR. WIGGAM: They nearly always say they are nervously exhausted, but are they not nervously poisoned?

DR. KELLOGG: The so-called nervous exhaustion is not a real exhaustion but an intoxication. There are two very distinct kinds of fatigue. There are two distinct sorts of fatigue, what might be called normal fatigue and toxic fatigue.

As a matter of fact, all fatigue is due to toxins. One source of toxins, the normal source of the toxins which produce fatigue, is the body itself, and they are the result of natural body work. The body is an engine; it is a machine; it is like a locomotive. Food is fuel and in the various vital processes of the body the food is converted into toxins. Just as the fuel you put into a locomotive or furnace is converted into poisonous smoke and ashes so the fuel food of our bodies is converted into toxins, all of which must be removed from the body, and as these accumulate the effect is to lessen the working power of the tissues which the poisons are in contact with.

But Nature has provided for the very rapid removal of these poisons so that they do not normally accumulate to any considerable extent.

Another source of poisons is much more commonly the cause of the feeling of exhaustion that people often experience, so-called nervous exhaustion particularly, is poisons from other sources.

I think I am anticipating somewhere here. I think that is material I want to put in later .

DR. WIGGAM: Could we not take up the first bad habits? One of the most conspicuous bad habits is that he has slept without air, without porous clothing--

DR. KELLOGG: These poisons do not arise from work but from other causes entirely, the most of which are easy to control. In these causes are to be found the chief source of the so-called exhaustion from which the tired business man suffers, and they may nearly always be removed by a change of habits.

DR. WIGGAM: Now, maybe we could say this: For instance, in the very first place the tired business man does not know how to sit or stand or walk. You can probably cover that whole matter by sending me the account which Whitney wrote in your Good Health magazine about Professor Fisher. Could we not cover that topic in the first place? Then what would you say after I had described Professor Fisher's case? How would you wind that point up?

DR. KELLOGG: Yes, we could do that.

I have observed that business men of sedentary habits are the ones most likely to complain of chronic weariness, men who sit in their offices many hours a day who have little bodily activity in connection with their duties. The same is true of literary men,

college professors and professional men who spend much time in their offices, and I became convinced many years ago by close observation of these cases that the weariness of which these men complain is due to a bad sitting posture.

My attention was called to this in connection with the case of a Boston man who came to us more than 40 years ago for relief from nervous exhaustion after having sought relief elsewhere for many years. This gentleman had inherited large wealth and his business consisted in sitting in an office receiving rent and cutting coupons. He had practically no physical activity at all. He was extremely round-shouldered, flat-chested and his abdomen was very prominent. He thought himself considerably overweight which, however, proved not to be the case. This man spent several months with us and went away a little improved but by no means relieved of his difficulty. A couple of years later he returned. In the meantime I had been making a study of the effects of posture upon health and was giving much attention to training patients in sitting and walking in an erect posture with the chest well raised and the abdomen drawn in. I at once instructed this gentleman in correct standing and sitting and the result was that in three weeks he found himself so wonderfully improved that he returned to his business and three years later when I met him in Boston I found he was enjoying excellent health and was rejoicing in the fact that without decreasing his weight he had reduced the size of his waist more than three inches.

Some years later I was consulted by a well known educator, a professor in an eastern university, who complained of chronic exhaustion, the cause of which he had not been able to ascertain.

(Here tell the Fisher story. See the Battle Creek System of Health Training.)

This sort of exhaustion is most likely to be felt by men who have passed middle age and it is very likely to be associated with a prominent abdomen.

DR. WIGGAM: Slender men are not likely to feel that?

DR. KELLOGG: No.

The sag at 40 may, in fact, be regarded as a precursor of an early breakdown which will result if the fault is not corrected.

I spoke about worry a little while ago. I thought I could work in tobacco under that head so as to bring it in incidentally instead of making a direct attack.

DR. WIGGAM: Yes; he smokes to get rid of worry.

DR. KELLOGG: I will bring coffee in under sleep so it won't be a direct attack upon coffee but an indirect attack.

DR. WIGGAM: He takes his tobacco to quiet his worry and he drinks a lot of coffee which prevents him from getting plenty of sleep. I imagine that is the way you feel about it.

DR. KELLOGG: Then I will put in insomnia, lack of sleep, as one of the causes of exhaustion. I think that can come in under that head.

DR. WIGGAM: A man who drinks a lot of coffee does not sleep well.

DR. KELLOGG: He can not.

DR. WIGGAM: Worry will throw more fatigue poisons into the

system than almost anything else, will it not?

DR. KELLOGG: Yes.

You haven't any particular reason for wanting ten points?

DR. WIGGAM: No; seven reasons, six reasons or even five will do. Ten sounds sort of good but five is all right. We can divide it under five heads. I want a dissertation on sunshine, on exercise, on posture, on the colon, and on diet.

DR. KELLOGG: Now, you want to have each one of these points introduced by questions?

DR. WIGGAM: Not necessarily. The first reason is posture. The second reason is worry. Say a few words about what worry does to a man, how it depresses his nerves. Then I think we could say most of his worries would disappear if he lives normally. The third thing which occurs to me is the way he sleeps. We might even quote Franklin on that, the effect of air on the skin. I would like to lay stress on the fact that the air must circulate.

DR. KELLOGG: The fact is that most business men and bookkeepers, stenographers and other people who work in offices are half stifled by the bad air they are breathing, and their posture is usually such that they are breathing very inefficiently anyway. They do not half fill their lungs and then in breathing air which is stagnant and usually overheated they suffer from the depressing effects of heat and bad air rather than overwork.

It is a very important thing that offices should be properly ventilated. It is not necessary that there should be a draft of cold air blowing in upon the workers, but there should be a constant movement of air. This is necessary not simply to carry away the bad air

which is exhaled from their lungs and their skins, but to remove the excess of moisture which is thrown into the air from the lungs and also to produce a certain refreshing effect by the contact of moving air with the body.

DR. WIGGAM: Isn't the most important feature of fresh air that it should cause proper evaporation from the skin?

DR. KELLOGG: Yes; that is the way the refreshing effect is produced.

DR. WIGGAM: What causes depression from bad air? Isn't it failure of evaporation from the skin and consequently reabsorption into the body.

DR. KELLOGG: It is partly that, but it is particularly to carry away the surplus moisture which is carried into the air.

DR. WIGGAM: What does it hurt if your skin is moist?

DR. KELLOGG: It is not the moisture of the skin, it is the moisture in the air. When the air is too moist it prevents the evaporation of moisture from the skin.

DR. WIGGAM: Isn't the great difficulty that the offices are already too dry?

DR. KELLOGG: In the winter time sometimes the air of the offices is too dry, but this is annoying rather than damaging to health. It is not a serious damage to health. The inconvenience associated with excessive dryness of the air is that it requires a higher degree of temperature and there is an unpleasant feeling of the skin and there is an unpleasant sensation in breathing.

DR. WIGGAM: On rainy days outside air is more moist than

the air in the house.

DR. KELLOGG: The air that is outdoors is at a lower temperature and when it is brought indoors the temperature is raised and its capacity for absorbing moisture is increased. A cubic foot of air at zero temperature will hold one drop of water. Now you increase the temperature of this air to 25 degrees and that same cubic foot of air will hold two drops of water. Now you add another 25 degrees, raise the temperature up to 50 degrees and that cubic foot of air will hold four drops of water. When you increase the temperature again to 75 degrees the same cubic foot of air will hold eight drops of water. It doubles with every addition of 25 degrees in temperature.

You bring air in from outdoors at 50 degrees and it is saturated with moisture. When it comes into the house the temperature is raised to 75 degrees and then it is no longer moist air but dry air because it contains only half the moisture it can contain. While it was saturated out of doors when it is in the house the temperature is raised and then it is dry air. It should be saturated to two-thirds capacity.

DR. WIGGAM: So as to take care of proper evaporation of the skin?

DR. KELLOGG: Yes, and in that way remove the surplus heat of the body and avoid discomfort.

DR. WIGGAM: About what is the best room temperature and at what rate should the air move?

DR. KELLOGG: The best room temperature is about 68 degrees and the degree of moisture saturation about two-thirds.

The air can move at a rate of five feet per second without producing any harmful draft, but a motion much greater than that is likely to produce a sensation of draft and too rapid evaporation of the parts upon which it falls. This, however, does not apply to an overheated room. If the air of a room is overheated then a cool draft is very favorable and beneficial because it carries away the superfluous heat.

Business offices are often overheated. Heat has a depressing effect and may make a man feel tired when he is not tired.

DR. WIGGAM: Why?

DR. KELLOGG: It is simply the normal, relaxing, depressing effect of heat. It lowers tone. For example, I once subjected an athlete to an experiment. I tested his total strength with the Universal Dynamometer and found the strength of all his different muscles put together amounted to nearly 6,000 pounds. I then gave him a warm bath for about half an hour and tested him again and found that he could only lift three quarters as much as he did before. The effect of a hot bath or breathing hot air is the same; the depressing effect is the same. He had lost a quarter of his strength. I then gave him a cold shower bath for about two minutes and then renewed the test and he lifted more than he did the first time, about 10 per cent. more than he did the first time.

Heat is depressing or stimulating according to the way in which it is applied. A very short application of heat is stimulating, but a prolonged hot bath is very depressing. A person working in a hot room is subjected to the prolonged effect of heat, his body is overheated and the effect is very depressing. Heat itself is depressing:

it is naturally depressing.

One of the purposes of metabolism is to keep the body warm, so the body is producing heat continually. Now, when the body is heated from external sources, naturally the heat producing forces of the body will be slowed down instinctively. All the bodily activities are accompanied by the production of heat. When there is heat enough--this is continually regulated--the body lessens its activities in order not to produce too much heat. When heat is supplied from external sources the natural effect is to slow down the body processes, but if the application of heat is very short it has a reflex stimulating effect because heat is directly immediately stimulating.

DR. WIGGAM: If the body did not slow down its activity when the room is hot you would have a fever, wouldn't you?

DR. KELLOGG: Certainly; the body temperature would go up very rapidly.

There are two modifications of the body heat and they are constantly in play, heat production and heat elimination. When the body is exposed to a high degree of external temperature, a temperature higher than that of the body, the effect is to lessen heat production. The body lessens heat production and increases heat elimination and those two things are balanced and so the body lessens its activity and on this account heat is depressing.

I might mention also another effect of heat is to lessen nerve sensibility. Cold increases nerve sensibility while heat depresses nerve sensibility, so cold is a tonic and heat is a depressant.

DR. WIGGAM: Where bank clerks and office men cannot do any better, if they can only have an electric fan that will help?

DR. KELLOGG: The efficiency of these men would be greatly increased if the temperature were kept at 60 degrees instead of 75 or 80 degrees, which is often the case. If office men were encouraged to dress warmly, clothe their feet and limbs warmly and work in a temperature of 60 degrees, I think their efficiency would be increased at least 25 per cent. The depressing effect of overheated offices very greatly lessens efficiency not only in the amount of work done but in the quality of work done.

DR. WIGGAM: Here is a poor helpless man who cannot do anything better than to put in an electric fan. Will that help him?

DR. KELLOGG: Of course the temperature of offices should be regulated. I think this is a matter that ought to be regulated by law and there should be inspectors visiting business places to see that the offices are properly ventilated and that the air is of the right temperature. Some relief can be obtained by the use of fans. Even warm air in motion is less depressing than when it is stagnant.

DR. WIGGAM: That covers the air very well.

DR. KELLOGG: Here is something which should go in under POSTURE:

When the brain is active its vessels are filled with blood. Physiologists estimate that the amount of blood passing through the brain is about one-fifth of that supplied to the entire body. In a state of rest the blood-vessels of the brain are empty. During work they are filled and the more actively the brain is engaged the larger its blood supply. In the sitting or standing posture the blood is naturally led by gravitation to the dependent parts of the body, especially in sitting in a relaxed position the blood accumulates in the abdomen, as I have remarked, because of the relaxed condition of the abdominal walls. In a horizontal position the blood naturally gravitates to the brain.

DR. WIGGAM: Couldn't we say this: It would be a nice thing if business men had a sofa in their offices where they could frequently lie down when they had intense thinking to do; that personally I do much of my dictating lying down? I think that would be a very nice way to state it, because anything you can say about your own habits, just chatting informally, that helps.

DR. KELLOGG: Many persons find they can do their best while lying horizontal; others think best while walking, probably because the blood supply of the brain is increased by the increased activity of the heart induced by light exercise.

Many business men are greatly hampered by wrong eating habits. Probably the average business man suffers much more from errors in diet than from an excessive amount of work.

DR. WIGGAM: That is now another prime cause of weariness, errors in diet. What are the great large errors in diet of the American business man? I suppose eating hurriedly. I don't know whether that makes any difference. What are the big outstanding things? Too much acid food?

DR. KELLOGG: The average business man eats too much and too fast. He eats both too much and too rapidly. Overeating is unquestionably a much more common fault in this country than under-feeding.

Overeating causes drowsiness and dullness. This is especially likely to occur after hearty meat meals or when large quantities of fat are eaten.

Some years ago one of my colleagues of the State Board of Health remarked to me that he was greatly troubled with drowsiness after meals and suffered much from headaches. I invited him to take dinner with me and myself ordered his meal. After dinner while taking a ride the Doctor remarked, "There is something very remarkable about that dinner. You know I usually feel very drowsy after dinner, so drowsy that I am not able to work for three hours. I lie down and go to sleep and am absolutely unable to do anything for at least three hours after dinner. For the last three years I have been obliged to lie down and rest for at least three hours after dinner before I can do anything, but I feel just as well as I did before dinner. I wonder what is the reason?"

I replied, "The reason is you did not have the big beef-steaks you usually have for dinner."

"Is it possible that could be the reason?"

"Yes," I replied, "there is no doubt that that is the reason. Beefsteak is digested chiefly in the stomach and remains a long time in the stomach and calls to the stomach a large amount of blood and thus withdraws blood from the brain."

DR. WIGGAM: Is that not true of vegetables?

DR. KELLOGG: No. This is not true of vegetables to the same extent. Vegetables and starchy foods in general leave the stomach quickly, whereas protein, especially in the form of beefsteak and when associated with fat, remains a very long time in the stomach. The time required for the digestion of beefsteak is two or three times that required for the digestion of such foods as potatoes, cereals and fruits.

DR. WIGGAM: It is true your beefsteak draws a large amount of blood from your brain and your vegetables do not, but when your vegetables and starches reach the small intestine don't they also draw blood from the brain?

DR. KELLOGG: They are digested in the intestine just as quickly as in the stomach.

DR. WIGGAM: I don't see why beefsteak would make a man drowsy. The others draw blood to the intestine, so what is the difference?

DR. KELLOGG: They do not.

DR. WIGGAM: Why?

DR. KELLOGG: They are digested and absorbed so quickly.

DR. WIGGAM: They are absorbed very quickly when they get into the intestine?

DR. KELLOGG: They are almost completely digested when they get there.

DR. WIGGAM: They are digested in the stomach?

DR. KELLOGG: If you take some bread in your mouth and chew it five minutes the starch is converted into sugar. It is almost instantaneous. The pancreatic juice and the other juices which digest starch digest it almost instantly, whereas the process of digesting protein is a very different one. First, the gastric juice has to dissolve the connective tissue and break it up. There is nothing but gastric juice which can do that. It has to stay in the stomach until the gastric juice has had time to dissolve all that connective tissue that holds the fibers together and reduce it to a pulpy state before it can pass on.

DR. WIGGAM: Meat is very little digested in the mouth by the saliva?

DR. KELLOGG: Not at all. Digestion does not begin for a long time. Now, the digestion of starch begins in the mouth. The digestion of meat does not begin at all for half an hour in the stomach. The saliva does not act upon it and it has to wait until after the gastric juice has been secreted in sufficient quantity, so that when mixed with all the other contents of the stomach, which dilute it, of course, there has to be enough so that it acquires a sufficient degree of concentration, the pepsin and hydrochloric acid, to attack the meat and digest it, you see.

Fats remain in the stomach longer than any other substance and also remain in the intestine longer than any other substance. Protein comes next in order and starch is digested and absorbed the quickest of all. When you have fats and protein mixed together they remain in the stomach longer than either one alone.

DR. WIGGAM: A man is pretty nearly bound to feel tired after he goes back to his office from a lunch of that sort?

DR. KELLOGG: After a hearty meat meal so much blood is diverted into his stomach here that he has not enough to keep the brain wheels agoing.

DR. WIGGAM: But if a man eats properly there is no reason for his being drowsy after meals?

DR. KELLOGG: He should not feel drowsy after meals.

DR. WIGGAM: Isn't it sometimes a very fine thing to take a little rest before meals if a man can?

DR. KELLOGG: If a man has been engaged in any kind of exertion so that he feels fatigued as a result of it he should rest for a little time before eating in order to give his digestive apparatus an opportunity to prepare for the digestion of the meal. If a person is in a state of fatigue his stomach is fatigued as well as the rest of his body.

DR. WIGGAM: Brain workers should rest a little before meals if possible?

DR. KELLOGG: If they feel fatigued.

DR. WIGGAM: They nearly always would if they had been working all morning.

DR. KELLOGG: But brain work does not weary a man. A better preparation for dinner would be to jump a rope a little or run around the square. Exercise would be much better.

DR. WIGGAM: He has been resting bodily all morning.

DR. KELLOGG: Yes, now he should improve his circulation.

DR. WIGGAM: Should he walk several blocks?

DR. KELLOGG: He should improve his breathing. Deep breathing is very necessary for digestion. If a man will take exercise of some sort to increase his breathing and increase his blood circulation that will be a better preparation for his dinner than simply resting.

DR. WIGGAM: What is the further effect of taking too much protein--an excessive protein diet?

DR. KELLOGG: When I spoke of overeating I did not refer to the bulk of the food which a person takes but to the number of calories. A person may easily overeat by taking a very small quantity of food when on the other hand he will suffer no inconvenience from taking a large quantity of something of an entirely different character. He can very easily overeat by taking a small amount of a highly concentrated food such as fats and protein.

DR. WIGGAM: What kind of protein? You mean beans, peas and meat?

DR. KELLOGG: Such as roast beef, for example, or chops or steaks.

DR. WIGGAM: How about fish? That is pretty concentrated protein. Here is a man who goes out and gets a big plate of pork and beans. Is that a heavily concentrated meal?

DR. KELLOGG: Yes, pork and beans is a highly concentrated food. On the other hand such foods as lettuce, cabbage, turnips and coarse vegetables and juicy fruits of all kinds are bulky foods and these may be eaten to the full capacity of one's stomach without suffering any injurious effects, so a person may eat as much as he wants

DR. WIGGAM: It would be a real aid to relieve constipation?

DR. KELLOGG: Neglect of chewing is one of the causes of constipation.

About 25 years ago Horace Fletcher started a chewing campaign and made a considerable number of converts. By simply taking pains to masticate each mouthful of food very thoroughly he had transformed himself from a chronic invalid who could not get life insurance to a state of robustness which enabled him to outdo trained athletes in feats of endurance.

One of the first things noted by Mr. Fletcher in the thorough mastication of his food was the fact that not only his appetite but his bodily needs were fully satisfied by a greatly reduced quantity of food. He not only obtained greater satisfaction from eating but was able to reduce the intake of food nearly one-half.

DR. WIGGAM: It also brought on quite a distaste for meats?

DR. KELLOGG: He made also one very important discovery, namely, that by the thorough chewing of the food the nerves of taste were about to regulate the intake of food as regards quality as well as quantity to suit the needs of the body. That is, when the food was thoroughly chewed objectionable foods became distasteful. This led to the discovery that the amount of protein usually absorbed was in great excess of the body needs.

Mr. Fletcher's greatest contribution to science, however, was in inducing Professor Chittenden, of Yale University, to undertake an extended experiment by which he conclusively showed that the usual amount of protein eaten was far in excess of the needs of the body.

appetite.

DR. WIGGAM: You will get enough nourishment from them?

DR. KELLOGG: Yes. The sense of satisfaction comes from having the stomach filled.

DR. WIGGAM: That is what relieves your hunger from filling the stomach, not necessarily meat or beans or other concentrated food?

DR. KELLOGG: It is fullness of the stomach rather than the number of calories one eats which produces a sense of satisfaction. This is true in general with the exception of fats. Fats produce a sense of satiety even when taken in small quantity. One is not likely to overeat if he took fats alone, but in the case of meats the high flavor of the meats, the very pronounced flavors, the attractive flavors easily lead one to consume a very great excess. One could hardly overeat, for instance, in the use of cabbage, lettuce or apples. One might eat apples until his stomach was distended without suffering any injury whatever or feeling any distressing effects from it.

DR. WIGGAM: He does not really need to take much care with regard to his diet if he will eat these unconcentrated foods?

DR. KELLOGG: That is quite true.

DR. WIGGAM: How about eggs?

DR. KELLOGG: The composition of eggs is very much the same as that of meat. Eggs are a better food than meat because they are richer in vitamins and contain food lime which is almost wholly lacking in meat; but in general the composition of eggs is essentially the same as that of meats and hence they must be used with equal care.

DR. WIGGAM: If they are used, which is the better part, the

yolk or the white?

DR. KELLOGG: The yolk.

DR. WIGGAM: Why?

DR. KELLOGG: The yolk is intended by nature for food. It is a sort of luncheon put up for the young chicken while it is in the shell. The white of the egg is the part out of which the chicken's skeleton and flesh is made, but the yolk is the food for the chicken and consequently it is adapted by nature for food, whereas the white is not. It is a very curious thing that the yolk is very readily digested whereas the white is not. Raw egg white is almost entirely indigestible. It is on that account very objectionable and should be discarded.

DR. WIGGAM: How would you prepare eggs?

DR. KELLOGG: If the egg is to be used in liquid form as in eggnog, after being made it should be slightly cooked. The slight cooking will increase its digestibility. Raw eggs should never be eaten. The habit of swallowing raw eggs is very objectionable for the white portion of the egg is practically not digested at all but undergoes putrefaction.

DR. WIGGAM: Would you recommend hard boiled eggs?

DR. KELLOGG: It is better to reject the white and eat only the yolks. Hard boiled yolks are easily digested; the hard boiled white is almost certain to escape the action of the digestive juices unless great pains is taken in mastication.

DR. WIGGAM: Fletcher wanted us all to chew our food. He was perhaps right in that, but he did not let us take the bulky part. He spit that out and caused constipation. That would lead you to your next cause of weariness, constipation and absorption

DR. KELLOGG: In this country business activities are the most intense during the middle of the day. Business men find it very difficult to pause even for a few minutes for luncheon. It would be a great advantage if the practice which is almost universal in tropical countries might be adopted in this country. The Mexican merchant, for example, suspends business for a couple of hours in the middle of the day, which gives him ample time for the taking of his meal. It is highly important sufficient time should be taken for mastication, not only because digestion begins in the mouth and neglect to reduce the food to a pulp in the mouth by thorough chewing renders all the succeeding digestive processes more difficult but because it delays the passage of food from the stomach to the intestine.

Another point of very great importance, which was discovered by Pavlov, is that the stomach and other digestive organs begin to prepare for the reception of the food as soon as it enters the mouth. While the food is being chewed, the stomach is active producing the so-called appetite juice, which is an important factor in the digestion of the food. If the food is swallowed quickly, when it enters the stomach the stomach is not prepared to receive it.

A few years ago Dr. Hurst, of London, made the interesting discovery of what he termed the "colon reflex." In studying the colon by means of the X-ray he observed that the movement of the food residues along the colon occurs almost wholly during the taking of the meals; in other words, while the food is being chewed the intestine is being stimulated to activity and consequently the chewing of food is the most effective means of enabling the colon to dispose of the residues.

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Professor Chittenden's classical experiment attracted the attention of the scientific world as no similar dietetic research had ever done and revolutionized the ideas of physiologists with reference to the protein ration so completely that when the question of the amount of meat needed per capita in the rationing of the people of various countries was taken up for consideration by the Allied International Food Committee during the World War the committee eliminated meats entirely from the list of essential foods because, as they stated, it was not necessary.

DR. WIGGAM: They concluded a nation could keep in good health if they had no meat?

DR. KELLOGG: Absolutely.

DR. WIGGAM: What did Fletcher then do? What was the trouble with Fletcher?

DR. KELLOGG:: Mr. Fletcher's campaign accomplished much good, but he unfortunately fell into a serious error which really destroyed the good effects of his work so that Fletcherism fell into discredit and at the present time is rarely heard of.

DR. WIGGAM: What was his great error?

DR. KELLOGG: His error was the supposition that the function of the colon was simply to eliminate the unusable residues of the food. The idea occurred to him that the activity of the colon might be largely dispensed with by eliminating all indigestible elements from the diet.

DR. WIGGAM: He chewed, then, until it was all liquid?

DR. KELLOGG: He recommended that only such portions of the food should be swallowed that could be rendered liquid or semi-liquid

in the mouth, all indigestible residues being returned to the plate. Those who followed this practice became the victims of very pronounced intestinal inactivity and resulting autointoxication.

DR. WIGGAM: Can we not go on there and say this same thing happens when people take up the fasting fad. There is an awful fad all over the country for fasting. I wish you would strike a little blow at that. What is the effect of fasting? Doesn't fasting have a similar effect?

DR. KELLOGG: Very naturally, for food is a natural laxative and when a person stops eating, the stomach and intestines very soon cease their activity and the consequence is the bile and other excretory products which are naturally evacuated through the intestines are retained and reabsorbed, so that the body instead of being purified by fasting as is claimed by its advocates is actually polluted.

Mr. Fletcher was at one time a great believer in fasting and at one time desired to make a fast under my supervision. I thought the experiment unnecessary and unwise and he accordingly undertook the experiment while on a visit to his friend, the late Elbert Hubbard. In two weeks he found himself, as he said, so wretched because of biliousness and a terribly coated tongue and a horrible taste in his mouth and generally so miserable that he gave the experiment up in disgust. He told me very decidedly he should never try again. He said they told him he must fast until he got an appetite. These fasting patients become so toxic after the first two or three days they lose their appetite. That is why they have no appetite. After the first two or three days they usually do

not have any appetite. There is no hunger at all because they become so toxic. It is just like anybody who is bilious.

The observations made by Dr. Benedict, of the Carnegie Nutrition Laboratory and other experiments made upon the Italian faster who fasted 60 days, Cetti, showed that these men become more toxic the longer they fasted. A few days after they began to fast the urine contained carbolic acid because of the putrefaction of the bile and other retained secretions, and the carbolic acid continued to increase in quantity for the first 15 days of the fast. They become more toxic the longer they fast.

Fletcher was encouraged to believe if he fasted long enough his tongue would clear off and he would get an appetite. He thought he would try to eat. He was very fond of baked beans and while he did not have any appetite he thought he would have some baked beans. He thought he would try to see what the effect would be. He said that when the first little morsel of baked beans touched his tongue instantly he was seized with such a ravenous appetite he could hardly restrain himself from eating the whole dishful at once. It was the most delightful experience he ever had in his life. It shows what a ridiculous thing it is.

DR. WIGGAM: It is also a ridiculous idea, rejecting the unusable residue, the cellulose and bulky stuff?

DR. KELLOGG: All the benefit derived from fasting as a means of purification of the blood or tissue fluids can be obtained by simply eliminating the excess of fats and protein from the diet. For greatest effect fats and proteins should be eliminated practically altogether. This is what is accomplished with the ordinary fruit diet.

A person taking the "grape cure," "cherry cure," "apple cure," "peach cure" or any other form of fruit cure is simply taking a protein and fat fast. He is eliminating fats and protein from his diet and in doing this he gets rid of the chief sources of evil from overfeeding.

DR. WIGGAM: He gets his colon and intestine active?

DR. KELLOGG: He gets his intestine and colon active in carrying off the bile and other secretions and he also supplies the body with carbohydrates which are sources of energy, and his heart does not suffer. When one fasts poisons accumulate in the body rapidly. In fasting a person is not going without food. He has simply changed his diet. Instead of eating from a plate he is gnawing his own bones; he is feasting upon himself. He is an autophag. He has become a cannibal and is living upon a carnivorous diet, a strictly carnivorous diet, the worst kind of diet for a person to take who wants to purify his body. In other words he is consuming himself and at about the rate of one-eightieth of his weight every day. He has paralyzed his colon because he does not eat and these poisons are simply accumulating and becoming more and more concentrated. Twenty ounces of bile are produced every day and this bile is reabsorbed and continually reabsorbed over and over again until it becomes highly concentrated and his body is saturated with poisons.

As a matter of fact the amount of soluble poison it is possible for the tissues to contain at one time is only about two pounds and a half.

DR. WIGGAM: And keep up healthful activity?

DR. KELLOGG: To be alive at all.

It is a foolish thing for a person to reduce 30 or 40 pounds just to get rid of two or three pounds of toxins. He could get rid of the poisons equally well by simply eliminating the fats and proteins which are the source of the poisons.

Carbohydrates never produce toxins in the body. He could take carbohydrates, the sugars and the starches.

When a person is fasting he loses not only fat but he also loses muscle, brain and nerve and even bones. The entire body is consumed at the rate of about one-eightieth its weight every day. The heart is actually reduced in size and weight and he actually loses part of every soft tissue. He gets no benefit whatever from the loss of these normal, healthy, sound tissues. It does him harm. Sometimes the harm is so great he never fully recovers from it.

DR. WIGGAM: Here is your business man who has had wrong habits of eating and has got fat. How is he going to reduce?

DR. KELLOGG: That would be another question. A person who has been in the habit of overeating should change his habit by cutting out meats and rich foods, rich gravies and butter to a large extent and substitute instead such coarse foods as lettuce, cabbage, celery and salads in general and fresh fruits, including bran or agar and other forms of roughage. By using these foods freely the necessary bulk to afford satisfaction will be obtained without taking such a large number of calories and thus increasing his actual intake of food. It is calories that counts rather than bulk.

It is a good plan to take these bulky foods at the beginning of the meal. Eat a quantity of fruits and of lettuce at the beginning

of the meal, not simply a leaf or two but several large helpings of lettuce. A half head of lettuce or a whole head of lettuce or two or three apples, a good deal of bulky food, and in that way the appetite will be satisfied without taking a large amount of concentrated food.

DR. WIGGAM: Don't you frequently when a man comes here over-fat have him eat a larger bulk of food than he has been eating, perhaps?

DR. KELLOGG: It is pretty difficult to get him to do that.

DR. WIGGAM: He is reducing weight without going through great suffering?

DR. KELLOGG: No suffering at all. He never goes hungry.

DR. WIGGAM: That will interest thousands of readers, how to reduce without suffering.

DR. KELLOGG: I think you had better take that question up for a separate article. It is a very important thing. Many people are damaging themselves by wrong methods of reduction.

Very great harm is being done by indiscriminate and improper fasting. For instance, a person diminishes his diet, restricts his diet by cutting it right in two in the middle. He makes a horizontal cut in his diet. If you make a horizontal cut in the bill of fare you cut out the salts, vitamins and the bulk, all the things which you need just as much in reducing weight as at any other time. A person who is overweight is overweight because he has eaten too much fat producing food. When he is bilious he has eaten too much protein and too much fat. He has not had proper elimination of these products. He has not taken too much vitamins or lime or iron. Very likely he

may have had a deficiency. If you make a horizontal cut in his bill of fare he reduces the lime, vitamins and all the other things he needs.

DR. WIGGAM: We will elaborate that into a whole article some-time.

DR. KELLOGG: I should say another word about excess protein.

DR. WIGGAM: Why is an excess of protein harmful?

DR. KELLOGG: The body requires two kinds of supplies, one sort to repair the tissues, that is, to replace parts that have been worn out, and another class of supplies to furnish material for fuel and for carrying on the various activities of the body. The amount of protein required is simply sufficient to replace the wear and tear.

These two classes of food correspond exactly to the kinds of supplies needed by a locomotive. It requires coal and water to keep up steam and then it requires from time to time small metal repairs. Protein is the metal repair of the body. The amount of metal required for repairing a locomotive is very small. The locomotive makes frequent stops to replenish the supplies of coal, but it runs several hundred miles before it is necessary to go into a repair shop for replacement of worn metal parts.

When more protein is eaten than the body requires for repair, the excess must be immediately eliminated because no provision is made for storage of protein. Carbohydrates and fats may be stored in the form of residual tissue, so-called adipose tissue, but protein cannot be stored; it must be either used or eliminated.

DR. WIGGAM: It does not increase the size of your muscles?

DR. KELLOGG: One cannot increase the size of his muscles by

eating the muscles of another animal. The excess protein is immediately converted into urea and other waste products and carried off through the kidneys.

Any surplus of protein thus imposes upon the liver and the kidneys an enormous amount of extra work.

DR. WIGGAM: Chittenden's experiments and others have laid a very sound foundation for all of that?

DR. KELLOGG: This has been clearly shown by Folin, of Harvard University, and numerous other physiologic chemists.

DR. WIGGAM: What has Folin done? Has he experimented on students?

DR. KELLOGG: He carried on experiments for years. He has proven it.

DR. WIGGAM: So the low protein diet is now practically universally accepted among physiologists, isn't it?

DR. KELLOGG: Yes.

These waste products when circulating in the blood produce the same effect upon the muscles and nerves and other tissues as the waste products which arise from work, with which they are identical. In other words, urea derived from beefsteak eaten at the table is precisely the same as the urea which results from muscle work and consequently a man may be tired as the result of urea eaten at the table in the form of beefsteak as well as the result of urea formed by his own muscle activity.

DR. WIGGAM: So he is just eating himself tired?

DR. KELLOGG: Yes.

A circumstance which occurred some years ago very well

illustrates this. A professional pugilist by the name of Battling Nelson after a long series of victories surprised his friends by suffering a severe defeat. The next day through a reporter he published an explanation under the heading, "'Twas the Beefsteak That Done It." The pugilist said to the reporter, "'Twas the beefsteak that done it. I swiped an extra steak when my trainer was not looking and it made me tired." While knowing nothing of the physiology of his experience, the pugilist was entirely conscious of the real cause of his exhaustion. Many a business man suffers in the same way.

Another circumstance illustrates the same fact. A judge of the Supreme Court of one of our western States found himself unable to write opinions after dinner. He changed his eating place to a restaurant where he got a satisfactory dinner without his usual beefsteak and to his surprise discovered at once that he was able, as he said, to write as good opinions after dinner as he could before. That is an actual fact. I stopped in a little vegetarian restaurant I had encouraged people to start in Des Moines, Iowa. I stopped in there to see how they were getting along and the proprietor told me about it. He said, "I wish you could meet Judge so and so who comes in here every day. He is a regular customer. He is very much pleased with the results of our meals. Before he could not work after dinner." He had the same experience this doctor had I spoke about a little while ago.

Another reason for avoiding an excess of protein in the form of meat and eggs in the diet is this: A portion of the food eaten always remains undigested, reaching the colon in the form of unusable residues. While these residues are in the colon they undergo changes identical with those which take place in similar material outside of the body under the

same conditions of warmth and moisture. Proteins leave residues which are highly putrescible and the poisons absorbed produce fatigue as well as other unpleasant effects.

DR. WIGGAM: I have noted recently in the scientific journals occasional references to the chemical balance as a question to be considered in relation to diet. Is the chemical balance a matter of any interest to the tired business man? Is the chemical balance to be maintained by balancing of the diet?

DR. KELLOGG: Absolutely. That is the only way you can do it.

The chemical balance is a matter of very great importance. Food is fuel and the changes which take place in the food substances which are absorbed are entirely analogous to those which occur in a furnace. Wood and coal are innocuous substances, but when burned in a furnace they are converted into smoke and ashes, both of which are poisons. The same thing occurs in the body. The residues of foods after they have undergone oxidation in the body are poisonous in character.

These residues are acid, or basic, that is, alkaline according to the nature of the food; that is, the composition of some foods is such that when burned in the body the residues left behind in the body will be acid, whereas the composition of other foods is such that the residues are alkaline or basic. This is a matter of great importance to the body for the reason that most of the products of tissue work are acid. For example, every muscular contraction is accompanied by the production of a certain amount of acid. The amount of acid formed in the course of a day is very considerable. For example, when a man is running at top speed as in the case of a sprinter he is producing acid

at the rate of a dram of lactice acid every second.

When these acids accumulate in the body, causing a condition of temporary or permanent acidosis, the immediate result is a sense of fatigue and breathlessness. Many people are suffering constantly from acidosis without being aware of the fact.

Professor Henderson, of Boston, has proposed a simple test for the excessive accumulation of acids in the body. It is simply to hold the breath as long as possible. A person whose tissues are not poisoned with acids can easily hold his breath for 40 seconds, but a person whose tissues contain an excess of acids will not be able to hold his breath more than 20 seconds or even less.

(Dr. Kellogg proceeded at this point to take out his watch and held his breath at the age of 74 for 60 seconds.)

An accumulation of acids always results in producing a feeling of exhaustion. In order to prevent this accumulation of acids the blood and tissue fluids are normally a little alkaline. It is the function of the kidneys to maintain this alkalinity by removing acids from the blood stream.

The condition of the tissues as regards this excess of acids can always be ascertained by examination of the urine. The urine is an extract of the tissues and when acids are present in excessive quantity in the tissues the urine becomes highly acid.

DR. WIGGAM: Normally it is slightly acid, isn't it?

DR. KELLOGG: Yes. The urine, which is slightly acid, may become very highly acid. I have frequently met cases in which the urine

was fifty or even one hundred times as acid as it ought to be.

DR. WIGGAM: This is due largely to failure to keep up the chemical balance?

DR. KELLOGG: Yes.

This alkali reserve is what is known as the chemical balance. Physiologists tell us that a lessening of the alkali reserve or change in the chemical balance so slight as the difference between distilled water and ordinary pipe water would result in instant death. It is a hair line there. In the face of these facts it is very evident that the chemical balance is a matter of the greatest consequence. The eminent Swiss chemist Bunge first called attention to this matter more than a quarter of a century ago. Sherman of Columbia and others have extended the work of Bunge. Recently much interest has been awakened in the subject by the work of Sansum and Blatherwick.

About 12 or 15 years ago Professor Mendel, of Yale University, wrote to me and said, "I would like to send my assistant, who is working for a Doctor's degree, out to Battle Creek to make some studies of foods if you would like to cooperate in this research. He wants to study the effects of foods upon the urine."

And so we fitted up the laboratory for him, supplied him with all the necessary facilities and paid him fifty dollars a month. What he did was to test out the effect of foods upon this chemical balance, all kinds of vegetable foodstuffs particularly.

DR. WIGGAM: Had a lot of rats, etc?

DR. KELLOGG: On himself and other human subjects. Examined the urine. He got hold of a lot of interesting things.

He found most of our vegetable foods were a powerful factor in lessening the acidity of the urine and fruits particularly. He came to me one day and said he had found one fruit increased the acidity of the urine. Two fruits he examined produced an acid urine and he could not understand it. I told him, "You have an acid in those foods that the body does not oxidize." He went back to Yale and Professor Mendel made a new analysis of these foods and found it was not true. Prunes and cranberries which acidulate the urine contain benzoic acid which nobody had known anything about before. So when we say fruits alkalinize the urine we have to make an exception of prunes and cranberries.

Well, now, that was the beginning of this work in this country and I think we really ought to have some credit for it. In his paper Blatherwick mentioned that this work was done here and the encouragement I had give him in it, but since that time he has forgotten all about it. He mentions now that some of his experiments were made upon nurses of the Battle Creek Sanitarium, but he does not mention anything about the laboratory facilities and the fact that we not only paid all the expenses of the research but paid him fifty dollars a month to meet his current expenses and his board. We gave him his board and fifty dollars a month. We boarded him free and gave him fifty dollars a month for pocket money and paid all the expenses of the research.

DR. WIGGAM: It was really your suggestion that led to the discovery of these fruits?

DR. KELLOGG: I would not want to have that mentioned.

I think it would not be unfair if that thing be worked in.

DR. WIGGAM: What is a man going to do to keep up this chemical balance?

DR. KELLOGG: It is now coming to be generally recognized that the use of basic foods, that is, those that leave an alkaline residue, is of great importance in the treatment of cases of Bright's disease, arteriosclerosis and high blood pressure.

Dr. Rogers, Medical Director of the New York Life Insurance Company, has thought it worth while to send out reports of numerous observations of the remarkable beneficial effects of a basic diet in lowering blood pressure and in improving the condition of persons suffering from Bright's disease. In some cases the effect has seemed to be almost complete rejuvenation of persons who were completely down and out. Dr. Rogers told me of one case in which a man was apparently about to die of Bright's disease and high blood pressure. He put him on a strictly basic diet and all his symptoms disappeared and he is now in excellent health.

Dr. Rogers prepared a list of basic foods which he sent out to every one of his impaired risks--Bright's disease, albumin in the urine or any other evidence of impairment. He put them on this basic diet. Every person who has a policy of one hundred thousand dollars it is worth ten dollars a day to keep him alive, so insurance companies are giving great attention to this. They find their policy holders who are impaired risks, their life expectancy is very greatly increased by putting them on a basic diet.

Experiments made in testing diets upon animals and

human beings showed that the most highly acid of all foods are meats and eggs. Meats and eggs are very highly acid because they contain so much phosphorus and phosphoric acid that the residue left behind is highly acid in the body and so they produce a highly acid urine. The urine of carnivorous animals is highly acid while the urine of herbivorous animals is alkaline. The urine of a horse or a cow is alkaline or very slightly acid, while that of dogs and of other carnivorous animals is very highly acid.

The same thing is true of human beings. The urine of the average person who lives on a meat diet is 20 or 30 or even 50 times as acid as it ought to be. That means there is a great excess of acid in the body, and it has been shown that the effect of these acids is to cause a rise of blood pressure.

Here at the Sanitarium it has been our observation for many years that patients who come here with a blood pressure above normal, their blood pressure goes down. I gathered statistics from our records some time ago. I took a thousand consecutive cases of persons whose blood pressure was 140 or more and I found on the second examination two weeks later that the average of all these blood pressures, the average fall was 20 points in two weeks.

DR. WIGGAM: Just by a basic diet?

DR. KELLOGG: On a basic diet. By the simple elimination of meat and eggs.

I remember a man whose blood pressure was 260 when he came and in a few weeks his blood pressure was down to 160, and seven years and a half later by following the same regimen his

blood pressure was still 160. He kept it down. That man was 50 years of age. When he came he was down and out completely. He had closed up his business and had retired from business, not-expecting to do business any more; but at the end of three months after being on a basic diet he was well and went back to his business. Seven and one-half years later he came back simply to report, to tell how well he was.

DR. WIGGAM: What is a basic diet?

DR. KELLOGG: A basic diet is a diet made up of foods which produce alkaline residues in the body instead of acid residues. Meats and eggs are the most highly acid foods, but cereals contain so much phosphorus that their residues are more or less acid. On the average cereals are about one-fourth as acid as meats. The most acid of cereals is oatmeal. A person who requires a basic diet should avoid the free use of cereals. The worst diet possible is a bread and meat diet. Nothing could be worse from the standpoint of the chemical balance than poached egg on toast. It is an extremely bad combination for both the eggs and the bread contain an excess of phosphorus, both of which leave acid residues in the body. This common breakfast dish must be promptly and completely discarded by people who desire to avoid acidosis.

The same thing which will reduce the blood pressure after the arteries have become hardened and the blood pressure is up, the same thing that will hinder the blood pressure from going up would prevent the high blood pressure, prevent its development and postpone its development in a healthy man and would prevent the development of Bright's disease in a man whose kidneys were still

healthy or whose kidneys had been impaired by an infectious disease some years before. Probably most cases of Bright's disease develop in people whose kidneys have been impaired by an attack of typhoid fever or scarlet fever or some other infectious disease when young. These impaired kidneys with proper care would last a long time, but when they are overworked and overloaded by a diet which contains an excess of acids then they are likely to break down, and that is the reason why I think great importance should be attached to the observations of Dr. Newburgh who finds in experiments upon animals that a meat diet results in producing Bright's disease in animals within a few months. It invariably does it. A diet of bread which contains 30 or 40 per cent protein in the form of meat meal always will produce Bright's disease in rabbits in a very short time.

DR. WIGGAM: I do not get your point about that.

DR. KELLOGG: Because it contains an excess of acids which overwork the kidneys. He has reached the conclusion that the free use of meat is the principal cause of the great frequency of Bright's disease in this country, not that the meat would be so likely to produce Bright's disease in a man with thoroughly healthy kidneys, but because there are a great number of people whose kidneys have been impaired by scarlet fever and other infectious diseases and these damaged kidneys are easily broken down by the excessive work imposed upon them by meat eating, that is, a great excess of protein.

My view of the matter is it is not simply the acid that does the harm but the products of putrefaction which are developed

in the undigested residues of meat lying in the colon; in fact, I think this is the greatest harm that comes from the use of meat is the poisonous effects upon the body from the putrefaction of undigested residues. _____, an eminent bacteriologist, states that one-seventh of all the meat eaten undergoes putrefaction in the body.

DR. WIGGAM: Where is Dr. Newburgh?

DR. KELLOGG: University of Michigan.

Dr. Hunter, the Actuary of the New York Life Insurance Company in a recent paper calls attention to the fact that the American people have on the average a blood pressure ten points higher than the average Chinaman. Their American policyholders have on an average a blood pressure ten points higher than their Chinese policyholders in China. But he finds, however, this is true only of the Chinese in China. The Chinamen in this country have a blood pressure equally as high as that of Americans, and he attributes the difference to the fact that the American Chinaman as well as the native American eats meat whereas the average Chinaman in China eats very little meat.

DR. WIGGAM: High blood pressure is commonly laid to the rush of American life.

DR. KELLOGG: That is moonshine.

DR. WIGGAM: And the tired business man lays his weariness to the rush of American life, but it is largely his diet, you think?

DR. KELLOGG: These people who have been in the mad rush of society they are just as likely to have low blood pressure as high.

DR. WIGGAM: The mad rush of American life is not responsible, then?

DR. KELLOGG: No. What that will do is to cause a rise of blood pressure at the moment when you are rushing, but when you get over the rush your blood pressure goes down again unless there has something been going on in the body that changes the structures of the body. This great flood of poisons in the body raises the blood pressure. It thickens the walls of the arteries. Thickening occurs in the inner layers of the arteries.

DR. WIGGAM: What is this thickening?

DR. KELLOGG: It is an inflammatory thickening.

DR. WIGGAM: Irritated by acids all the time?

DR. KELLOGG: High blood pressure is produced by the circulation of poisonous matters , irritating substances in the blood stream, which are in constant contact with the blood-vessel walls and cause changes to take place in them.

Here is the way this notion has come about that people get high blood pressure as a result of nervous excitement: It has been found by experiments with various drugs that all drugs that produce a rise of blood pressure if given constantly for a long time will cause a permanent high blood pressure. They will cause thickening and hardening of the arteries. If the arteries are made to contract so as to raise the blood pressure and that is continued for a long time it has the effect to produce a permanent rise of blood pressure and arteriosclerosis with degeneration of the arteries. The inference drawn was that anything that causes contraction of the arteries will produce that effect. That conclusion is not sound

for the reason that in the case of a poison which causes contraction there is an actual substance circulating in the blood which comes in contact with the mucous membrane and causes irritation there and that may set up an inflammatory reaction, whereas in case the blood pressure is made to rise by means of mental influence that simply stimulates the heart, forces more blood into the arteries in order to supply the brain and nervous system and increases the activity of the whole machine but does not cause spasm of the bloodvessels. It does not cause any irritation of the arterial walls.

(At 12:30 the Doctor remarked he would get a glass of water before long and we must have some lunch, as he had so far to-day had nothing but a glass of water.)

The business man often thinks he is working too hard because he finds it so hard to work. The tasks which he once enjoyed he finds irksome. He finds concentration difficult. He finds it difficult to reach a conclusion or to make up his mind.

Do you know why it is difficult for a man to make up his mind when he is tired?

DR. WIGGAM: Why?

DR. KELLOGG: The reason is his memory is not as retentive as it should be so he is not able to gather into his mind at one time all the data necessary for reaching a logical conclusion. That is the reason. He can hold two or three things but he cannot marshall them all. In other words, he is not able to marshall upon the stage of his imagination at one moment all the factors which are concerned in the problem.

DR. WIGGAM: And of course if he is loaded with acids and all that --

DR. KELLOGG: His memory cells are intoxicated.

The fact that he finds his efficiency impaired is a source of worry to him. The fact that he cannot solve readily the problems which arise in his business annoys and worries him.

The difficulty is his brain cells are poisoned. This state of poisoning is as real as the intoxication which results from the use of liquor or any other toxic substance.

Some years ago I was called by one of my associates in consultation in the case of a lady from Toledo who had arrived the day before. As I approached the lady I caught her breath, which was extremely offensive. I said to the lady at once, "I see, Madam, you are suffering from autointoxication."

She became very angry and shouted back, "You are entirely mistaken! You are entirely mistaken, Sir! I have not had a drop since night before last. I admit I usually do take a toddy at night to make me sleep, but I was here last night and could not get it."

I of course replied, "But, Madam, your intoxication is something a great deal worse than alcoholic intoxication, it is auto-intoxication. It is far worse than intoxication from whisky or any other alcoholic beverage."

And this is the truth. The poisons produced in the colon as the result of the putrefaction of proteins are highly virulent. Some of them are capable of producing death in small animals in infinitesimal doses. These poisons when absorbed addle the brain and interfere with its normal activities. The ordinary waste products

of the body which accumulate as the result of lack of exercise, over-eating and various other erroneous habits give rise to nerve disturbances of various sorts which together constitute the chronic toxemia from which the average tired business man is suffering.

Unfortunately the business man is not aware of the real cause of his troubles and seeks relief from any source readily available. The most readily accessible means of ready relief with which he is acquainted is the cigaret or the cigar and to this he resorts as often as he feels the need for relief. Unfortunately the need is chronic and so the use of the remedy becomes habitual.

DR. WIGGAM: Does not nicotine especially sort of deaden the sense of fatigue?

DR. KELLOGG: Smoking affords relief from worry simply by benumbing the nerves of sense. When he is tired or worried or experiences any other unpleasant sensation, even pain, relief may be obtained by the use of a narcotic. An injection of morphia or of any other narcotic drug by benumbing the nerve sensibility affords temporary relief, so the tired and worried business man finds relief from a cigar or a cigaret because of the narcotic effect of the nicotine, pyridine bases, ammonia, methylamine, prussic acid, carbon monoxide, sulphuretted hydrogen, carbolic acid and other narcotic poisons which are inhaled in the tobacco smoke.

Tolstoy said that when his conscience troubled him he found complete relief in smoking, remarking, "I never felt a twinge of conscience after the third whiff."

The benefit apparently derived from tobacco is entirely delusive. It does nothing to remove the real cause of the trouble.

Worry makes the business man tired because it increases tension. Three quarters of the energy of the body is consumed in running the machine. Fully half of the energy required to keep the bodily machinery going is expended in maintaining muscular tonus, or tension. During life the muscles are never completely relaxed. They are always in a state of tension even during sleep. This is shown by the fact that if a live muscle is cut the divided ends at once separate widely.

A by-product of this muscular tension is heat, and the production of heat is one of the reasons for the constant maintenance of muscular tension.

When the tension is low the muscles are relaxed. In a condition of low tension the muscles are soft and flabby.

Under some conditions the tension rises. For example, when one is exposed to cold so that the temperature of the blood is lowered and there is danger of taking cold in consequence, the tension rises so high that the muscular movement which is constantly taking place as the result of tension becomes evident as shivering. When the tension rises still higher as the result of exposure to cold a continuous contraction or cramp results. This is sometimes the cause of death to swimmers.

A moderate rise of tension is shown in trembling of the hand. Worry, fear and excitement of any kind may induce a sufficient rise of tension to cause unsteadiness or shaking of the hand.

Of the total energy of the body 10 per cent. is expended by the work of the heart, 15 per cent. by the lungs, another 10 per cent. by the digestive organs and from 30 to 50 percent. is expended in muscular tension.

Suppose you have 10 per cent. for the heart, 15 per cent for the lungs and 10 per cent. for the digestive organs. That is 35 per cent. Suppose you take a minimum of 30 per cent. of energy being expended by muscular tension in maintaining heat. That leaves 35 per cent. for useful work. Suppose that this nervous tension rises to 50 per cent. instead of 30 per cent from any cause whatever. Suppose it is an infectious process so more heat is produced in your body. You have a fever, in other words, and more heat is produced and there is an increase of tension. This consumes your energy. That is why you feel weak when you have a fever because all your energy is being consumed by the processes within the body, by the heat production.

See what you have left here, 35 per cent. Add 50 per cent. to that for expenditure in tension. That is 85 per cent. You have only 15 per cent. for useful work. Suppose you worry. You may actually double the expenditure through tension. When you get to the point where you are tense then you double your tension. Then you are using a hundred per cent. of your energy in tension. A man under those circumstances will lose weight. His body is consumed by this excessive expenditure of energy.

(See here subject of WORRY in my book "NEURASTHENIA"
pp. 183, 205, 256.)

Three quarters of the energy of the body is used in running the machine. If the other quarter is expended in tension produced by worry there is nothing left for useful work.

A man may consume in a half hour's worry, anger or any other depressing emotion more energy than is required for a whole day's work.

Smoking relieves worry by making a man oblivious to the things which are the cause of his worry but does not help toward the removal of these causes. As a matter of fact it makes matters worse for it lessens instead of increasing efficiency.

I once asked a noted lawyer who was a great smoker if he believed tobacco was of any assistance to him in his professional work, if he could make a better speech before a jury when he smoked than when he did not smoke.

"Oh, no," he said, "I found out years ago when I must address a jury I must not smoke. If I did smoke I thought I could make a better speech than I had ever made before, but when I finished my speech I always found it had not been so efficient and so logical as it should have been."

The late Jacob Riis who had been a great smoker until he developed angina pectoris, when first induced to leave it off as the only means of prolonging his life, after experiencing considerable improvement, remarked he was afraid he should have to return to his cigars for he had some articles to write and he was sure he could not write without the aid of his cigars. He needed the cigars he said to stimulate his imagination.

I persuaded him to make the experiment of trying to write without his cigars and he consented to try it for three weeks. At the end of that time he wrote me he had been entirely deceived. Smoking only made him think he could write better, whereas in fact he did

not write so well. Without his cigars he found he was able to do the best writing he had ever done in his life and he was so well pleased with the results that he never resumed the habit.

I might cite many similar instances.

Tobacco is a brain poison, a nerve poison, a heart poison, and a kidney poison. Its poisonous properties are well recognized. Eight drops of nicotine will kill a horse. Two drops will kill a man.

Mild tobaccos contain one or two per cent. of nicotine, strong tobaccos eight to ten per cent. The so-called denicotinized tobaccos are not wholly free from nicotine. As a matter of fact there are other poisons in tobacco besides nicotine. The CO, or carbon monoxide, the gas which constitutes the deadly element which issues from the exhaust pipe of every motor car, is present in large amount in tobacco smoke and is doubtless responsible in part for the pernicious effects of tobacco.

(See article LIVING HALF ALIVE.)

DR. WIGGAM: Why doesn't the tired business man sleep?

DR. KELLOGG: Many business men find themselves in a state of chronic exhaustion simply because they do not sleep enough or do not sleep well. Insomnia is getting to be a very common complaint among the well-to-do. Sleeplessness is one of the penalties of idleness or a deficiency of muscular exercise. As the Good Book says, "The sleep of the laboring man is sweet." The right to sleep soundly must be earned by exercise.

The brain and nerve centers are storage batteries. During the waking hours the battery is discharged through work. During sleep the nerve batteries are recharged. For sound sleep the brain must be emptied of blood. Mosso found by the study of monkeys in whose skulls he had made a glass window and in a man a portion of whose skull had been lost by an accident, that during sleep the volume of blood in the brain diminishes, the blood recedes and the brain becomes pale. As the blood recedes the nutritive lymph takes its place. The blood is stimulating to the nerve cells because of the oxygen which it contains, but lymph is unstimulating and thus gives the cells a chance to rest and to re-accumulate energy. A microscopic examination of a rested cell shows that it is full of minute gray granules, so-called energy granules. A tired cell is shriveled and pale and the energy granules are few in number. So during sleep the cells actually accumulate energy which they discharge during the working hours.

DR. WIGGAM: It looks to me as though exercise would only throw more fatigue toxins into the blood and bathe the nerve cells in still heavier poisons and thus exercise would keep you awake. How is it that exercise makes a man go to sleep instead of making him fuller of toxins?

DR. KELLOGG: The amount of blood in the brain is what keeps him awake. When the muscles are active they are filled with blood. The active muscle soaks up blood like a sponge. The amount of blood passing through a muscle when it is active is 10 to 20 times as much as when it is idle. When a muscle is resting it is pale, but when it is active it at once blushes and becomes filled with blood.

DR. WIGGAM: He must take a reasonable amount of exercise.

How much exercise per day is necessary to keep a man fairly fit?

A man does not have much time. Will twenty minutes a day of the right sort of exercises do it?

DR. KELLOGG: Exercise promotes the elimination of body wastes by increasing lung action, heart action, kidney action and liver action so that the blood is purified and the waste matters are destroyed.

When a horse has been cooped up all winter, the first time you take him out driving in the spring the perspiration is thick and gummy and has a very strong odor. When it dries you see the horse's back covered with white frost. After you have exercised that horse for a few days you do not see the frost any more. The perspiration has become liquid like water. This frost on the horse's back is extract of sedentary horse. It shows what is in his blood and in his body.

A man who takes exercise every day, his perspiration is limpid. His body fluids have been purified by the elimination of these waste materials.

DR. WIGGAM: Your sedentary man, his perspiration would be gummy?

DR. KELLOGG: Yes, the perspiration is slimy.

A man should exercise daily at least sufficiently to produce perspiration and a moderate degree of fatigue. The perspiration induced by a sweating bath is not at all the equivalent of perspiration resulting from exercise. The perspiration induced by a bath is due to the overheating of the blood. When the temperature of the blood rises above normal the perspiratory glands are induced to activity in order

to cause evaporation from the skin to cool off the body. When you exercise and produce heat in that way the heat is produced by burning up waste material, and consequently perspiration induced by heat of your own production is far more useful than heat produced from an external source. In one case you burn up the waste matter. In the other case you simply absorb heat from the exterior without any improved oxidation.

DR. WIGGAM: The tired business man ought to take a brisk walk every day, I suppose?

DR. KELLOGG: I was going to add the amount of exercise should be sufficient to produce vigorous perspiration and a moderate degree of fatigue, and he should do that every day. Exercises need to be taken every day just as regularly as one takes his meals. Taking exercise once a week is of course of benefit, but there is not the same benefit from exercise once a week or once a month, nothing like the same benefit as from taking exercise systematically regularly every day. When exercise is taken daily then the muscles grow and develop to meet the increasing demand made upon them.

Exercise should be progressive. One who is not accustomed to exercise should begin gradually, increasing his work from day to day so he will not become excessively fatigued. If the muscles get a little sore at first you need not be alarmed at that because that is the first symptom of improvement. That is the first stage in the development of a larger and stronger muscle. It means simply that an increased amount of blood has come into the muscle and after a day or two of rest one should resume his exercises and go right on as before and in a short time he will not be any longer troubled with this

soreness.

In English physiologies it is stated exercise equivalent to walking at least 9 miles a day is what the average man requires for health. The ordinary housekeeper walks 10 or 12 miles a day in doing ordinary housework.

DR. WIGGAM: How can a man get enough exercise then without spending an hour or two at it?

DR. KELLOGG: The length of time required for doing the requisite amount of exercise depends entirely upon the intensity of the exercise. In walking at the rate of three miles an hour one would require three hours to walk his nine miles, but if he walks at the rate of five miles an hour he will nearly quadruple the amount of work that he does, so that in walking an hour at five miles an hour he would do the same amount of work as in walking nine miles at three miles an hour.

One can increase the amount of work to any degree by climbing, by going up and down stairs for example. In walking $13\frac{1}{2}$ feet on a level one does the same amount of work that he would do if he lifted his body one foot on a perpendicular. Walking a mile is equivalent to lifting the body about 400 feet straight up.

The average man requires to do daily the amount of physical work equivalent to about 600,000 foot pounds, or 300 foot tons. This would require a man weighing 150 pounds to walk 10 miles or to walk 5 miles at the same time climbing a mountain 2,000 feet in height. A man for instance who is a clerk in a store and he is on his feet there eight or ten hours walking about waiting on customers walks more than 10 miles.

DR. WIGGAM: Yes, and he will tell you it is very tiresome. I get very tired if I walk around the house and I go out on the street and walk rapidly to rest me. A housewife gets very tired walking in the house, but she finds a brisk walk in the park probably rests her, doesn't she?

DR. KELLOGG: Yes.

I am wondering how far you can get into this thing.

DR. WIGGAM: What I want is how much exercise a man ought to do. Fifteen minutes or 20 minutes? The city man won't walk. Is there any substitute? If you told him he was going to a Sanitarium if he did not walk you could not get a New Yorker to walk. He will take a lot of exercises in his bath room.

DR. KELLOGG: Exercise by the aid of the radio or gymnastic records, "The Daily Dozen" or "The Health Ladder" is admirable, but the best results are obtained only when the exercises are taken systematically daily. Of course exercise in the open air is preferable.

A cold bath is also an excellent form of exercise. The late Dr. Baruch called the cold bath vasomotor gymnastics. When cold water is applied to the skin the vessels of the skin contract powerfully, causing the blood to recede from the skin. As the reaction sets in the bloodvessels are again dilated. By this means the muscles which control the bloodvessels may be exercised and by daily training they become better competent to protect the skin from chilling, and so the cold bath becomes an excellent means of protecting the body against taking cold.

An excellent time for exercise is immediately after the

cold morning bath. Any person no matter how feeble can take the cold bath. Of course it is necessary to use discretion. A feeble person should not plunge into a tubfull of cold water, but he should apply the water to small areas of the skin in succession, first one arm, then another arm, then the chest, the back, etc. The application should begin with the head and face and it should end with the feet.

Exercise in the open air is of course preferable. When this is not convenient the exercise may be taken in one's sleeping room with windows widely open and with the clothing partially removed so as to bring the skin as much as possible in contact with the cold air.

Here is a paragraph about coffee in connection with sleep:

Coffee drinking is a great factor in producing mental and nerve exhaustion. The first effect of coffee is to exhaust the brain and nerves by increasing tension and in this way a false impression of strength and vigor is given. Dr. Edward Smith, the eminent English physiologist, demonstrated experimentally that by the use of coffee effort was more easily made, but he also found that the sense of fatigue after a given effort was much greater when coffee was taken than without it.

In his two most interesting books, "Across Greenland" and "Esquimo Life," Nansen takes a strong stand against tea and coffee as well as alcohol and tobacco. "After having tried the coffee extract two or three times in the afternoon and evening, and found that, though it cheered them up for a time, they got little or no

sleep at night, they first restricted themselves to a morning cup, and then tabooed it altogether. . . .

"My experience leads me to take a decided stand against the use of stimulants and narcotics of all kinds, from tea and coffee to tobacco and alcoholic drinks. It must be a sound principle that one should live in as natural and simple a way as possible, and especially when the life is a life of severe exertion in an extremely cold climate. The idea that one gains by stimulating body and mind by artificial means, betrays, in my opinion, not only ignorance of the simplest physiological laws, but also a want of experience by observation."

Dr. H. H. Rusby, dean of the College of the City of New York, an eminent chemist, and joint author of the "Standard Dispensatory," says: "It is nevertheless true that caffeine is a genuine poison, both acute and chronic. Taken in the form of a beverage, it tends to the formation of a drug habit quite as characteristic, though not so effective, as ordinary narcotics. While not cumulative in substance, it is so in effects, permanent disorders of the cardiac function and of the cerebral circulation resulting from its continued use."

The effect of coffee is to dissipate the sense of fatigue by extinguishing the signal. Fatigue is evidence that the nerve batteries have run down and require an opportunity for recharging. Coffee extinguishes the signal and so renders a person oblivious to the fact that he needs rest or an opportunity to recharge his batteries. Coffee must also be condemned for the reason that it interferes with the recharging of the batteries; in other words, it prevents sleep. It is a well known cause of insomnia.

Some persons are much more susceptible than others, but it unquestionably interferes with the soundness of sleep. It is for this reason that coffee drinkers usually feel restless in the morning until they have had their usual cup of coffee, and if the coffee is not taken they suffer from headache. Morning headache is a very common symptom of coffee drinkers. This is the result of the lack of complete recharging of the nerve batteries. The coffee drinker has not had the refreshing sleep which he should have and does not feel comfortable until after he has had a cup of coffee which makes him think he has had a good night's sleep which he has not had.

Coffee is a nerve fooler and on this account is a dangerous drug. Much harm is done by the use of caffein-containing beverages other than coffee. A glass of these beverages usually contains as much or more caffein than a cup of coffee and the coffee habit is in this way often formed even by young children whose parents would not think of permitting them to drink coffee.

Few people are aware of the amount of caffein contained in a cup of coffee. The ordinary medicinal dose of caffein which is given as a means of raising blood pressure is two grains or less. A cup of ordinary coffee contains three or four grains of caffein or double an ordinary medicinal dose. When it is remembered that several cups of coffee are often taken in the course of a day it may readily be seen that the habitual use of coffee is a powerful factor in producing high blood pressure. By depriving a person of sound sleep the use of coffee is thus a very potent means of producing fatigue.

DR. WIGGAM: The biggest reason why the tired business man

is tired is the lack of colon elimination, isn't it? That is the thing I want to close with. What are a few of the central facts with reference to deficient elimination?

DR. KELLOGG: Deficient elimination is another factor in producing chronic fatigue and perhaps the most important of all in producing chronic fatigue. The great emunctories, or poison removing factors, are the kidneys and the colon. The kidneys filter the blood and remove from it various extraneous matters held in solution. The function of the kidneys must be encouraged by water drinking. It is for this reason one should swallow not less than three or four pints of water daily in addition to the liquid ordinarily taken at meals. Water drinking is much neglected, especially in cold weather. It is a good plan to take a glass of water every morning on rising, on going to bed, two or three hours after each meal and whenever the bladder is evacuated. The water may be taken either hot or cold, according to one's inclination.

Ice water should never be taken in large quantities. There is no objection to drinking ice water if it is slowly sipped. Cold water is, in fact, more refreshing than warm water.

Perhaps the most potent of all the causes of chronic tiredness is constipation or intestinal stasis. The real significance of this condition is not difficulty in evacuation of the bowels but too long retention of food residues in the colon. Not infrequently this condition exists even when the bowels move several times a day. In fact some of the worst cases of intestinal stasis, or stagnation, are associated with diarrhea accompanied by several bowel movements daily.

I recall a case of a New York merchant who was very careful to give warning that nothing should be done for his bowels for the reason that they were already so active that his business was considerably interfered with, his bowels moving ten or twelve times a day. When a test meal was given the X-ray examination showed that the residues of the meal were retained in his colon for 96 hours. The colon was overloaded with accumulated material and was never at any time completely emptied.

DR. WIGGAM: How could it be running all the time and take 96 hours to run through?

DR. KELLOGG: Small movements and a good deal of liquid with it.

DR. WIGGAM: Would you call a person constipated whose bowels move nicely each morning?

DR. KELLOGG: Yes.

DR. WIGGAM: How often should they move? That is the first thing a man would want to know.

DR. KELLOGG: It is a popular error that the essential thing in relation to the bowels is regularity of movement. Dr. Lauder Brunton tells a story of a young lady who replied in answer to his question concerning the bowels that they were perfectly regular. It afterwards occurred to him to ask how frequently her bowels moved and she replied, "Once in three weeks."

Not long ago a patient to whom I put the same question said his bowels were perfectly regular, moving every Sunday and Wednesday.

Persons whose bowels move regularly once a day without

the use of cathartics consider themselves fortunate and as enjoying excellent colon health. As a matter of fact, one bowel movement a day is chronic constipation.

The observations of Cannon, of Harvard, made many years ago and interestingly described in his work, "The Mechanics of Digestion," demonstrated that the residues of an ordinary meal reach the colon within 7 or 8 hours after food is eaten. In other words, the residues of the breakfast when taken at 8 o'clock will reach the colon by 4 o'clock in the afternoon.

DR. WIGGAM: By the time the food reaches the colon has its food value to the body been practically all extracted?

DR. KELLOGG: Yes, there is practically nothing left; that is, the processes of digestion and absorption of the nutrient portion of the food is completed in 7 to 9 hours from the time the food is eaten. The residues are then deposited in the colon and ready to be evacuated, and the sooner they are dismissed from the body the better. The time required for movement through the colon has been found to be from 4 to 6 hours and consequently the residues of a meal should be dismissed 12 to 14 hours after the meal is eaten.

DR. WIGGAM: If your bowels move once each day you said something yesterday about it taking 53 hours to get through.

DR. KELLOGG: When the residues pass through the colon in 4 to 6 hours there is no opportunity for putrefaction and fermentation and the consequent poisoning of the body which must occur when putrescible residues are long retained in the colon.

It is evident, then, that when in a perfectly healthy condition the bowels will move after each meal. Bowel movement

after meals is facilitated by the fact that the taking of food gives rise to a colon reflex by which the muscular walls of this organ are made to contract so as to push its contents forward, thus causing evacuation after each meal of the residues of a previous meal.

When the bowels move but once a day, according to the observations of Hurst, of London, the residues of each meal are retained for 53 or 54 hours. In other words, the residues of a breakfast today would be dismissed from the body day after tomorrow after dinner. In the meantime seven additional meals have been taken and the residues of these meals are also crowded into the colon.

See THE BATTLE CREEK SYSTEM OF HEALTH TRAINING for further talk about the colon.

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DR. WIGGAM: What does sunshine do to a man?

DR. KELLOGG: Now, it depends how he exposes himself. If a person exposes himself to very bright sunshine without protecting the head, for example, he may suffer from sunstroke, because the rays of the sun, the chemical rays, are very powerful.

Nature protects the native of Central Africa, where the sun is very powerful, by giving him a mass of black wool upon his head to protect his brain. The black wool cannot be penetrated by the ultra-violet rays; it is a complete protection against the chemical rays of the sun which are the dangerous element of the solar rays.

A good many years ago in walking down the Nile I one day saw a woman coming along with an enormous great blanket wound around her head, a mass as big as a bushel basket, on a very hot day. I could not imagine why she should be wearing such an enormous headdress like that on a hot day. I asked my guide and he said it was to protect her head from the sun.

It is found in hot countries that white cows suffer from sunburn whereas black cows do not, and cows spotted red and black do not have sunburn, but cows that are spotted white and black will have sunburn on the white spots but not on the rest of their bodies.

Human beings can protect themselves in the same way by covering their bodies with something that is opaque to these ultra-violet rays. No one would ever get sunstroke through ordinary window glass, for example, because the glass excludes the rays which produce sunstroke.

The effect of sunshine upon the body, when it is received in proper dose, is wonderfully vitalizing. The sun's rays are electromagnetic energy and when they are received by the body in sufficient

amount to produce a slight reaction, what is called a slight sunburn, or erythema, a most profoundly beneficial effect is produced. The immunizing property of the blood is increased. There is a reaction produced through the whole body that increases its resistance to disease and stimulates all its vital processes.

Absence of the sun is productive of very grave disease. For instance, when animals are left in the dark they invariably suffer from rickets even when the diet is sufficient. They will still suffer from rickets, almost certain to, even on any diet if they do not have the benefit of the sun's rays.

It is found the rays of the sun will take the place of food to some degree. Animals fed on a diet that gives them rickets, if exposed to the sun recover without any change made in the diet. A still more remarkable thing was discovered a year or two ago. It was found if the food instead of the animals was taken into the sunshine this defective food on which the animals had become rickety, it had the same effect as though the animals themselves were put in the sun.

I am not sure but what we are suffering in this country more from lack of sunshine than any other one cause. Here in this central portion of the United States there is a very noticeable ill effect from the lack of sunshine. A survey made by our State Board of Health some time ago showed that more than half of the children in all this lake region were suffering more or less from rickets, so this is really a very serious matter. I am hoping that the time will come when the law will require that every house should be constructed with Vitaglass--with glass in the windows which

will allow the chemical rays to penetrate. Ordinary glass excludes these rays. The ultra-violet rays, or the chemical rays, will not pass through ordinary glass, but we now have a new glass that is coming into use in this country. It is just beginning to be imported from England. It will obviate this difficulty.

Benefit may also be received by means of sun bathing in outdoor gymnasiums during the warm season of the year, for it was found that the body will store up sunlight. The beneficial effects obtained from the sun are cumulative. So one may accumulate sunshine, if you like, or at any rate the beneficial effects of sunlight sufficient to last for a number of months.

Where you cannot have access to the sun it is possible to use artificial light. The arc light produces light similar to the sunlight and even more intense. In the summer time we make great use of the outdoor gymnasium. In the winter time we have what we call a sunlight bath. The arc light is more intense than the sun. It is difficult to get a person to lie still on a table for several hours as one will in the sunshine with perfect ease and comfort, so we have to have a more intense light. The arc light is about ten times as intense as the sunshine in these chemical rays. It is possible to construct these lights in such a way as to increase the intensity of the chemical ray, and the chemical ray in the arc lights we employ is many times as powerful as in ordinary sunlight.

The chemical rays of the sunlight are to a large extent absorbed in the atmosphere. The light has to travel through five hundred miles of air, and the air filters out these chemical rays, so we only get a small part of the chemical rays that come from the sun. That is the reason why sunburn occurs so readily in high mountain regions. I remember

many years ago I rode up Pikes Peak in a carriage. It was rather a cold day late in the fall. The sun shone in from the side of the wagon in which I was sitting, so one ear was in the sunshine. When I came back at night I found I had one ear frozen and the other was sunburned. It was very interesting to me, a doctor, to watch the different effects of the two things occurring at the same time.

The articles that appear in the papers giving warnings against the sunshine are not based upon scientific facts. In this region it is impossible by an ordinary exposure to get an excess of sunshine. One does not need to be afraid of getting sunburned. It is beneficial. Its effect is not even skin deep. The skin may peel off, but it never leaves a scar. No serious injury results from it. It is quite necessary to have redness and peeling off of the skin to get the full benefit of a sunbath.

DR. WIGGAM: Should offices, factories and sun parlors from now on be built from the new sort of glass which transmits the entire sunshine, including both the visible and the invisible ultra-violet and infra-red rays?

DR. KELLOGG: This is very important. This new glass should be introduced as rapidly as possible. The trouble is it is still rather too expensive. The ordinary price, I believe, is a dollar and a half a foot. This is much cheaper than formerly when we had to pay a dollar a square inch.

When it is impossible to get sunlight we should have artificial light. I think we should have in factories these arc lights placed in such a way that the chemical rays can be dispersed through the factories. When I was in London last winter I found quite a number of large industrial

institutions had introduced these arc lights--placed them at the disposal of their employees.

DR. WIGGAM: Please explain how a neutral bath acts to quiet the nerves, wash out fatigue poisons and put one to sleep.

DR. KELLOGG: I do not know of anything that comes so near to being a panacea for sleeplessness as the neutral bath. When one is lying in a neutral bath the whole body is protected from contact with the air. One thing which keeps the vital machinery going is the stimulation from the impressions received upon the skin. The stimulation from the impressions received upon the skin reacting upon the body stimulates the interior machinery of the body. When one lies in a neutral bath at a temperature just a little below that of the body, the impression is neither cold nor hot; it is neutral. The temperature of the body remains the same. The body is protected by a cover that is softer and less irritating than any fabric which you could possibly imagine. The contact with water soothes the skin, and not only that, the water is absorbed by the skin so that the nerves become water soaked and by being completely water soaked in this way they lose their sensibility and they are less irritable than they are under ordinary conditions, and this has a soothing effect upon the entire body. Then in addition water is absorbed very rapidly, and this being carried off through the kidneys washes the tissues and so removes the poisons which are keeping the patient awake.

DR. WIGGAM: How long can one profitably stay in a neutral bath?

DR. KELLOGG: As long as necessary. An hour, two hours or even all night. Many times when I have gone home at two or three o'clock and found I had but two or three hours to sleep, I got into a

neutral bath and remained there. One can sleep twice as fast in a neutral bath as one can in bed.

DR. WIGGAM: A man comes home worn and frazzled from his hard day at the office, has a big convention to attend the next day with exhausting demands and numerous exacting conferences. What can he do with nothing but an ordinary bath tub and shower and perhaps an enema bag in his home, first to rest him from his present weariness and second to put him to sleep quietly for the night; and when he arises how should he prepare for the hard day ahead?

DR. KELLOGG: The most important thing for that man to do, in the first place, is to see when he goes to bed that his colon is entirely empty so he won't be absorbing poisons, because the poisons absorbed from the colon are fatigue poisons. They ought not to be left there to be absorbed all night. If they are, when he gets up in the morning he will be more tired than when he went to bed.

Another thing: It would be well for this man to drink two or three glasses of water half an hour before he goes to bed so the blood will be diluted and the kidneys will be given an opportunity to eliminate poisons.

Another thing: He must take care to see that the air he is going to breathe while he is asleep is fresh air. He must have an abundance of cold fresh air, the colder the better. I appreciate greatly the cold air. I have slept on a sleeping porch for a great many years. I always sleep out of doors even in the coldest weather and I really find it a most delightful experience. One enjoys an outing during the daytime. When one is tired and shut up in one's room and then goes outdoors one comes back feeling refreshed. One can have an outing all night long. Everybody can have

an eight hours' outing every day of his life. That is an opportunity that few people improve. I hope the time will come when building laws in every State will require provision for fresh air sleeping.

DR. WIGGAM: Why did not Metchnikoff's theory work? We often hear doctors say the Metchnikoff theory proved a failure. Did it?

DR. KELLOGG: The theory worked all right, but he did not have the proper means for carrying it out. His theory was that we should drive out the pernicious flora, pernicious germs, from the intestine by means of a protective flora, but he got hold of the wrong germ. The protective flora is known as *B. acidophilus*. This is an acid-forming organism that grows in the colon. It is naturally there. It is in everybody's colon. All in the world you have to do is to cultivate it. You do not have to drink it in buttermilk or take it in cultures. It is always there.

When a woman wants to get some buttermilk or sour milk, for instance, she does not have to go to a drug store to get some cultures of sour milk to put into fresh milk to make it sour because sour milk germs, the germs that produce sour milk, are everywhere. They are always present, always present in the air the whole world over, and the same thing is true of the acid-forming germs which belong in the colon. They are always there. They are everywhere and every little animal that is born into the world is supplied with these germs.

All we need to do is to cultivate them so they will grow luxuriantly and come to dominate the situation and drive out the putrefactive organisms.

Now, as I said before, Metchnikoff got hold of the wrong germ. The germ he found in Bulgarian buttermilk looks exactly like the germ that belongs in the colon and he mistook it for this colon germ,

He thought he had the identical germ when he did not have it. Moro, an Italian observer, afterwards found the real germ and this now is being cultivated and is known as acidophilus. It looks exactly like the Bulgarian germ. It differs in that it will grow and live in the colon whereas the Bulgarian germ will not. One will grow out of doors and the other will not. The other requires a house to live in, a warm place where there is very little oxygen.

Metchnikoff's theory did not prove to be a failure. As a matter of fact it was not his theory; it originated with Dr. Tissier. He was Dr. Metchnikoff's first assistant.

DR. WIGGAM: Why does the acidophilus beat out the bifidus and the B. Welchii?

DR. KELLOGG: Because the Welch's bacillus cannot endure acids. The acidophilus will tolerate one per cent. of acid, but one-tenth of one per cent. will kill off the Welch's bacillus and other putrefactive germs.

DR. WIGGAM: What are the different acid strengths which the three types of bacteria in the colon can endure without being killed?

DR. KELLOGG: The fact is that all the putrefactive organisms are killed by a small percentage of acid, or at least they cease to grow, and when they cease to grow they very quickly disappear.

Dr. William Mayo, the eminent surgeon, on one occasion when entertaining a company of surgeons in his home, remarked, "It is customary, as we all know, to pass around cigars after dinner, but I shall not do it. I do not smoke, and I do not approve of smoking. If you will notice, you will see that the practice is going out among the ablest surgeons, the men at the top. No surgeon can afford to smoke."

"I have repeatedly commented on the characteristic ferocity of vegetarians," says G. Bernard Shaw, himself a life-long meat abstainer. "The bull, rhinoceros, the elephant and the human vegetarian philanthropist are typical examples of dangerous animals undulled by corpse eating. Armies fed on barley have conquered half the world; clans fed on oatmeal or potatoes have had to be exterminated because of their incorrigible pugnacity. Meat keeps people quiet if they get enough of it. A week of beefsteak would change me into the mildest of men. Meat has not much value as food; but it is an incomparable dope."

New York Evening Post Review, Nov. 8, 1924.

THE BATTLE CREEK SYSTEM

What is It?

First of all. What is it not.

It is not new.

It is not exclusive.

It is not an experiment.

What It Is.

It is simply an attempt to put into actual correlated operation all the resources which modern medical science and hygiene have made available.

The System Includes

Chemical diagnostic laboratories

biological laboratories

bacteriological "

Serological, metabolic, urine

blood , stools, a distinct laboratory.

Each presided over by an expert with several technicians.

Research laboratories

**Physiologic, nutrition, Pavlov, in charge of
able physiologists.**

at opening of Gymnasium, May 11/27

The one purpose - Service
and Battle Creek College
with its hundreds of splendid
young people gathered here
from all parts of the
United States for training
~~also~~ will also enjoy the
splendid advantages of
this temple of wealth.
Here, perhaps, better than
~~anywhere~~ ~~colly~~ the
Sanitarium and the

colleges merge in
a common purpose of
service, first personal and
individual, then reaching
out in the broadening lines
of ~~influence~~ activity to which
are extending the in-
fluence of Battle Creek
and Battle Creek Ideas
to the ends of the
earth. Dr. Wiggam

~~the~~ ^{Jamies} author of the
New recatalogue of the
science ~~and~~ of the
~~Next Age~~
in his latest book,
the Next Age of Man,
declares that ^{the development of} that an
aristocracy of wealth
is the only hope for
the human race.

And he is most optimistic
for he believes that this
new aristocracy ^{is}
already forming. He
has been here and
~~caught the~~ goat com-
mitted to privilege
living and goat milk
a very ^{himself} board that
is sure there is

Hope for the world
throughout 100 percent
~~obedience to the di-~~

~~ates of science~~

application of science
to human life habits. And
Prof. Fisher of Yale and
Sart of Bryn Mawr
had said that

THE RATIONAL TREATMENT OF GASTRIC HYPERACIDITY

Up to the present time little progress has been made in dealing with this exceedingly common and often very distressing ailment. Failure has been due simply to the fact that the acid-forming and acid-regulating functions of the stomach have not been well understood.

The writer's purpose in this paper is to call attention to a simple and successful method of dealing with gastric hyperacidity through the application of the knowledge respecting the acid functions of the stomach recently developed by laboratory research by various investigators.

Fifty years ago, gastric hyperacidity was supposed to be due to fermentation. Dr. Salisbury, of Cleveland, propounded a theory which for some years maintained a considerable degree of popularity. His idea was that acidity was the result of the development of yeast in the stomach. To prevent this, he insisted upon the suppression of carbohydrate foods and put his patients upon a diet consisting chiefly of lean meat and hot water. Salisbury steaks were in great vogue for years until the Ewald test breakfast demonstrated that the real cause of the acidity was not fermentation but an excess of hydrochloric acid, a normal constituent of the gastric juice. A few years later, Pavlov made the important discovery that lean meat and meat juices instead of suppressing acidity are powerful stimulants of the acid-forming glands of the stomach.

These discoveries stopped the meat feeding in these cases and led to the use of soda, magnesia and other chemical agents for neutralizing the gastric acid. This method affords only temporary relief and often results in aggravation of the disorder or in other damage. Alkalies like flesh meats tend to increase the activity of the acid-forming glands.

August 9, 1927.

Mrs. Kocker:

Put in ^{the} a new title just before Scene 34, or perhaps it should be introduced just after the Scene starts, so as to have just a glimpse for 2 or 3 seconds of the blood hurrying through the vessels, then the title, then continue the Scene.

J.H.Kellogg.

OUTLINE OF ALCOHOL FILM

Footage No.

- D. 1** Alcohol Destroys Life, by Dr. John Harvey Kellogg, Medical Director of the Battle Creek Sanitarium. Issued by The Race Betterment Foundation, Battle Creek, Michigan.
- T. 2** ALCOHOL A POISON - Alcohol is a deadly enemy of morality, health, business and prosperity. It is a poison which strikes deeply into the roots of personal life, home life, civic life, and national life.
- T. 3** The body is made of living cells, each of which does some special work. There are in the body more than one hundred trillion (100,000,000,000,000) of these life units, which work, feel, think, digest, make bile, make heat, fight germs, and do a thousand other wonderful things.
- S. 4** Blood cells
- T. 5** The blood contains more than fifty billion (50,000,000,000) cells, which capture and destroy germs. Here are some of these germ catchers (leucocytes) actually at work.
- S. 6** Leucocytes
- T. 7** Alcohol benumbs and paralyzes the blood cells, so that they do not recognize, and cannot pursue and capture the deadly germs which invade the body.
- For this reason, when an epidemic breaks out, "the drunkards die like flies."
- T. 8** Alcohol, once supposed to be a food, is now known to be a chemical poison - the excreta of the yeast plant. It is the enemy of life. It cripples and destroys living cells of every sort, vegetable as well as animal, even the yeast cell which produces it.
- S. 9** Manikin
- S. 10** Brain - removing from skull
- T. 11** In the brain are stored millions of experiences, ideas, memories. Here is the seat of intelligence, will, judgment,

- T. 11 Alcohol cripples and paralyzes the brain, deranges its delicate machinery and distorts, confuses, benumbs and disorders the mental and moral faculties.
- S. 12 Brain - continued -- close-up.
- T. 13 The human brain, the broadcasting station of the body, is composed of a thousand million living cells, connected together by delicate living threads, each a storage battery of energy.
- T. 14 Alcohol is a brain poison - a narcotic, not a stimulant.
- S. 15 Brain - continued
- T. 16 ALCOHOL WEAKENS THE MIND - Kraepelin, the world's greatest authority on the brain and nerves, has shown that a pint of beer impairs intelligence and weakens the memory.
- T. 17 BEER AND WINE CAUSE SLOW THINKING - Alcohol slows down the wheels of life. Normally, nerve impulses travel 92 feet a second; under the influence of alcohol, the rate is 13 feet a second.
- S. Brain cells
- T. 18 BEER WEAKENS MEMORY AND HINDERS THE WORKMAN - Professor Smith found that half a bottle of wine or three glasses of beer a day weakens the memory faculty seventy per cent and greatly hinders a man learning a trade.
- T. 19 ALCOHOL MAKES LUNATICS AND IDIOTS - Statistics show that 20 per cent of the inmates of our asylums owe their insanity directly to the use of alcohol.
- T. 20 ALCOHOL IS A RACE POISON - that blights the lives of unborn infants. It is a pitiless scourge, the ~~most~~ destructive effects of which do not end with the drunkard but are passed on to the third and fourth generation of his posterity.
- T. 21 THE ALCOHOL ARISTOCRACY - The annual crop of lunatics, idiots, imbeciles and epileptics due to alcohol and allied causes is growing faster than the progeny of the sane and sound.
- We already have an aristocracy of lunatics, idiots, imbeciles, and epileptics. The time has come for intelligent men and women who love humanity and who are concerned about the future welfare of the race, to rise and combat this enemy of humanity.
- S. 22 Lungs

Miles

3.
Alcohol Film

Footage No.

- T. 23** ALCOHOL HINDERS RECOVERY FROM DISEASE - Alcohol lessens resistance to disease. Cholera, pneumonia and influenza are very fatal to drunkards.
- T. 24** A Live Pump
- S. 25** Taking out heart
- T. 26** The four valves of the heart, which act like those of an ordinary pump. Alcohol often damages these delicate structures.
- S. 27** Showing heart valves
- T. 28** A Living Heart at Work
- S. 29** Heart beating
- T. 30** The daily work of a healthy heart is equal to lifting 100 tons one foot. -- Alcohol lessens the working power of the heart.
- S. 31** Beating heart -- continued.
- T. 32** ALCOHOL WEAKENS THE HEART - Alcohol never strengthens but always weakens the heart. It is not useful but very harmful in cases of shock, collapse and fainting, and is not used by up-to-date physicians in such emergencies.
- T. 33** ALCOHOL PARALYZES - According to Professor Kronecker, of Berne, Switzerland, a two per cent solution of alcohol (Bavarian Beer) will paralyze a frog's heart.
- S. 34** Blood cells hurrying through the smallest blood vessels.
- T. 35** Alcohol paralyzes the blood vessels as well as the heart, causing congestion of brain, lungs, liver and other vital organs. This is the cause of the drunkard's "rum blossom."
- S. 36** Diagram of circulation.
- S.** Arteries
- T. 37** ALCOHOL NOT A STIMULANT - Alcohol is not a tonic or a stimulant in any sense of the word. It is a depressing agent, an anesthetic, a narcotic. Dr. Benedict, of the Carnegie Nutrition Laboratory, proved that alcohol is first, last, and all the time a depressing drug, a poison which strikes at the very foundations of life.

Frog

File

*valley
in screen*

Title?

*New
Title
Dr. Myles*

File

4.
Alcohol Film

Footage No.

- S. 38 **Stomach**
- T. 39. Alcohol does not aid digestion. Prof. Radzikowski showed that when alcohol is given, the gastric juice contains no pepsin. ehit
- T. 40 Alcohol Causes Cancer of the Stomach.
- S. 41 Itinerary of a Breakfast.
- T. 42 BEER HINDERS DIGESTION - Lord Roberts and Professor Chittenden showed that alcohol, especially beer and wine, hinder digestion. fd
- S. 43 Liver
- T. 44 The liver contains more than 10,000,000 cells, which make bile, destroy poisons, and otherwise defend the body.
- T. 45 Alcohol destroys the liver cells, changing them into useless fat. Here are some healthy liver cells and alcohol damaged cells. e
- S. Liver cells
- T. 46 Here is a Beer Drinker's Liver
- S. Damaged Liver
- T. 47 The Kidneys
- S. 48 Kidneys
- S. 49 Kidney Cell
- T. 50 Each kidney contains 1,000,000 cells, each of which produces one drop of secretion in three months, or a tablespoonfull in sixty years.
- S. 51 Kidney cell - continued
- T. 52 Alcohol is eliminated by the kidneys and rapidly destroys the delicate filtering machinery by which poisons are removed from the body. Beer drinkers die of Bright's disease. ?

5.
Alcohol Film

Footage No.

- T. 53 Lord Woolsley, who led a great British army through the scorching heat of tropical Africa in an effort to relieve Kartoum, attributed his success to the fact that he abolished the grog ration. 110
- h
T. 54 ALCOHOL DOES NOT CURE DISEASE - Says Dr. Lee, in the Journal of the American Medical Association (Aug., 1925), "Alcohol does not in the slightest degree remedy" diseased conditions. Its effects are purely "psychologic", that is, its effects are like those of opium and other narcotic drugs.
- T. 55 ~~A Gold Fish on a Spree on 2.4 per cent alcohol.~~
- S. 56 ~~Gold Fish~~
- T. 57 ALCOHOL DISCREDITED BY SCIENCE - Alcohol is still called a stimulant, but modern researches have shown that it is never a tonic or stimulant, but always a narcotic drug which poisons the living cells and lessens their activity.
- g
T. 58 REPORT OF COMMITTEE OF FIFTY ON ALCOHOL.
Fifty eminent scientific men, after long study of the effects of alcohol, reached the following conclusions:
1. Alcohol supplies nothing which the body needs or can utilize advantageously.
 2. Alcohol is a poison -- a deadly poison in large doses; a slow poison in small ~~low~~ doses.

August 12, 1927.

Mr. Bloese:

Doctor would like to have this material copied. It is for a paper to be sent to Mr. Holsaple for Mr. Russell to read, I believe. Perhaps Doctor will want to dictate a note to go with it when finished.

Clara K. Butler.

Sept 27/1927

The great aim and purpose of Battle Creek College is to all around, symmetrical education. So far as I know, this is the only college that really undertakes to do this in a thoroughgoing way.

Popular educational methods even in our best universities, are controlled by precedent, current demand and financial or social considerations rather than by progressive educational ideals.

There is at the present time a widespread dissatisfaction with present educational methods. Specialization has made the work in many cases desultory.

According to Norlin, it takes 100 men to make a shoe and 50 men to make a cake of ivory soap which is guaranteed to float; it likewise takes about 50 men to make a college graduate, but he can't be guaranteed to float, because his education is fragmentary, and great gaps are left, especially on the physical side; there are so many missing parts that the machine won't work.

As one university president said recently, our colleges teach a man a hundred ways of making a living, but do not teach him the things most essential to make living worth while.

I like Huxley's definition of education. Said he, "That man, I think, has had a liberal education who has been so trained in his youth that his body is the ready servant of his will, and does with ease and pleasure all the work that as a mechanism it is capable of; whose intellect is a clear logic engine, with all its parts of equal strength and in smooth working order; ready, like a steam-engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose

emotions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself."

Such an education as Huxley desired requires first of all a healthy body; but very few of our colleges give even a casual attention to health ideals. Our greatest educators have recognized the need of making health the cornerstone of the educational edifice, but no one has actually undertaken to do it. Said the late Charles W. Eliot,

"Health is the indispensable foundation for the satisfaction of life. Everything of domestic joy or occupational success has to be built on bodily wholesomeness and vitality. Health is essential to the enjoyment all through life of active bodily exercise. It is necessary to continuous capacity for hard work; and it is only through active play and hard work that anybody can make sure of the durable satisfaction of life. To promote health in the individual, the family, and the community should be the constant aim of every good citizen in the American democracy."

Long ages of neglect of health in education has resulted in setting up race deteriorating tendencies of a most pronounced character. That the human race is tending downward, no thoughtful and informed person now disputes. For the last twenty-five years, the evidence that the human race is degenerating has steadily accumulated until such a mass of pertinent facts has been gathered by scientific observers in various parts of the world, there is no longer room for doubt that we are going down hill and at a rapid rate. Some years ago, Tredgold, the eminent English authority, referring to the evidence of race degeneration, remarked:

"It is impossible to avoid the conclusion that at present England contains an increasing number of people who are failing to adapt themselves to the exigencies of the times, who are not keeping pace with the increasing demands

which civilisation entails, and who are deficient in the capacity to carry on the progress of the nation and of the race. It seems probable, in view of the history of nations in the past, that much of the present social and industrial unrest and of the movements towards communism is also an expression of the same increasing physical and mental incapacity, and of a waning spirit of grit and independence.

"Life on this planet is so constituted that it can only progress by the survival and propagation of the biologically fit and the elimination of the unfit. In the course of man's evolution a stage has been reached at which this progress has been reversed, with the result that the race merely marks time, while successive nations ebb to and fro in a ceaseless rise and fall. I believe that this is but a phase, and that the time will certainly come when the antidote of eugenics will be applied, and man will continue his progress; and I have no hesitation in saying that the nation which first grasps and applies this principle will thereby secure such an advantage in increased efficiency that it will rapidly become the predominant power."

For long we have prided ourselves that in this twentieth century, which completes the sixth millennium of recognized historic time, we have attained the very summit of human intelligence. We overlook the wide difference between intelligence and knowledge. Knowledge is simply the accumulated products of intelligence. Intelligence is the power to discover or create knowledge. The world's great store of knowledge of which we boast is the accumulated wealth of the age-long experience of the human species. The seed thoughts of our greatest modern discoveries were planted long ago, perhaps ages in the past, and after germinating through immeasurable periods of human experience, came to bloom and fruitage in these modern days. The really great discoveries were made so far back in the distant past that we cannot even guess by whom or how they were made. It required, indeed, a vastly greater amount of intelligence to make the first

wagon, the first sailboat, the first algebraic formula, the first geometrical theorem, to formulate the first syllogism, than to make the greatest of our modern so-called discoveries.

Carlyle once said that the population of England were "mostly fools", and Galton declared that the intelligence of the average citizen was barely above the level of imbecility. At the present moment degeneracy is rampant in the earth. Every day this upas tree is planting its roots deeper and spreading wider its death-dropping branches, but, though at the present time the prospect may seem dark and the future outlook forbidding, the new science of eugenics and the old but sadly neglected science of biologic living, rise like a light-tower in the darkness and cast a flood of light and hope over the coming years. Following this beacon, the outlook is most optimistic. Eugenics and euthenics, applied with liberal intelligence, will save the race from the destruction which race degeneracy threatens. Other races of the animal kingdom are helpless to combat the influences which produce environmental changes inimicable to their existence, hence every one, sooner or later, must succumb to the destructive action of these cosmic forces. The same fate must necessarily await the human race unless man, through his intelligence, finds some way to avert the disaster. He can do this if he will. Unfortunately he has to a large extent neglected to recognize the necessity for preserving, so far as possible, the essential conditions of his primitive life. He has allowed himself to drift. He has formed habits by chance. Instead of laboring to preserve amid the conditions of civilized life the essentials of his primeval environment, he has done the very opposite. He has allowed his fancy and his impulses to lead him into by and forbidden paths and has undertaken to compel his body to adjust itself to impossible conditions; and the result is, instead of lessening he has intensified the evil effects of environment. The same forces which have destroyed other creatures, other animals and species, and which are preying upon

man as a member of the animal kingdom, instead of being mitigated and neutralized by the intelligence of man, have actually been increased and exaggerated. Man has thus forced upon his body conditions which are so far removed from his biologic and physiologic requirements that, at the present time, he is actually accentuating by his daily habits of life the influence of those destructive forces which have wiped out generation after generation of living beings.

But we may change the situation by the intelligent application of eugenics and physiology. By a careful study of our biologic needs and our physiologic requirements we may reverse the process and compel the cosmic forces which are dragging us down, to lift us up, so that each generation may be superior to that which preceded it.

It is within the power of man so to modify his environment and so to control the evolutionary forces which are working upon him as to eliminate the degenerative, destructive tendencies and to promote, encourage and intensify the forces which work for race betterment, and thus to improve desirable qualities and eliminate defects and undesirable characteristics and in time produce a race of human thoroughbreds which will be as much superior to the average existing man as is the thoroughbred horse to the average horse of the farm.

The coming man will rank far above the man of to-day in intelligence, in stamina, in endurance, in length of days, size of body, bigness of brain and in all the characteristics which make up human excellence. He will be, in every way, a bigger man. He will be a real aristocrat. In his veins will course, not blue blood, but the red blood of abounding health and vitality, polluted with no disease or hereditary taint, equipped with alexins and anti-toxins capable of resisting every infectious disease, and teeming with life and vitality.

The intelligence of the world should be set to work to create new agencies and to multiply existing agencies for the betterment of the race. A biologic survey should be made of every civilized community and of savage communities as

well for purposes of comparison. The laws of eugenics and eugenics should be taught in every school and preached from every pulpit. Every teacher, every leader of human thought, every publisher, all professions, all serious-minded men and women should join in making known to every human being in every corner of the globe the fact that the human race is dying, and in seeking to discover and apply the remedies necessary for salvation from this dismal fate.

To help forward this race betterment movement is the great purpose of the Battle Creek Sanitarium and Battle Creek College. This purpose, as stated in its Articles of Association, is:

"To found, establish and conduct an educational institution in which, or by means of which, instruction shall be given in the arts, sciences, professions, and special vocations, in coordination with, and subordinately to, the principles of race betterment and biologic and physiologic living.

"Since race betterment through eugenics and eugenics is the primary and essential object of this College, it will be expected that all members of the student body as well as members of the Faculty and officers of the College shall be earnest and enthusiastic supporters and promoters of race betterment principles and methods; and the Board of Trustees and the several faculties shall establish such rules and regulations regarding the conduct and habits of students and teachers as may be consistent with the aim and purpose and calculated to promote the mental, moral, and physical welfare of the students, and to make them zealous promoters and worthy exemplars of the principles of biologic living."

The above statement sets forth the fact that, in the organization and conduct of Battle Creek College, physical development and health training in accordance with the recognized principles of physiology and biology are fundamental. The promoters of this educational enterprise believe that the thoroughgoing application of the recognized principles of physiology and biology to human life may produce for the race equally as wonderful improvement as is seen in domestic animals and farm crops.

By such means only can the degenerative tendencies which are at present hurrying the human race to extinction be checked and ultimate race destruction be prevented. By the careful application of science to farming our agricultural colleges have elevated farm work from the rut of despised drudgery to the high status of scientific agriculture.

It seems imperatively needful that a similar intensive effort through education should be made for the betterment of the human race and by the application of similar methods. This is what Battle Creek College undertakes to do, giving the same attention to the cultivation and healthy development of the body that is given to intellectual training and development. In other words, health is made the foundation, and improvement of health the basic method for promoting intellectual and moral culture and development.

It is required that every student shall give the same attention to bodily development and the same conscientious care to the formation of correct health habits that is given to the development of the mind and the acquisition of knowledge.

A fundamental aim of the College is to develop a scientific conscience; that is, a respect for and conformity to the biologic laws which are expressed in our bodily functions. A careful survey is made of the physical condition and the personal habits of each student on admission, in relation to eating, sleeping, exercise, posture, etc. These examinations are repeated from time to time and students are expected to correct faulty habits. Credit is given for health attainment through conformity to physiologic standards as well as for intellectual attainment.

It is believed that the ideals and standards maintained by the College will draw to it a student body composed of those who are interested in race betterment and who are desirous of participating in, and profiting by the special oppor-

tunities which the College will offer for the attainment of the ideal of the ancient Greeks, "a sound mind in a sound body."

It is the aim of the founders of Battle Creek College to make of it a race betterment center from which will go out into the world graduates who are excellent examples of the results of biologic living, and who are filled with enthusiasm for the promotion of the principles and the methods by which they have themselves profited.

Memo for J.H.K.
(Cincinnati)

Oct. 21, 1927.

HAS PROHIBITION PROMOTED PUBLIC HEALTH?

Dr. Dublin:

The best gauge of health is death rate.

Two Sources

1. U.S. Statistics.
2. Metropolitan Life.

Two Periods

1. 1900-1917
2. 1921-1926

Metropolitan show slight decline 1921 - 1926

If decline were due to prohibition, the decline which was going on should have been increased after prohibition. This did not occur; instead, a slowing up.

Mortality of males increased after _____ ; females stationary.

Two reasons why this is not true conclusion:

1. After much improvement naturally slowing up because of limit being approached.
2. The influence of the epidemics of 1917-1920 continued on into the succeeding years, increasing death rate.

Saving of 13,000 annually between 1921-1926, women and children.

1,000 men's lives saved same time, chiefly over 45 years. Due to better food; better conditions in home.

Prohibition has not been effective in stopping liquor nor drinking in men.

The bad quality is so bad as to make up for slight improvement in death rate.

Mortality from alcohol is six times as much as six years ago.

Records of hospital show 1920 lowest.

1926 six times as bad as six years ago.
(Not fair comparison).

Much more important is deaths from heart and kidney disease. No improvement.

Facts

Improvement in mortality of women and children due to activity of public health activities, also to general property.

No improvement in men.

Prof. Haven Emerson will avoid statistics dealing with opinions, evidence of doctors, nurses, dentists, welfare workers.

Best statement of effects of alcohol by English Commission.

I. Min. effects of alcohol on nervous system - a narcotic.

No one claims that alcohol improves health.

Cannot tell how much alcohol is used. Only guage is the _____

No cases of acute and chronic alcoholism.

Zones.

- A. Prohibition states.
- B. Cooperative States after prohibition.
- C. Non-cooperative states.

Prohibition has been of great benefit.

1. Economic improvement, unprecedented, especially among labor.
Increase of saving banks deposits just equal to liquor bill
before prohibition.
2. Greatly lessened delinquency. Conviction of repeater.
Alcoholics fallen 50 per cent.
Arrests for alcoholism fallen three-fourths.
Arrests for assault and battery fallen three-fifths.
3. Deaths from alcohol one-half.

Sale of narcotics fallen one-half. .
Increase of school attendance.
Increase of milk, 30 per cent.
Only 27 homes for inebriates remain out of 134.

Dr. Reed, of Cincinnati:

Alcohol is a constituent of the human brain. Hence, there is
a universal demand for it.

65,000 deaths due to bad whiskey - 15,000 more than during
the World War.

Surgeon General's office states that deaths from alcohol now as before
prohibition, are due to ethyl alcohol chiefly.

file JHK

Jan. 21, 1927

Mrs. Butler:-

Here is the biographical material that Dr. Kellogg wanted for preparing his speech for the Conference. As ^{at} present~~ly~~ arranged, Doctor is to speak at the very first meeting, which will be the banquet Monday evening, January 2nd. He is to welcome the delegates and introduce them to their president. He has ^a ~~the~~ type of speech that speaks of the Sanitarium as "the house by the road" and that is the sort of thing that I think would be awfully appropriate.

E.F.R.

EH/EFR

DIET OF FINNISH ATHLETES

Mr. Lauri Pihkala, the greatest organizer of athletics in Finland, writes us that Finnish athletes eat almost no meat. He describes their diet as "a 90 per cent non-flesh menu," and says that meat or flesh is used for flavoring or condimentary purposes only, i. e., as extract for sauces; that the main bulk of the Finnish athletes' diet today consists of bread--often hard bread--and butter, milk, potatoes, and oat-rye- or barley-meal porridge. In summer vegetables and salads are used, he says, and fruit is keenly recommended, but on account of its great expensiveness is not much eaten. "In short," says Mr. Pihkala, "the menu of Finnish athletes is prominently a vegetarian one. Of meat they eat perhaps one-tenth as much as does the average American college athlete." He adds--

"Since Emil R. Voigt, the Olympic five-mile champion for 1908 and the famous vegetarian runner, paid in the year 1909 a visit to Finland, and gave a fine exhibition in running, he thereby became for a while the model runner for his Finnish colleagues, and a strict non-flesh dietary became the ideal for Finnish distance runners from 800 meters upwards during a period of about ten years. Thus Hannes Kolehmainen, the famous Olympic runner who spent several years in the United States, was a

strict vegetarian during at least three years of his fastest development. Paavo Nurmi, copying Hannes (his idol), was, too, a keen vegetarian from his twelfth to eighteenth or twentieth years."

THE SOY BEAN

In case an infant is unable to take cow's milk, it is necessary to have another substitute for human milk. In an attempt to find such a mixture, Drs. L. W. Hill and H. C. Stuart of Boston have experimented with a preparation of the soy bean.Using a soy bean flour as the basis of a preparation, Dr. Hill found that infants sensitive to cow's milk can be kept in a good state of nutrition by a preparation containing soy bean, calcium carbonate, and salt. The soy bean flour already contains some magnesium, potassium, and phosphorus. In order to raise the amount of fat, olive oil was added to the mixture.

Scientific American, March, 1928.

The raison d'etre of Battle Creek College is the profound conviction

1. That the human race is deteriorating, and
2. That the causes of race decay are not irremediable but may be successfully combated, and
3. That by an application of science to human life and living in the same thoroughgoing manner in which the facts and methods of science have been applied to human industries, and especially to the breeding and training of domesticated plants and animals, the genus homo may be improved as plants and animals have been, and that it may thus be possible not only to arrest the downward trend, but to reverse the process and create a new and superior human race.

This conviction led me to create the Race Betterment Foundation, which, in alliance with the Battle Creek Sanitarium, is the sponsor of the ----- College, through which it is hoped to make some small contribution toward the creation of an Aristocracy of Health.

The special aims of the College as thus far formulated, may be briefly stated as

1. To teach what scientific research has discovered and experience has validated respecting the conservation and the improvement of the physical and mental health and efficiency, individual and racial - that is, eugenics and eugenics.
2. To provide for students such conditions and opportunities as will secure for them the best possible advantages for physical development.

Health Training.

Examination.

Diet.

Exercise.

Posture.

Correction of all defects.

Training in biologic living.

Obstacles.
Teachers.
Text-books.

Established and educational mores and pedagogic canons.

3. The purpose of Battle Creek College is the education of leaders for the Race Betterment Movement and the center of a nation-wide and world-wide propaganda for Race Betterment through biologic living.

4. To establish an educational model through experiment and research which, in time, might become worthy of imitation as so-called Battle Creek Sanitarium methods have been.

No claim is made of anything novel in the Battle Creek idea. It is merely an honest attempt to follow Nature, that is, to obey physiology.

When these Race Betterment activities were initiated, nearly fifty years ago, they were much discounted as pessimistic vaporings, but within recent years, Davenport has said, "Of course we all know that the human race will ultimately perish;" and Major Darwin has said, "If our present civilization survives, and I fear it will not, it will have to be the United States that saves it"; and Tredgold, the eminent English authority, has said:

"Life on this planet is so constituted that it can only progress by the survival and propagation of the biologically fit and the elimination of the unfit. In the course of man's evolution, a stage has been reached at which this progress has been reversed, with the result that the race merely marks time, while successive nations ebb to and fro in a ceaseless rise and fall. I believe that this is but a phase, and that the time will certainly come when the antidote of eugenics will be applied, and man will continue his progress; and I have no hesitation in saying that the nation which first grasps and applies this principle will thereby secure such an advantage in increased efficiency that it will rapidly become the predominant power."

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No claim is made of anything novel in the Battle Creek idea.

It is merely an honest attempt to follow Nature, that is, to obey physiology.

When these Race Betterment activities were initiated, nearly fifty years ago, they were much discounted as pessimistic vaporings, but within recent years, Davenport has said, "Of course we all know that the human race will ultimately perish;" and Major Darwin has said, "If our present civilisation survives, and I fear it will not, it will have to be the United States that saves it"; and Tredgold, the eminent English authority, has said:

"Life on this planet is so constituted that it can only progress by the survival and propagation of the biologically fit and the elimination of the unfit. In the course of man's evolution, a stage has been reached at which this progress has been reversed, with the result that the race merely marks time, while successive nations ebb to and fro in a ceaseless rise and fall. I believe that this is but a phase, and that the time will certainly come when the antidote of eugenics will be applied, and man will continue his progress; and I have no hesitation in saying that the nation which first grasps and applies this principle will thereby secure such an advantage in increased efficiency that it will rapidly become the predominant power."

COLD AIR:

A NEWLY DISCOVERED PROPERTY OF COLD AIR WHICH EXPLAINS ITS WONDERFUL REFRESHING AND VITALIZING POWER, Good Health, Feb. 1929, p. 23

(on Dr. Kellogg's desk)

THE COLDAIR " CURE"

GOOD HEALTH, Dec. 1928, p.5-6

SUN AND AIR

Good Health, March, 1926, p. 40

AEROTHERAPY

Good Health, Feb. 1928, pp.39-40

SUN, AIR AND WATER TREATMENT IN ANCIENT HOSPITALS

Good Health, Sept.1929, p. 42

Dr. Dr. Kellogg's desk.

OLSEN, ALFRED H., M.D. D.P.H.
Cryoaerotherapy or Cold Air Treatment,
Physical Therapeutic May 1930 Reprint

(A talk to the freshmen students, by
Dr. John Harvey Kellogg, Sept. 18, 1928)

WHY BATTLE CREEK COLLEGE?

The human race degenerated. Evidences:

Deaths from infectious diseases diminishing, but chronic diseases increasing.

Two classes of maladies - those we catch or get by accident, mostly germ diseases, and those we cultivate or produce by wrong habits; that is, unbiologic living.

This fact is not yet fully realized.

Primitive savages do not suffer from chronic diseases - insanity, idiocy, heart disease, rheumatism, Bright's disease.

They die from old age - worn out by hardships; killed in battles with their neighbors.

In some countries, they live so long their children get tired of waiting for them to die, so assist Nature with a club.

A missionary of the South Sea Islands tells of a native savage who said to him one day that he was expecting that his son would step up behind him and knock him out, which he had a perfect right to do, as he had done the same thing to his own father when he became old.

In civilized countries, people rarely die of old age.

The average length of life is increased in this country, but only because we are keeping babies alive. But life expectancy after 50 is lessening.

People dying of tuberculosis, but more from heart disease.

One-fifth of all who die, die from diseases of the heart.

163.6 per 100,000

300,000 people die of heart disease every year - people enough to fill a city 6 or 7 times as large as Battle Creek.

(1924)

100,000 people die of disease of the ~~liver~~ and kidneys and other vital organs --people enough to fill a city the size of -----

100,000 people die of tuberculosis, due to lack of sunshine - enough to populate a city the size of *Tampa, Fla. (102,000)*
Utica, N. Y. (102,500)

(1925)

92.6 per 100,000 people die of cancer.

A vast multitude die from heart and lung disease, disease of the liver, and kidney disease --diseases which for the most part result from wrong conditions of living and bad habits - a terrible reproach to civilization.

Savages do not die of these diseases.

Cancer practically unknown in all Central Africa and all primitive regions.

Captain Cook discovered the island of -----

Manzanillas

Among the population of more than 40,000, he found not a single sick person. Today there are only 2,000 left of this multitude of happy, healthy Apollos and Venuses, and they are rapidly dying off -- killed by their bad habits and bad manners, introduced to them by so-called "civilized" men and women.

Disease and degeneracy are advancing so rapidly in modern times that scientific men, generally, have abandoned all hope of civilizing the race.

They imagine that race deterioration is due to the operation of cosmic or terrestrial forces which are irresistible and cannot be turned aside in their destructive, onward march.

They point to ~~the~~ vast number of species of animals that lived upon ^{the} earth and have perished, and predict that man will perish in the same way.

This pessimistic view overlooks the fact that the race of animals and ^(?)vegetables have perished because of climatic and other great changes to which they were unable to adapt themselves.

Animals which have escaped such disturbing influences, as the oyster protected in its ocean bed, have survived.

(Talk to freshmen students)

Man is also an old-fashioned animal, and has shown his ability by outliving many species of animals, as is proven by the bones and wall sketches found in the prehistoric caves of Southern France.

Man?
The human race is deteriorated, not because of cosmic, climatic, or any other irresistable influences, but because of his neglect to apply his intelligence, and to exercise his will in the direction of health and physical betterment, and the efficiency of the race in a thorough-going manner.

We have knowledge enough, but, as a nation, we do not use it.

Illustrate the value of known facts.

The value of exercise.

The training of athletes.

Sunshine and fresh air.

Influence of diet.

Tobacco

Coffee

Agencies increasing the use of these bad habits.

The world is ignorant and needs enlightenment.

The only hope of the world is through education.

Teachers are the world's last hope.

Fathers and mothers have laid down on their job.

Preachers have become entertainers.

The school is the means by which the rising generation may be so informed that it may, through biologic living, improve upon the last generation.

The aim of BATTLE CREEK COLLEGE is to set an example in perfection - a model in rational education, in which the same emphasis is placed upon health betterment as upon various forms of culture, mental and moral, to which educational institutions usually give attention.

Every teacher, every student, must be interested - not only occasionally, once or twice a week or once or twice a day, but every hour, all the time.

BEGIN NOW.

Posture.

Diet.

Sunshine.

Exercise.

Sleeping.

Elimination.

Slides (?)

(Memo for talk at the College, Oct. 30, 11:00 a.m.)

HEALTH AIMS IN PHYSICAL EDUCATION

Not simply to make strong muscles, but to make a normal, symmetrical, efficient, healthy body.

Mere muscular strength inadequate aim.

Ability to perform stunts not only inadequate aim, but possibly injurious.

TRAINING IN HEALTH HABITS

Eating

Vitamins, especially vitamin B.

Polyneuritis.

Iron.

Oxygen carrier.

Use of oxygen in exercise.

Lime.

Relation to nerves and muscle tone - heart action.

Acid bases.

Posture

Shadowgraphs.

Inadequacy of corrective exercises in schools.

Symmetrical Development

Charts.

Have slides of comparative table and diagrams.

Sleeping

Living in the Open

Sunshine

(Memo for College Talk)

Oct. 28, 1928.

HEALTH AIMS IN PHYSICAL EDUCATION

In physical education, too much attention is given to stunts.

Aim of exercise should be to correct asymmetry.

In beginning the use of exercise as a therapeutic measure, more than 50 years ago, I found no means of determining a patient's needs.

Invention of dynamometer.

Graphic chart.

The establishment of standards of symmetry.

Adoption by Naval Academy.

Admiral Niblack's letter.

Study of posture.

Outline charts (1890).

The importance of attention to diet.

Leonard Hill's experiment with rabbits. (Get the picture of this) —

Relation of acidosis to diet and endurance.

Aims of education should be less directed toward development of strength of the muscles and co-ordination, than to symmetry of muscular development.

Correct posture habit.

Endurance (?)

Habit is, in general, a question of psychologic rather than of muscular strength.

Anderson.

Posture of the Arab.

The Egyptian peasant woman.

SLIDES

Chart.

Comparative Table.

Diagrams.

Chart used at Naval Academy.

Shadowgraph slides.

Fisher's endurance test (1906)

Letter from Finnish trainer.

Leonard Hill's paper, with rabbits.

The great endurance of the reindeer.

Small endurance of the lion.

The Eskimo does not eat so much more protein than the ordinary man eats, but is simply eating fat in place of carbohydrates.

I am creditably informed he is conducting this experiment in the interest of the packing industry, being backed by the Chicago packers.

Franklin's story of real men.

(HEALTH AIMS IN PHYSICAL EDUCATION)

Physical education should aim at training the whole man -
not simply his muscles and his nerves.

The human race is decaying.

The only hope of stopping race education is through education.

The teacher is the only hope.

The physical director has the greatest opportunity of any.

Ordinary physical exercises train the muscles and nerves and,
to a certain extent, the brain; but health training goes farther.
It involves training of the skin, the establishment of correct bodily
habits, eating, drinking, waste disposal, sleep,- all that pertains
to healthy bodily functioning.

The importance of thorough chewing.

Fletcher's experience.

Heart's experience.

Eating reflex.

Refuse disposal.

M

GOVERNMENT

A democracy in which there will be government "of the people, by the people and for the people," is an impossibility because of the low average mentality.

No one would consider a boy of thirteen capable of organizing or administering an efficient government.

The draft examinations during the World War showed the average mentality in America to be that of thirteen years. This means that the mentality of the majority is less than that of twelve year old boys.

A true democratic government under such circumstances would be a tyranny of an inferior majority over a superior minority, a condition much less -----than that of the tyranny of a dictator or an absolute monarchy.

A one-man tyrant is easily gotten rid of, but a condition of an oppressed minority might be hopeless.

When riding once in Russia with a young Russian, the latter suddenly heaved a great sigh. When I asked him the cause, he replied,

"Alas, alas! our first man is so young!"

He was distressed that he must wait so long for the czar to die. He did not dare to speak his name for fear he might be overheard by a spy, arrested, and sent to Siberia. In less than ten years, the young ruler had disappeared.

Apparently, the only way for a democracy to be ruled successfully, is for a guild consisting of men competent to rule to seize the reins of

government and hold it by strategy, an important feature of which is to keep the people fooled with the idea that the government is being conducted by themselves, for themselves; whereas, in truth, they are being made the tools of professional politicians, so-called "party leaders."

Party or partisan government has long been recognized as the current method in this country.

The party that can capture the largest number of moron votes, gets the job of government, and pays for the privilege of ruling by distributing fat jobs to its henchmen.

I doubt if there is such a thing in the world to-day as a true democracy or a thoroughly honest government.

November 8, 1928

MEMO

Within the last 50 years, the practice of medicine has undergone a remarkable revolution, and evolution as well. Fifty years ago, medical practice was almost purely empirical. The attempts of such able writers as Headland and Rington(?) to revolutionize the materia medica, while wholly futile, were evidently prompted by a desire to find a scientific basis for their teaching. The marvelous discoveries by tireless workers in laboratories devoted to physiologic and nutrition research have created a real science of therapeutics, so that the practitioner who wishes to do so may abandon methods which the late Professor Willard Parker, of New York, declared "made every dose a blind experiment on the vitality of the patient, and accepting physiology as his guide, may aim his therapeutic artillery with scientific accuracy."

While this new scientific therapeutics has not eliminated or discarded drugs, it has greatly eliminated their use and radically changed the methods of their employment. No educated man today believes that drugs cure disease. The same is equally true with reference to baths, diet, electrical appliances and therapeutic measures of all sorts. The body heals itself? The same subtle forces which develop the body from an embryo to an adult battles for the defense of the body against life and health with which we are constantly surrounded, and repairs the damages inflicted by accident and disease. The learned medical men of

MEMO

ancient Rome recognized this principle, and named it vis medicatrix naturae. During the midnight darkness of the Middle Ages, this great truth was forgotten. But modern medical discovery has made it the guiding star of the scientific practitioner. As _____, the great pupil of _____, said, "Nature creates and maintains, therefore she must be able to heal."

The scientific practitioner seeks first to find the nature and extent of the departure from physiologic conditions; then, second, to ascertain what nature is endeavoring to do to remedy the morbid condition present; and third, to apply to the case such measures as may on rational grounds be expected to aid nature in her beneficent work.

May 27, 1939

When I went to Hastings to teach that school, I had had ^{not} a chance to study algebra more than six weeks. Although the rural schools did not attempt to teach anything higher than intermediate, they put it into my contract that I should teach the high school studies, so that the older scholars could attend school nearby. This added immensely to my work, but I agreed to it, although I had never finished the higher arithmetic. So I had to study hard, and I kept a week of them all the time. I taught for three months. I received \$30.00 a month. Had forty classes a day. I taught before school time, during intermission, and both recesses. I taught the A,B,C's to one boy.

When I came to go to Normal School, they didn't want to let me in, as I got there just three months before the end of the year.

Nov. 4, 1928

MEMO

During the first year of the Battle Creek College,
Dr. Kellogg taught logic and physiology.

Dr. Russell was at the Health Reform Institute during the first year after Dr. Kellogg came.

There were no private nurses.

Two rooms in the bathroom were used for water treatments. The water was heated by a coil connected with a stove in one of the rooms. The water came from a windmill. Treatments depended upon the wind. When the wind was strong, many water treatments were given. The kind depended upon the water. Full baths were prescribed one day--sitz baths another, perhaps.

Sprays were given by a hand pump, and hose like garden hose was used.

The same bathroom was used for men and women--the women using it in the forenoon and the men in the afternoon.

MEMO

Photophores and various local appliances.

Dr. Gebhart. Sanitas Company.

Emperor William, King Edward, King Oscar of Sweden.

Bath known in Germany as Kelloggschen Licht Bade.

(See How to Have Good Health, page 36).

Episode with Kny-Scherer Company.

Judge_____ recently (1928) wrote me from Sebastopol, Russia, that he found the electric light bath in use there, and it was known as my bath.

therapeutic value of
The first discovery of the penetrating heat.

Later, discovery by a German nutrition expert (See Sonne's book on infra-red rays.

Intensive method of applying heat with water and light rays.

Posture studies.

Outlines. Outline charts.

Shadowgraphs.

Brussels paper.

Paper read at Washington on "Physical Education."

Massage and Mechanotherapy.

Vibrotherapy.

Dietetics.

Graham's work.

Development of nut products.

Bran products.

Efforts to improve and render practical a non-flesh dietary.

Mrs. Kellogg's cooperation.

Mrs. Henderson's contri-
tions.

--3--

Development of Battle Creek College.

Work in Chicago (1893).

Work in Mexico.

The first training school for nurses.

The Haskell Home. Mrs. Haskell's gifts.

Christian Help Bands.

Race Betterment Foundation. Three R. B. Conferences.

State Board of Health work.

Erection of first building.

Spread of the Sanitarium Idea in this country and in Europe
through personal efforts.

Medical College.

Fire of 1902.

Erection of new building.

Financial experiences.

Development of Florida Sanitarium.

Peculiar psychologic experiences.

Stephansson.

Posture paper.

Dynamometer paper.

MEMO

Development of the Sanitarium Idea

Efforts to rationalize physiotherapy.

Persecutions by Calhoun Medical Society.

Supported by Dr. H. B. Baker--Foster Pratt.

Victory.

Work with Dr. George M. Beard. (Dana's sketch of him).

E. G. Janeway.

Austin Flint.

The Health Reform Institute.

Hydrotherapy.

Priessnitz.

European water-cures. American water-cures.

Empirical hydrotherapy.

Pioneering rational hydrotherapy.

The bath tub calorimeter.

Experimental laboratory.

Elaboration of hydriatic methods.

Gradation of cold.

Hydriatic ladder. Hydriatic technique.

Visit to Winternitz (See Hydrotherapy).

Letter from Winternitz.

Percussion douche.

Electricity.

Sinusoidal current (1884). Look up paper for the A. M. A.

Light therapeutics.

The sun bath. Used in 1877.

Sun baths in old main building.

RESULTS OF TREATMENT IN TEN THOUSAND CASES
OF HIGH BLOOD PRESSURE

Rest --fresh air cure.

Diet - bowel action - tablets - acid base

Exercise - automatic

Hydrotherapy - bubble bath - sinusoidal, etc., metabolism.

Light therapy - Cuts (outdoor
(indoor

Resume of cases.

Set clerks at work at once.

Cards

Date

Name

Address

Age

Pressure

(Systolic
(Arrival (Diastolic

(Departure (Systolic
(Diastolic

If fall of 20 mm or more

details of case on card.

SUMMARIZE

Look about

Gastric analysis 100,000 cases

Get averages of

Free HCl also Bile and bacteria

Total acidity Achylia

Total Chlorides.

Classify by major maladies.

Include studies of salivary and gastric starch digestion.

Note cases of 0 HCl which later developed pernicious anemia.

Correlate with gall bladder cases
ulcer "
other diseases

SUMMARY OF STOOLS EXAMINATIONS

Welch's

Putrificous

Butyric

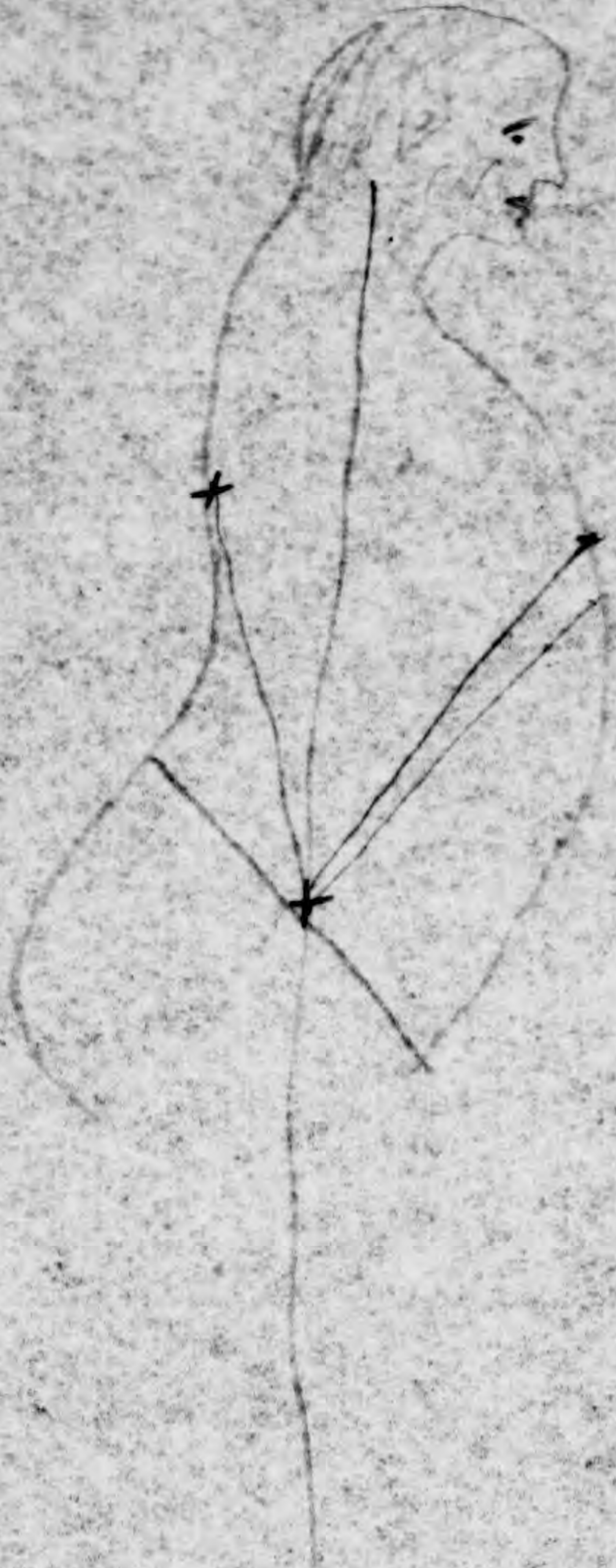
Parasites, etc.

STRENGTH TESTS

Summary of 100,000 tests.

Weak spots in men

Weak spots in women.



5

P O or

C R or

H A

Post. A

Ant. A

Write a paper summarizing examinations.

RESULTS OF TREATMENT IN TEN THOUSAND CASES
OF HIGH BLOOD PRESSURE

Rest --fresh air cure.

Diet - bowel action - ~~tablets~~ - acid base

Exercise - automatic

Hydrotherapy - bubble bath - sinusoidal, etc., metabolism.

Light therapy - Cuts (outdoor
(indoor

Resumé of cases.

54

Set clerks at work at once.

Cards

Date

Name

Address

Age

Pressure

(Arrival (Systolic
(Diastolic

(Departure (Systolic
(Diastolic

.If fall of 20 mm or more

details of case on card.

SUMMARY OF STOOLS EXAMINATIONS

Welch's

Putrificus

Butyric

Parasites, etc.

NOTES FROM "THEY TOLD BARRON"

p. xxxi

In numerous bouts with illnesses born of overwork and overweight, C. W. B. had a habit of running off to Battle Creek Sanitarium, where he and Dr. Kellogg understood one another. Dr. Kellogg would scold the patient on his dietary lapses and then patiently whittle C. W. B. down toward an ideal 250 pounds. Before most of his European trips Mr. Barron would go into training at Battle Creek. With Kellogg's aid he expected to live beyond one hundred. Consequently, in September, 1928, at only seventy-three, C. W. B. probably set out for his training-ground without realizing that he was under sentence of death.

There on October 2, 1928, he died of pneumonia. Whenever he emerged from the coma into which he had fallen, he would inquire of his hovering secretary, "What's the news?" The news had been ever on his mind through a busy life, and it was on his mind to the last flicker of his dying intelligence. A news man to the end.

p. 175

Sanitarium, Battle Creek, Mich., February 1, 1923. Dr. John Harvey Kellogg said:

"You are short-breathed and your lips are blue and you must take time to pull the fat away from your heart or you will find yourself still further pinched in. You should have 350 to 400 cubic inches for expansion of breath in your lungs." (On test found it 200.)

p. 231

Battle Creek, Mich., October 31, 1924. Dr. Kellogg¹⁶ said:

"You must get down to 250. The record shows that every fat man is predestined to be a diabetic. Avoid candies as you would poison. You can live on dates, nuts, and apples."

p. 258

(At a luncheon at the White House) "We spoke of fresh figs, and I mentioned the fresh figs and persimmons I gave the Queen (Marie of Rumania), and her Thanksgiving dinner on the Berengaria with me. The President was much amused at the maid at Battle Creek telling Senator Butler's daughter, Mrs. Ellis, that Mr. Barron was going abroad, and on his own boat, the "Barrongaria."

At the luncheon, which was of soup, delicious scallops, tender broiled chicken, delicious New England apple pie and coffee and hot milk especially made for me, Mr. Stearns invoked the Divine blessing.

p. 289

C. W. B. loved Battle Creek, but not too much of it at a time. Chicago, within easy distance of the Sanitarium, frequently lured him away. There he met men of affairs, talked cosily with Architect Graham, and perhaps broke the rigid training which Dr. Kellogg enforced at the Sanitarium, which is one of these meatless, tobaccoless, alcoholless, bridgeless places where all hands concentrate on health.

¹⁶ Dr. John H. Kellogg, director Battle Creek Sanitarium, Born, Tyrone, Mich., 1852.

p. 345

Paris, March 26, 1923.

At six-thirty Bunau-Varilla's motor left me at 53 Ave. Hoche and after five minutes in the drawing-room of Sir Basil Zaharoff⁴².....

I told him that we all over-ate. I told him also of Kellogg⁴³ and Battle Creek, and he expressed several times admiration for my eyes and color and my abundant health and kept tapping on wood, saying, "It costs nothing to tap wood."

p. 346

He wanted to know about Battle Creek and how much water I drank. I told him many quarts a day and that I kept my health by drinking water, especially charged water like Perrier, and told him about my digestion and the effect of water, and that Battle Creek was the only place where you could lose weight and increase your strength at the same time. And that they believed in water and not in meat, fish, coffee, tea, wines or tobacco. He said I was in wonderful health, when I told him I weighed over 300 pounds, etc.

349

Hardly had he completed his canvass (for funds for Clarke Institute) of the wealthier resorters on the Maine coast, than C. W. B. knew he was in for another wrestle at Battle Creek. There he hurried in September. The reader will find Dr. Kellogg cheering him with a prospect of continued activity; but for this

43 Dr. John H. Kellogg, founder and head of Battle Creek Sanitorium.
42 Qui Etes-Vous? lists four French residences for Sir Basil, and says he was born at Mongla, Turkey, in 1849.

great journalist the bell had struck "Thirty." He died October 2, 1928.

p. 361

Sanitarium, Battle Creek, Mich., September 26, 1928. Dr. John H. Kellogg says:

"They only offered us the Royal Palm site at \$1 and free taxes for five years. It isn't large enough and is noisy. I can tell you confidentially we are leaning toward Clearwater, which is within twenty miles of the largest population in Florida in a given area. The bluff is seventy-five feet high, on a beautiful sandy beach. We can have the land and beach and \$5,000,000 besides. The location is within twenty miles of Tampa and St. Petersburg.

"The Battle Creek Sanitarium should have the right to name the trustee holding the property, because we must protect the Battle Creek name. Some General Motors people with plenty of millions are behind the Clearwater development.

"I hear Postum paid \$40,000,000 for Maxwell Coffee. Bowman told me this. I do not think he has a dollar in Miami Biltmore at Coral Gables. He was paid \$100,000 a year to give his name and management to it. I understand the hotel is for sale for \$6,000,000. I do not believe Bowman has bought it for \$3,000,000.

"The best thing they could do would be to give it to us and we could move right in and make a great development that would redeem Coral Gables. They have the outlook for golf grounds and the land and an ideal structure and situation.

"After they fool around for a few years they will prob-

ably be willing to give it to us and we shall be at liberty to take it for we will not be exclusively at Clearwater.

"I think the people will be nervous over Florida hurricanes for some time.

"I warned you years ago that diabetes, kidney trouble, or something would get you if you did not reduce weight and correct your living, and you are caught in the liver. You will feel better in a few weeks, and then your danger will be that you will forget what you have been through and what you are liable for.

"You should steadily reduce your weight to below two hundred and sixty, and with time the lower the better.

"You have had a very narrow escape and will probably never again have a full healthy liver but you have got a piece left and can build back so with care you may live fifteen or twenty years."

Editor's Note: This warning is the last of the Barron notes. Mr. Barron died at the Sanitarium, six days later, on October 2, 1928.

STRENGTH TESTS

Summary of 100,000 tests.

Weak spots in men

Weak spots in women.

Posture



Have Kerr fix
screen for his
member

See him abt

P O - wt

C R + or -

H A

Post. A

ant A

Write a paper sum-
marizing exams,

April - 1929.

WHERE IS GOD?

Oh that I knew where to find him. Isa. 40.

Almahton - 104th Psalm.

Founder of nursing.

John
JPH - last chapter.

July 17/29

New *Escheria tuba*

for ovigabon



opening on
sides or beneath

Memorandum for
HOME HANDBOOK

July 22, 1929

Research for any information about the use of kaolin in
chloera, diarrhoea and dysentery (look in the text books).
JHK has today ordered samples of "Kaylene" from the
Kaylene Co., 7 Mandeville Place, London, W.I, England.

JHK

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HOME HANDBOOK

July 22, 1929

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chloera, diarrhoea and dysentery (look in the text books).
JHK has today ordered samples of "Kaylene" from the
Kaylene Co., 7 Mandeville Place, London, W.I, England.

JHK

July 30, 1929.

Dr. Kellogg:

Miss Miller is on her vacation, so we cannot give you full data as to the papaya work. However, I am quoting from the conclusions drawn by Miss Miller in a rough draft which I find in the laboratory files.

"One gram papaya furnishes more than the daily protective dose of vitamin A - and more than is considered one unit by Sherman -- Therefore, papaya is rich in vitamin A.

"About 1 unit of vitamin B is contained in 5 grams of papaya or 91 units per pound. Both the vitamin B₁ and vitamin G content is low in the papaya.

"1 Gram papaya per day gave sufficient vitamin C for protection against scurvy and enough for continued growth, so papaya is rich in vitamin C.

"No more than a trace of vitamin D is found in papaya. To be expected, as fat content is very low."

Margery Vaughan
Nut. Lab.

July 30, 1929.

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"One gram papaya furnishes more than the daily protective dose of vitamin A - and more than is considered one unit by Sherman -- Therefore, papaya is rich in vitamin A.

"About 1 unit of vitamin B is contained in 5 grams of papaya or 91 units per pound. Both the vitamin B₂ and vitamin G content is low in the papaya.

"1 Gram papaya per day gave sufficient vitamin C for protection against scurvy and enough for continued growth, so papaya is rich in vitamin C.

"No more than a trace of vitamin D is found in papaya. To be expected, as fat content is very low."

Margery Vaughan
Nut. Lab -

8-18-29

HYGOS

A HEALTH GUM

FOR FOUL BREATH, PYORRHEA / INDIGESTION

AND CONSTIPATION

Try first 2,000 each of peppermint and orange.

HYGOS

A BIOLOGIC, DRUGLESS METHOD

OF MOUTH HYGIENE

STOPS DECAY AND CURES PYORRHEA

and
Pyorrhæa, dental decay, ~~disease of tonsils, and other mouth disorders,~~
are due to infection. The one efficient remedy is "change of flora" of the
mouth. Nature fights germs with germs, -displacing noisome disease germs
with harmless and friendly ones. Hygos removes film, stops decay, cures pyorrhæa,
and keeps the mouth sweet.

Hygos contains no chemicals. It is simply food of a sort that will
encourage the growth of the friendly germs which alone can successfully combat
the disease germs which cause pyorrhæa and other mouth infections.

HOW TO USE HYGOS

Place in the mouth half a dozen tablets. Allow to soften and rub the pasty mass against the gums with the tongue or the finger. Rub the teeth with cotton or Hygos paper. Rinse the mouth. Do this night and morning.

Keep a supply of tablets close by and put one or two in the mouth to dissolve slowly every hour or two during the day.

Memo for J.H.K.

September 1, 1929

You may be interested in seeing the long list of patients from far away lands who are with us at this time. Many of them, as you will, note, are Spanish speaking people. It seems that a special party for them would be quite fitting at this time. These are all patients. Several others are here as guests.

Matias Alonso	Havana	
Rafel Carvajal	Havana	Law student
Juan A Molinari	Montevideo	Manufacturer
Dr Molinari	"	Physician
Dr & Mrs Benito Vieta More	Havana	Dentist
Jose A Poventud	Porto Rico & N.Y.	Lawyer
Mario Pando Ruiz	Havana	Student
Robt Salmon	Havana	Real Estate
Mr & Mrs Matias Alonso	"	Piano Teacher
Miss Marie Gaubaud	Guatemala City	
Miss America Pando	Remedios, Cuba	
Jose M. Fantanzzì	Porto Rico	
E. Torreblanca	Mexico City.	

Percival R. Bakeman	Hangchow, China	Missionary
Mr & Mrs Martin L. Dolber	Narsaravupet, S. India	
Mrs Eleanor Johnston	London, England	
Mrs Elizabeth Walker	London, England	
Miss Orr	Paris, France	
Mrs Jessie Rea	Hawaii	
Mr & Mrs Jose A Emiliani	Barranquilla, Atlantico.	
Mr Zebina F. Griffin	Formerly of Belasore, India.	Missionary

Leta Browning

HHB

Myofascitis from an Orthopedic Standpoint.

~~by~~ **Fred H. Albee, M.D., J.A.M.A., Nov. 3, 1929.**

~~by~~ , p. 1367. "The work of Kellogg at the Battle Creek Sanitarium has taught us much regarding the relation of diet and the action of the colon, and the influence of the colon on health."

Dec. 23, 1929

MEMO

Wu Ting Fang's visit to the Sanitarium was written up for Good Health. Doctor met him in Washington about 1894.

The Assistant-Postmaster General had a big dinner for him. Mrs. Henderson was there and told him about the Sanitarium. Some years later, he came to the Sanitarium and stayed a week. We cured him up.

Wu Ting Fang sent me a message from his death-bed.

Diet 395 - 1400

The diet of the Roman peasants consisted mostly of porridge, coarse brown bread - usually rye - vegetables, cheese and apples. They had no meat except once in a while a little pork or the entrails and heads of beasts killed for the nobles on feast days.

The peasants drank water and beer, while the nobles drank wine.

They were practically vegetarian and evidently the diet agreed with the, because they are pictured as a large, strong people, and they did all the work for society.

The monks in the monasteries were vegetarian, the vegetables of the time consisting of onions, lentils, garlic, cabbage, beets, carrots, artichokes, beans, peas, turnips, lettuce and parsley. They did not have the potato or tomato during Medieval times.

The bread used by the monks was often twice baked, and it was the same kind that was used in provisioning a castle against a siege.

• The monks had their own brew houses and were noted for their wonderful wines, especially the Burgundians.

(There are interesting notes about dress in this folio)

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(Serfs)

- 2 -

During the thirteenth century, nut trees, beans, peas, cabbage, water cress, and hops were raised; later, pumpkins, turnips and carrots.

The cereals raised were wheat, rye, barley and oats. The wheat and rye were sometimes ground and made into a sort of bread, described as tough and black and just a little better than shoe leather.

Fruits, especially apples and grapes were known and wine was made, especially in France. Wild fruits were eaten when available. Wild game was also eaten, but the nobles for the most part prohibited or tried to prohibit hunting by the serf.

(Interesting notes about clothing follow).

Langlands Piers Plowman gives this description of a peasant :

"I have no penny pullets for to buy nor either geese or pigs, but two green cheeses, a few curds and cream and an oaten cake and two loaves of beans and bran baked for my children. I have no salt bacon nor no cooked meat callops for to make, but I have parsley and leeks and many cabbage plants and a cow and a calf and a cart mare to draw a-field the dung while the drouth lasteth, and by this livelihood we must all live till Lammas-tide (August)."

The Irish potato, tomato and Indian maize were unknown in Medieval times.

Meat was a staple of diet during the middle ages, but it was probably eaten a great deal more among the higher classes than among the peasants. A writer of the eleventh century describing the peasants of Ireland, remarks about their excellent health, and ascribes it to the fact that they lived a pastoral life and subsisted upon milk rather than meat.

Salt was scarce and little used. As a consequence meat was poorly preserved and much sickness resulted. Scurvy and other skin diseases were common, and were often confused with leprosy.

Sugar was almost unknown, and honey was used for sweetening. Bees were kept by all classes.

Milk, butter and cheese were also articles of diet. Cheese was often made of ewes' milk as well as from that of cow's.

The peasant took little pains to raise fresh vegetables, but raised a variety of medicinal herbs. This was particularly true up to the twelfth century.

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(From Medieval Diet and Dress, prepared by Agnes Andersen), 1929.

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