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LIFE & HEALTH

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MARCH, 1917

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Photo by S. M. Harlan

THE EVENING HOUR

EDITORIAL

THE DAILY PROGRAM

HE who looks to future accomplishments, neglecting the opportunities and possibilities of today, will some day most certainly meet a sad disappointment. More clearly perhaps than any other truth, are we taught that we live but a day at a time, that we have no assurance of tomorrow, and that only as we improve the opportunities of today do we forecast success for the future.

Reason as we will in regard to physical or intellectual advancement, or in reference to spiritual attainment, our progress is noted by the record of our lives day by day. He who neglects nutrition today, will reap weakness tomorrow. He who idles the moments or stores his mind with trashy literature today, has secured no intellectual attainment for tomorrow. He who disregards the laws of his being or the laws of his Maker today, will find as a result, notwithstanding certain desired ideals, that he reaps discouragement in his lack of attainment on the morrow.

Men who have risen to great prominence have recognized the principle of getting out of each day the maximum of attainment. Therefore it may be truly said that our lives consist of what we do today. All that has been written and spoken in reference to the possibilities of development or attainment, should stimulate a reform in efforts for such attainment today. Even the Saviour, who was numbered among the poorest of earth, in his brief prayer, with each word carefully chosen, said, "Give us *this day* our *daily* bread." He did not request a bountiful supply for the year to come, but improved the opportunities of the day, and depended upon success in the future, and the assurance of such success, by what he was able to attain each day. Therefore, since so much depends upon the present, and as the twenty-four-hour period is recognized as the smallest unit of accomplishment, there should be a carefully regulated program, by which every hour of time may be occupied in the attainment of the maximum of physical, mental, moral, and spiritual progress.

We recognize a sound body as an essential for a good mind, and that the healthier the organism, the greater inclination there will naturally be toward right moral and spiritual standards. While malnutrition, poor hygiene, and bad environment may not be the sole cause of acts of vice, crime, and moral weakness, yet these weakened physical conditions do serve to further the end of these unnatural cravings. We would therefore say to those aiming at high ideals and great intellectual attainment, First of all, be assured of a sound body, a healthy organism.

Chief among the essentials for health, is the provision for proper nutrition, which includes food, air, water, good exercise, suitable and comfortable clothing, sanitary housing, and a liberal supply of time for rest and sleep. There should also be the proper rotation of these various measures, as well as a suitable portion of time allotted for each. The neglect of these hygienic measures in con-

nection with the daily program, often results in the individual's contracting some infectious disease. Without minimizing the wonderful value of vaccines and serums in producing immunity against their respective contagious and infectious diseases, we must recognize that the most dependable type of immunity is that which builds up a physique so strong and hearty that an immunity is produced not only against infectious and contagious maladies, but against aches, pains, fatigue, worry, and depression.

Particularly should no portion of the daily program be occupied in worry. Worry, in almost one hundred per cent of the cases, is the result of the individual's recognition of his limited ability to deal with the duties and the situation confronting him at the present hour. The individual who has strength to meet his obligations today, is confident that he can successfully handle the problems of the future. Better tell the man and woman to regulate their daily program so as to provide for better nutrition and more exercise, and to take other necessary hygienic precautions, than to tell them simply, "Don't worry." Worry is always a sign of weakness.

Among the duties of the day one can very readily, by having habitually followed a daily program, segregate the hard problems from those of general routine, and push, during the early part of the day, when the bodily strength and vigor is at its highest, the accomplishment of the major problems in connection with the day's duties. Guided by a program, it will be found that one can work to a purpose. He can mark accomplishments, and thus pass from one problem to the next, solving each in its turn, and with the sense of encouragement that comes from definite accomplishment.

No work seems so very difficult when it is in process of doing. It is the problems that he does not get at because of a lack of system that stagger the professional or business man. He who learns to improve today by counting his enjoyments as accomplishments of today, his labors as duties of today, his successes as a result of his industry of today, will be found to be a man among men, one whose life is continually crowned with accomplishments, and with a fortune in the line in which he has put forth his efforts.

When we realize that more failures are due to the shiftless manner in which time is frittered away each day, while one is dreaming about the fortunes of the future, we shall much sooner come to recognize that for success in our personal experience, for success in the home life, for success in the community life, our supreme effort must be to plan for today as if it were our last. Then, perhaps, our greatest ideals and accomplishments may be realized.

Harry W. Miller

SYMPOSIUM: THE DAILY PROGRAM

EFFICIENT USE OF TIME

G. H. HEALD, M. D.

THE one priceless gift dealt out to all men equally and impartially is time. What comes without effort is liable to be squandered without thought. Time is so free that many are lavish in its expenditure. Does time hang so heavily on my hands that I feel the need of indulging in various *pastimes*? My neighbor cherishes those quarter hours spurned by me, and utilizes every moment to increase his efficiency as an artist, as a musician, as a writer, as a financier, or he uses it in the service of his fellow men.

Because, when his fellows a generation or so ago were "passing the time" in one or another diversion, "John D." treasured his moments and put them to good use, he now has possessions with which he could almost finance a war or pay off a national debt. Is he an exception? There are scores, hundreds, thousands, of men and women who are what they are as financiers, as statesmen, as musicians, as artists, as writers, as soul-savers, as workers for their fellow men, because in years gone by they treasured the spare moments.

Have you some great ambition, some dream of a worthy future which you crave, but which seems entirely beyond your capacity? Is there in your heart a longing to do something or to be something worth while, something that appears to be beyond the possibility of attainment? That longing, let me suggest to you, is a prophecy of your future, provided you give up daydreaming, and make faithful use of your spare time in the accomplishment of your purpose.

This is true even when the purpose is entirely selfish and unworthy. It is more true when the purpose is, under God, to accomplish a large work in the salvation of souls. I would not dare to place a limit on what an awakened soul, by

prayer and the careful utilization of his time, might accomplish.

Does this seem an exaggeration? Its proof is in the fact that those who stand in the forefront, who are doing the things worth while, who are the accepted leaders in various activities, are precisely those who, ten, fifteen, or twenty years ago, were plodding in comparative obscurity, working eight or ten hours a day for a moderate wage, but utilizing that spare five minutes while waiting for dinner, that half hour while riding in the trolley, that other odd morsel of time which otherwise might go to gossip or be lost in daydreaming. It is remarkable how much can be accomplished by the utilization of odd moments. A language has been mastered by the diligent improvement of five minutes a day.

But there must be a purpose and a plan. Hit-or-miss effort—reading a little here, skimming a little there, "browsing" around libraries, looking over a multitude of books and mastering none—accomplishes nothing. There is no surer way than this to deceive oneself. One may appear to be hard at work poring over a book, while the mind is woolgathering with every conceivable fancy. Many a voracious reader drinks in books and magazines by the score, to have all the mental impressions disappear, as footprints on the beach are effaced by the incoming wave.

To get value from his time, one must have a definite aim, and must plan to use his spare time to the furtherance of that aim. This does not mean that one should neglect recreation, relaxation, physical exercise, and the like. To make the most of self, one should devote some time (daily if possible) to each of these activities. Perhaps the reader wonders in dismay when he can find time to devote to Bible study, to relaxation, recre-

ation, physical exercise, the toilet, meals, sleep, etc., and leave any time for home duties and self-improvement. The reply is that some of the busiest people, whose regular occupations would seem sufficient to keep two or three persons busy, have time for the several activities mentioned. And it is the variety afforded by these diverse activities that prevents staling on the job.

But in order to be assured of sufficient time for each proposed activity, it is necessary to plan the day or the week beforehand, assigning to each five-minute period, say, its duty. In order to do this intelligently and profitably, one must know exactly how much time is required for each operation. For instance, one may by experience assign, say thirty minutes, to the toilet, bathing, dressing, etc. Later, by studying methods and eliminating unnecessary movements, he may succeed in reducing the operation to twenty minutes. This, then, should be the standard time allowed for toilet in making out his daily schedule. Whether it be the furnace

fire, or garden work, or getting breakfast, or washing dishes, or some other task, the time necessary to do it right, *and no more*, should be assigned.

If one thus schedules his time, allowing only sufficient to perform each duty well, he will find that after allowing for all his present duties he still has some unoccupied time which can be used in self-improvement. No one who has not been planning his time methodically can adopt the method without effecting a saving.

As one thus systematizes his time, he becomes aware that he has time to spare that under his former practice would have been wasted. The new method has practically created, so far as the individual is concerned, some time that otherwise would not have existed. The manner in which this time, thus rescued from total loss, is utilized, will determine largely the future of the individual — whether he will continue to be a plodder, working in a rut, or a growing individual, achieving day by day his purpose in life.



BRONZE MOTIF, GRAND PALAIS, PARIS

PHYSICAL EXERCISE IN THE DAILY PROGRAM

J. W. HOPKINS, M. D., CHIEF PHYSICIAN, WASHINGTON (D. C.) SANITARIUM

OF all exercises for daily practice, walking is the most valuable. Walking is beneficial, not alone for its general effects on the body, but because it calls the lungs and heart into vigorous action, and especially trains the former to a deep filling, which becomes habitual. Walking is of much more value if taken with the body in the correct position. This position can be gained and maintained by carrying a stick, umbrella, or cane grasped with both hands and resting across the shoulders, or behind the back and in front of the elbows. This brings the shoulders well back and the chest up.

Another plan worthy of trial is that of counting the steps which are taken during one filling of the lungs, and also the steps taken while exhaling. By paying careful attention to this method of training, one can educate himself to take five to twenty steps while filling the lungs, and as many while the lungs are being emptied. This will prove to be a very valuable measure to develop the lungs.

A daily course, or program, of exercise must be for some other purpose than to develop large and strong muscles. The possession of a healthy stomach and intestines, to prepare food for the body furnace and for the tissues; a well-developed and healthy pair of lungs, to carry oxygen to the blood, and to carry away the carbon dioxide and waste matter; an active liver and kidneys, to prepare and carry off other waste matter; and a strong, healthy heart, one

that forces sufficient blood through elastic arteries,—these are of greater importance than strong muscles. And above all, a mind and nervous system in tune with God, alert and dependable, capable of concentration on and of controlling the business of the moment, is the most necessary, and can be gained through systematic training. For this reason, the daily program should be carefully arranged, and should include breathing exercises, to develop the lungs; balance movements, to train and strengthen the lower limbs; shoulder exercises, to widen and develop the chest and to hold it in the correct position; front trunk and lateral trunk exercises, to strengthen the abdominal muscles and to exercise and train the abdominal viscera. The program is completed by breathing exercises and movements to slow down the heart action.

This course of exercise is best taken before breakfast, after the morning bath. It will thus aid in giving the reaction so comfortable and desirable after the bath.

To do the exercises properly, the correct standing position should be acquired and maintained. This is taken by standing with the heels, hips, shoulders, and back of the head against the door or door frame, where there is no molding. Keeping the heels and hips in this position, bend the head backward until the top of the head touches the door or wall. This will bring the shoulders about a hand's breadth forward, and lift

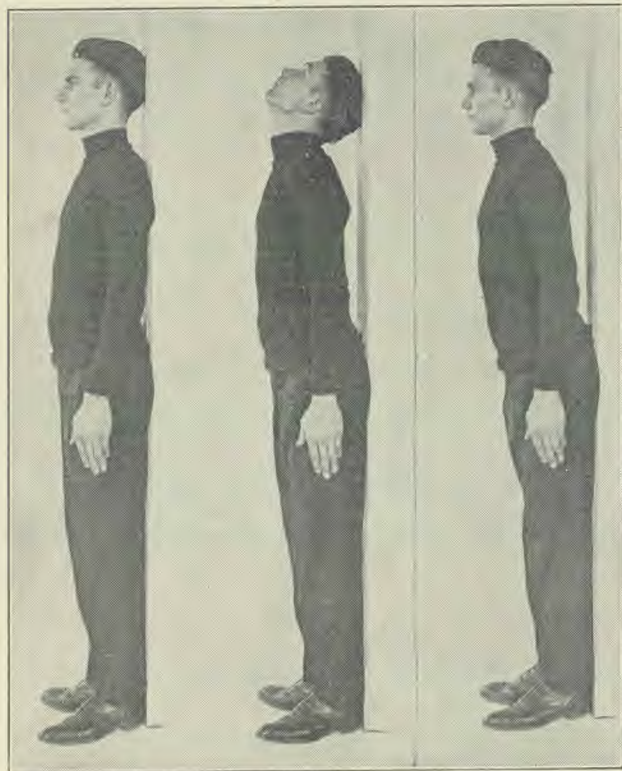


Walking on toes in place. Ex. 10.

the chest high. Now, keeping the chest forward and the body in this position,

raise the head, drawing the chin well in. Strive to maintain this position while doing the exercises, and while walking or sitting during the day.

Exercise 1: (a) Standing with heels together and the balls of the feet rotated outward, so feet are at right angles, raise arms forward and upward to vertical, with palms facing



To secure a proper standing position:—

1. Stand with heels, hips, shoulders, and back of head against the door frame.
2. With heels and hips in same position, bend head backward until top of head touches door frame.
3. Keeping chest forward and body in this position, raise head, drawing chin well in.

front. Fill the lungs during this movement. (b) Lower arms sideways to standing position, emptying the lungs. Do this from eight to fifteen times.

Exercise 2: (a) Standing with arms at sides and hands clenched, raise arms sideways to shoulder height, extending fingers, and rising high on toes. (b) Lower heels and arms, clenching hands. Repeat fifteen to thirty times.

Exercise 3: (a) Standing with hands on hips, thumbs well back, bend head well backward. (b) Raise head, drawing chin in. Inhale on (a); exhale on (b). Ten to thirty times.

Exercise 4: (a) With arms extended forward, palms down, move hands sideways at shoulder height, and bend trunk backward, inhaling as you do so. (b) Raise trunk, emptying lungs and moving hands forward to beginning position. This bending should take place in the

chest and upper part of the trunk, beginning with the neck. Do this three to ten times.

Exercise 5: (a) With arms bent, finger tips on shoulders, and elbows pressed strongly to side, extend arms upward as high as you can reach. (b) Bend arms to original position. Inhale on (a); exhale on (b). In the original position, keep hands pressed well backward, with chest and head up. Five to twenty times.

Exercise 6: (a) With hands on hips, thumbs backward, rise on toes. (b) Bend knees, separating them so that each knee is over the toes of the corresponding foot. Go well down to a squatting position. (c) Extend knees. (d) Sink heels. During (b) and (c) the heels should not touch the floor. Do this five to thirty times.

Exercise 7: (a) With arms extended forward, shoulder height, and palms down, fling arms sideways as far back as you can reach, and place left foot forward one step, or two foot-lengths. (b) Replace foot, arms coming to initial position. (c) Repeat arm-flinging, placing right foot forward. (d) Resume original position. Do this ten to twenty times.

Exercise 8: (a) Lying on back, with hands behind head and elbows pressed to the floor or bed, raise left leg upward, keeping knee straight and pointing toes upward toward the ceiling. (b) Resume initial position. Repeat this exercise five to ten times with left leg, then with right leg. This may be taken alternately, but should not be taken with both legs at the same time until the abdominal muscles have been carefully trained. Breathe deeply during the exercise.

Exercise 9: (a) With hands on hips, thumbs pressed well back, and feet separated sideways about two feet, bend trunk strongly to left. (b) Resume beginning position. (c) Bend strongly to right. (d) Resume initial position. Repeat four to

ten times to each side. This and the preceding exercise are valuable for their direct effect upon the abdominal viscera.

Exercise 10: With hands on hips, walk on toes in place, from forty to sixty steps.

Exercise 11: With arms bent as for running, run on toes in place, from ten to one hundred steps.

Exercise 12: (a) Turn head strongly to left, filling lungs as you turn head. (b) Turn head forward, exhaling. (c) Turn head strongly to right. (d) Turn head forward.

Exercise 13: (a) With hands on hips and one foot placed forward about two foot-lengths, bend body forward, keeping both knees straight, head up, and chest elevated. (b) Raise body, exhaling.

Exercise 14: Repeat breathing exercise of No. 1.



RECREATION AN ESSENTIAL TO THE BALANCED PROGRAM

L. A. HANSEN

THE properly balanced program must provide for suitable recreation. It may not be possible to do this for every day of the week, but the week should sustain a proportional balance of work and play, rest and sleep. What we have so often heard about "all work and no play" is true, not only for Jack, but for every Tom, Dick, and Harry of us, including Martha, Mary, and Jane. In other words, we all, boys and girls, men and women, need the benefits of recreation.

Too much of anything may be as bad as too little. Overworking as well as idleness is harmful. Constant wear means to wear out. Place a little different emphasis on the first syllable of the word "recreation," making the *e* long, and we have re-creation. The effect of recreation is to renew, to refresh, to build up. This conception of it will prove a good guide in determining the sort of recreation one should take and the amount.

Changing the form of one's work may give recreation, and it may not. The change may lead to further fatigue. The worker should find full recuperation from one day to another, through sleep and leisure. A variety in work will be beneficial, preventing monotony and giving stimulus and zest. At the same time caution is needed to guard against physical overstrain from too prolonged labor, even though it may be work that is enjoyed.

Not only does the body need recreation, but the mind as well. In fact, the mental relation to fatigue is perhaps more important to some people than is the question of muscular weariness. The bearing the mind has on the whole question of work and recreation is in some cases the chief thing to consider, especially with mental workers. The mental worker who confines himself to a desk, to study or writing, taking but little exercise in the open air, does himself an injury. Taxing the brain and



"The person of sedentary pursuits will benefit by exercise in the open air, even though the exercise be only that of play."

letting the other organs of the body be comparatively inactive, hurts the whole body. The mind loses its freshness and vigor, and the work done is not up to the standard it would reach if a better balance were maintained between physical and mental exercise.

The person of sedentary pursuits will benefit by exercise in the open air, even though the exercise be only that of play; but greater benefit will result from open-air employment that has a purpose and gives satisfaction because of the good accomplished.

The busy man is usually the man who thinks he cannot take the time for rec-

reation. He is just the man who needs it most, and who can best afford it. Time properly spent thus is not lost. On the contrary, it yields great gain. It will enable one to do more and better work during the legitimate working time.

While one should conscientiously observe the requirements of health in regard to securing sufficient recreation, he can at the same time in all good conscience enter into recreation with a certain amount of abandon that proves a relaxation, a let-down from the more strenuous life. It is a fact that the primary purpose and the ultimate result of



Recreation is beneficial to the young as well as to the old. In fact, the young constitution almost demands it.



The amateur would very likely find this form of recreation the hardest kind of work.

recreation are its material benefits, but this need not be kept so constantly in mind that one is put on a tension in an effort to work to the purpose and object.

Play should not be turned into work. It should not be taken so seriously that its enjoyment as play is lost. To be real recreation it must be enjoyed.

But again, recreation should not be of such a nature, because of disregard for the highest good and the truest aim, as to unfit one for the proper discharge of ordinary duties. Recreation ceases to be such when it turns to dissipation. There is such a thing as "having a good

time" that is not good at all. A high time and low living go together.

A continual round of excitement,—shows, lectures, parties, picnics, and so forth,—that fills the mind with an unnatural desire for amusement, is not good for either the body or the mind, and is destructive to the normal spiritual life as well. Such amusements—we will not call them recreation, for they do not recreate—unfit for burden bearing and self-denial.

Companionship is a factor in the true enjoyment of recreation. Games in which two or more can take part may



Indoor gymnastics require the interest of leadership and teamwork to render them attractive.

be highly beneficial. But to attain this does not make it necessary to resort to gatherings of empty frivolity, where the incentive is not so much to recuperate as it is to minister to pride of dress and self-gratification, and where the prevailing spirit is one of hilarity, trifling and foolish jesting, coarse flattery, eating, drinking, and general merrymaking. The after-effects of such are not what we are suggesting as essential to a well-balanced program.

By carrying fun into the late hours the proper balance is lost. Amusements which weaken or degrade are not included in true recreation. It is not difficult to overstep the line, as far as opportunity is concerned, and the question of what to avoid becomes about as important as that of what to include.

Reading is a good diversion for some. However, the tired, fretful housewife or the nervous, overstrained schoolgirl will get more harm than good from reading literature that is of a morbid or weakly sentimental order.

On much the same ground, moving-picture shows are largely a detriment rather than a help, as far as physical benefits are concerned. Other serious objections would need to be considered.

Dancing affords exercise and social pleasure, but has its serious objections. Certain games of contest may be good if they do not lead to an undue excitability and to too long hours.

Outdoor sports are among the best forms of recreation. Their disadvantages lie in excess and, in some sports, the unequal use of certain muscles. It would be advisable not to confine one's self to a single sport, but to supplement a game in which the legs are chiefly used with one in which the arms and other muscles are brought into play.

Indoor gymnastics, especially those known as "Swedish movements," have the advantage of graduating the exercises to meet the needs of the whole muscular system. With many people this may be the best form of exercise available.

A recreation *par excellence* is an outing to the country or some quiet place away from the usual haunts. A family picnic by the side of a stream or lake, or in a nice grove, with beautiful scenery for the eyes to feast upon and with an abundance of good food for another kind of feast, would prove a recreation to many, the benefits of which would not soon pass away or be forgotten.



TIME OF MEALS

H. W. MILLER, M. D., SUPERINTENDENT WASHINGTON (D. C.) SANITARIUM



IN the human body is illustrated practically every principle of mechanics. It represents the highest type of organization, and is the most delicately adjusted of all machines. It shows by far the greatest conservation of energy. Looking upon it as a machine, we find that one of the first principles illustrated by it, which might also be called a law, is regularity of operation. It is well known that in nine cases out of ten, where a break occurs in connection with a good machine, it comes as a result of irregularities in its operation, and that a sudden strain and excessive use do more harm in a few minutes than do weeks of ordinary wear. So we find it with the human organism. Regularity is a prerequisite of health, as it is also of utility and efficiency. There should be a fixed time for every meal. It is more important that the requirements of the body for nutrition be served at regular hours, than that regularly appointed hours be maintained by business or professional men, in order to achieve a successful career in their vocations.

A large class of dyspeptics,—the poorly nourished, and the nervous and sleepless types,—owe their conditions largely to irregular eating habits; and not a few of these cases may be easily corrected by putting them on a daily program which provides for regularity in the time of meals. Every machine can do so much work, and operate just so long a time without oil; and in the same manner the body nutriment furnishes energy and repair for a certain period of time, at the expiration of which further nutriment must be supplied.

Periods of rest and of work, and the partaking of food, should follow in regular and orderly succession. As a rule, labor should follow rest and meals, rather than precede them. This leads to the conclusion that the morning meal should be the heaviest meal of the day. With well-ordered individuals, and the

meals properly proportioned, the morning is the period for the greatest sensation of hunger. Then, the digestive system can most readily deal with a heavy meal, the nutrition of which will furnish a supply of strength for the principal duties of the day. It is true, however, in common practice, that the morning meal is the lightest meal of the day, and that ordinarily, as a result of our present-day customs, there is little appetite for it.

It is during rest that the repair of tissues largely takes place. It is also during rest that the digestive glands of the mouth, stomach, and intestines are supplied with the materials necessary to produce the proper digestive secretions to care for the following meal. We should utilize this copious and bounteous supply of digestive fluids in the morning, by partaking then of the largest meal of the day. The very presence of these digestive juices in abundance is that which to a marked degree stimulates the appetite. The labor that follows this meal, diverts the blood to muscle or brain tissue, or to such parts of the body as are used in the laborious duties; and thus for the second meal of the day there has been less blood to go to the glandular tissues of the digestive organs, and less ability on the part of these organs to handle a large meal. This is doubly true of the evening meal, which should be very light, consisting of foods that are partially predigested or very easy of digestion.

The lack of an appetite in the morning can be readily explained by the custom which places the heaviest meal of the day in the evening,—sometimes late, and in many instances just preceding the hour for retiring. The food taken late in the evening lies in the stomach during nearly the entire night, which is the period of rest and relaxation for the stomach as well as for the body as a whole. Hence the digestive glands, instead of being replenished for an early

morning meal, have been exhausted by their efforts to handle the heavy meal at night; and thus in the morning the tongue is furred, the breath is foul, and about all that is desired is a cup of hot water to wash out the mouth and stomach contents, or a cup of coffee or tea. A half day is passed before the digestive glands recover themselves, a task which they have had to do with the greater part of the circulation distributed to other organs of the body.

Increased appetite for the morning meal comes as a result of eating a very light supper, which will afford rest to the digestive system at night, when all the other tissues of the body are in a state of rest. Thus, if we would enjoy health, prevent fermentation, and gaseous distension of the abdomen, and the other common ills of dyspepsia, we will choose as the chief meal of the day the morning meal, a fairly good meal at late noon, and a very light lunch in the evening, composed of fruit, broth or soup, and other liquids. In many instances, two meals, eliminating the late evening meal, or even the late lunch, will be more conducive of good results in building up strong nutrition.

Especially to be avoided is the partaking of even a small portion of food between meals. It is only pathological conditions that require, for any adult more frequent feedings than three meals in twenty-four hours. The stomach should be entirely empty before the succeeding meal is taken.

Nature is so planned that every organ of the body may enjoy a certain period of rest at regular intervals. Even the heart, one of the busiest organs of the body, and upon which our life most vitally depends, rests five eighths of the time. Our examination of a large number of stomachs of men and women in health, as well as of those in the invalid class, shows that many stomachs get no period of rest during the twenty-four hours. They are never free from food, and must keep up the digestive process continuously. We rarely find a stomach that has more than six hours of rest dur-

ing the twenty-four; whereas, if the above plan of feeding was followed and the digestion normal, the stomach would enjoy freedom from food contents, and consequently rest, sixteen hours out of the twenty-four. We cannot but believe that this constant drag of its food contents upon the stomach is responsible for many cases of prolapse, dilation, slow digestion, ulcer, and perhaps of malignant disorders.

We should partake of no food between meals. In a healthy stomach, three to four hours are required for the completion of stomach digestion. With normal digestion, one should wake in the morning with a desire for food. After the morning toilet, he should be seated to the most bounteous and carefully cooked and prepared meal of the day. At least five hours, and better six hours, should elapse before the next meal is taken, and again four to five hours before the evening lunch, then two hours between the evening lunch and retiring.

It should not be necessary to lie down and rest after a meal in order for it to digest. If the food is properly masticated, and at least a half to three fourths of an hour spent at a meal, the juices for the digestion of the meal will be supplied very largely during the time that the food is being taken.

The whole digestive tract—mouth, stomach, and intestines—is a physiological unit. The secretion of saliva, gastric juice, and the intestinal fluids, is the result of nerve impulses transmitted to these glands with the maximum of intensity during the period of chewing, when the food is being prepared for good digestion. Following the completion of the meal, the saliva flows as abundantly as do the digestive fluids of the stomach and intestines. Hence the amount of secretion will depend upon the rest afforded these glands before the meal is taken, and the extent of their secretion upon the length of time taken and the degree of enjoyment felt at the meal.

Exercise, either mental or physical, following a meal, does not impair digestion, provided the foregoing rules of

eating are followed. The blood can be safely diverted to muscular, or mental work following the meal, if sufficient digestive fluids have been secreted during the meal for their complete digestion and assimilation.

As adequate nutrition is essential to good work, and as the lack of it has resulted in the failure of many to lead a

successful professional or business career, a recognition of the facts here related should greatly benefit those who will give careful heed to rules and laws as fixed as any to be found in the universe. Putting into practice these principles will preserve the health of those who are well, and restore many dyspeptics to normal conditions of living.

REST AND SLEEP

G. H. HEALD, M. D.



ALL through nature is a rhythm of activity and of rest. Night follows day; winter follows summer. Every living creature at some time takes a period of rest, usually based on the daily cycle of light and darkness. Some animals also take a longer rest period (hibernation), based on the yearly cycle. Rest is recuperation—a restoration of what has been lost in the wear and tear incident to activity. Even machines have a longer life of usefulness if given regular periods of rest. The heart is a most energetic organ, which pumps day and night, summer and winter, so long as life lasts. In a lifetime of fifty years it does a stupendous work, equivalent to lifting more than a million tons a foot high or one ton nearly 2,500 miles high! Such figures are beyond our conception, but any one can verify them if what the physiologists tell us is true; namely, that the heart on an average does 20,000 kilogrammeters (72 foot tons) of work per day; or only one-fifth gramme each heart beat.

Apparently the heart is a restless organ, but actually it rests about half of the time. After each beat there is a rest. It is during this rest that the heart recuperates for the next beat. There is nothing so tiring as to keep a certain set of muscles in constant contraction. Standing perfectly still is harder than walking. Holding the arm

out horizontally for a long period is much harder than sawing wood for a like period. In walking and sawing wood there are alternate contraction and rest.

In addition to the rest of individual groups of muscles, which takes place in all our activities, the body as a whole requires periods of rest. The most perfect rest and recuperation come during normal sleep. In large establishments, after the work of the day is completed and the factory employees have left, another group of workers removes waste, cleans up, repairs machines, etc., and leaves everything in order for the next day's work. During sleep a somewhat similar housekeeping process takes place in the body. It is then that the most active regeneration of the cells occurs. Wastes are removed, and the body is renewed for the next period of activity.

Sleep is one of the absolute requirements, without which life cannot long continue. One of the severest and most barbarous of punishments ever inflicted is that in which the prisoner is not allowed to go to sleep, but is kept awake for long periods. Individuals differ in their sleep requirements. One requires ten hours, another eight hours, another six hours. If one sleeps longer than his normal time, sluggishness is apt to result, but the greatest injury is liable to follow from undersleep. Few people sleep too much; many sleep too little.

In early life much more sleep is needed than later. The baby, if not disturbed, sleeps most of the twenty-four hours. Parents who disturb the baby in order to show it off to admiring visitors, are doing it a lasting injury — perhaps helping to establish a habit of insomnia that will prove a curse in later life. At any rate the loss of sleep is liable to be followed by nervous disorders.

The practice of waking a child early in the morning irrespective of how much it has slept, is unwise. But the best time for the child, as well as for the adult, to sleep soundly is in the fore part of the night. Children should be required to go to bed early, very little children even as early as six o'clock. This gives for the older members of the family more time in the evening without interruptions. The practice of keeping baby up until papa comes home, or of taking it up to see him when he arrives, is not kindness to the child.

During early school years the child should have full ten hours' sleep; twelve might be better. In later school years eight hours may be sufficient. To encroach on the sleeping time in order to cram for examinations is worse than foolish. It is mortgaging the future health for a school mark, — giving what is of priceless worth for a bauble. Whatever else the school child has, he should have ample sleep.

During adult life most persons thrive best on eight hours' sleep, though some require only seven or six. There have been noted workers who required much less than six hours' sleep daily; but this is the exception.

Often young people place a mortgage on their nervous system by devoting the sleeping hours to pleasure. The theater, the dance, the evening party, carried far into the night, makes a big cut into the time that should be reserved for sleep. Even in cases where it is not necessary to arise early the next morning, there is a loss, for physiologists have shown that the period of soundest, deepest sleep is before midnight. About four o'clock in

the morning the sleep is much lighter, and is not so recuperative.

Not only do young people attend various pleasure functions during the normal sleeping hours, but they make use of stimulant drinks — coffee, tea, and cocoa — which for the time take away all feeling of fatigue and drowsiness, and give a temporary feeling of buoyancy, freshness, and brilliancy, but which afterward leave one more or less depressed. Wakeful hours, and pleasures gained by speeding up the nervous system with caffeine, are promissory notes that must be paid later with compound interest. Every sanitarium, hospital, and asylum has its patients who owe their broken health to such early indiscretions.

Rest should recuperate all the functions of the body. The stomach needs periods of rest; and for this reason too frequent meals, and the habit of eating between meals, tend to weaken the digestive apparatus and to end in "dyspepsia."

Sleep should always bring recuperation. If one awakes unrefreshed, either he has had insufficient sleep, or it has been of poor quality — disturbed because of defective digestive processes. A late supper may spoil a night's rest. In some cases even an apple will cause intestinal gas and produce wakefulness or disturbed sleep. In many cases sleep is much better if no food is eaten for several hours before the hour for retiring. In order to give the digestive system adequate rest and to insure sound, restful sleep, it is often better to adopt the two-meal system, having the last meal, if possible, not later than four in the afternoon. There are some cases of excessive secretion, in which the patient sleeps better after partaking of a little food. And in some cases a little simple food on awaking in the night will enable one to get to sleep again.

In sleeping, as in eating, the functions of the body are more perfect if they are performed at regular periods. One who observes a regular time for retiring and a regular time for rising will be much

PRACTICAL RELIGION ESSENTIAL TO A PERFECT DAY

L. A. HANSEN

AFTER all has been said and done to make our own day a good one for health and comfort, there is a lot to be said about what we ought to do for the other man. There is much that we can do to help others have a better day, that will at the same time make our own more perfect. The perfect program will provide for practical religion as seen in unselfish interest for the welfare of our neighbor.

Doing for others reacts in fuller measure to our own good. Feeding the hungry, clothing the naked, and caring for the outcast, are some of the things that go to fill a Bible prescription for health that is the surest cure for many troubles. See Isa. 58:3-8.

Of a certain person it is recorded, "This woman was full of good works and almsdeeds which she did." The emphasis may properly be placed on the words "which she did." It is said further that at the time of her death all the widows who stood around weeping were showing the coats and garments Dorcas had made and given them. See Acts 9:36, 39. These widows felt keenly the loss of one who had given them the very clothes they were wearing.

It is what we do that counts, not what we profess. Bible religion is one of activity. It does not stop with merely not doing anything wrong; it is positive. Pure religion does not consist simply in quiet, peaceful meditation and spiritual self-culture. While it keeps itself unspotted from the world, it looks after the world's unfortunates, visiting the fatherless and widows in their affliction.

The disciple of true Christianity will seek to emulate its Founder, who "went about doing good." Genuine gospel work does not ignore the material needs of mankind. With so many struggling widows and helpless orphans who need food, fuel, and clothing, we may not rest satisfied with mere doctrinal preaching. Sick people who want help for their

physical being will not be satisfied with mere words.

The religion of the Bible does not offer only spiritual comfort. It gives promise of all the things we need. God knows we need them, and does not ask us to get along without them. The representatives of God's religion are not to minister in word and doctrine only. If a man is in need of bread, it is not sufficient to wish that he had it, and then attempt to satisfy him with spiritual food. Such food, unaccompanied by the things a man needs to relieve his hunger and keep him from starving, is not the pure article of the Bible. It does not bear the proper label, and it is useless to give that sort.

Spiritual food alone is not supposed to nourish the whole being. A hungry man can best appreciate it when he has been fed some of the food about which he knows most and for which he feels the greatest need. A bushel of empty prayers is not worth so much as that quantity of good potatoes.

To tell a man or woman who is in need of clothing or destitute of food, "Depart in peace, be ye warmed and filled," without supplying any of the things needed, is to do nothing whatever. There is no profit in that. Words, be they ever so good, do not take the place of deeds.

It is the common lot of humanity to suffer. Most people know what sorrow means. There is no cure like that of fellow sympathy. It is something that cannot be self-administered. It requires no legal practitioner. Any one who wills can be a healer when it comes to treating heartaches and broken spirits. The result will be twofold; for in giving, the giver will be blessed. It is good for us to have our chords of sympathy touched and made to vibrate.

Service to the sick should be largely one of deeds. Words of sympathy are of course generally in place, and people want them. But as a rule it is the individual who can be of material service

that is needed and wanted in the sick-room. There is no sphere of wider usefulness to the one who wants to be helpful than in the care of the sick.

Granting the need and place for the trained nurse, there is large room for the kindly, sympathetic, practical neighbor who knows how to do things. Especially is this true where the professional help cannot be secured, and particularly so when the doctor may be hard to get. The woman who has common sense in caring for minor ailments, who knows something of simple treatments, who can prepare wholesome and appetizing dishes for the invalid, is in demand. The man who can sit up with a patient without finding himself out of place or in the way, can be a neighbor that will be missed when he dies.

Heaven seems greatly interested in sick people. God's Book says much about

our duty to care for them, and tells of the Lord's readiness to heal when we comply with conditions of health. It is said of Jesus that he spent more time in healing than in preaching.

The parable of the good Samaritan who went to an injured stranger and bound up his wounds and made definite provision for his further care, is given as a divine standard of true neighborliness, and the ideal expression of love for our fellow men. Such love is also the gauge of our love to God. In fact, the quality of man's religious profession is shown not in what he declares to God, but in what he does to man. The final turn in judgment will be whether a man did or did not give food to the hungry, drink to the thirsty, clothing to the naked, hospitality to the stranger, needed care to the sick and unfortunate. Matt. 25: 31-46



WABASH VALLEY SANITARIUM



IS VEGETARIANISM BASED ON SOUND SCIENCE?

M. HELEN KEITH, assistant in Animal Nutrition, University of Illinois, attempts to answer this query in the *Scientific American Supplement*, Dec. 2, 1916, and her attempt seems to give point to the observation that laboratory experience does not make one proof against native prejudice. The article in question begins by conceding something to the vegetarian viewpoint. Asking what are the reasons for and against vegetarianism, she begins with the following paragraph in favor of a nonmeat dietary:—

"Although vegetarianism has been taken up frequently from reasons which may be called emotional, there is also much testimony as to great improvement in the physical condition of those who have adopted it. For instance, of Sarah Bernhardt it is said that she has 'demonstrated that a vegetarian diet makes one younger and more elastic, and gives a clear brain and steady nerve.' Senator La Follette says that he can do twice the work he did on the mixed diet, and his head is vastly clearer. Auguste Rodin, the sculptor, considers that his imagination works more clearly and the general tone of his production is higher. Wu Ting Fang thinks he has cured himself of many ills in this way, and he expects to be able to prolong his life to one hundred and fifty or more years by refraining from all meats."

This is all good. But notice the next statement, which is probably largely gratuitous:—

"It has been noticed that much of this testimony comes from individuals who have become overstout and needed to reduce their flesh, or from those to whom the change was made one of general regulation of habits and control of diet."

Such testimony evidently comes from persons who found they did better on a nonmeat diet than on a mixed diet. If once the point is conceded that it is possible for a few persons, or even one

person, to live in good health on a nonmeat diet, it must be conceded that such a diet supplies nutrition ample for the maintenance of health, and all the arguments against the sufficiency of such a diet lose their force.

The writer goes on to say that testimony comes from others who have found that for themselves the attempt to live on a vegetarian diet has resulted, sooner or later, in a series of ailments or an impaired nervous condition. But what about the hundreds of thousands who on a mixed diet have found themselves afflicted with a series of ailments or an impaired nervous condition? You can find them in any sanitarium or hospital in the country,—people who have lived on the mixed diet, and on it have come to invalidism. And there are many of them who returned to health on a nonmeat diet. If the writer is skeptical, she can get the proofs of this at a score or more sanitariums in this country.

Next she gives an account of some rats fed on a vegetarian diet, that did not do so well as rats fed on a mixed diet, though she admits that "this type of evidence does not go deep enough." To be convincing, the experiment should have been performed with apes, which have a digestive apparatus more nearly like that of man.

The next point considered is the importance of meat as a supply of protein, the argument being that as we do not know much yet regarding the qualities of the different proteins, it is "best to advocate a liberal supply of protein."

The next topic for consideration is the "bulkiness of a vegetable" diet. If the writer means a diet of cabbage and turnips, her contention is sound; but if she

is at all familiar with food values, she should know that it is easily possible to supply an ample protein ration without too great bulk. In some of the sanitariums, food is measured out to patients by calories, having due regard to the protein present; and these sanitarium menus do not gorge the stomachs of the patients, though they supply an amount ample to build up sound bodies. Otherwise there would be fewer cures.

Another argument is based on Rubner's findings in his nutrition laboratory in Berlin. Rubner gives the following as "the lowest amounts of protein of the different kinds, which, with an abundance of carbohydrates and fats, may suffice to keep the body from loss of protein:—

	Grams, protein
" Meat	30
Milk	31
Rice	34
Potato	38
Bean	54
Bread	76
Indian corn	102 "

It will be noted that the potato and rice have proteins that compare very favorably with the animal proteins. And this may explain why large communities live largely on potato and rice, with little or no animal food. It would be more hazardous to attempt to do so with corn bread; and that may be one reason why we have pellagra in the South. Hindhede, the Danish government nutrition expert, maintains that it is possible to live healthfully on a diet consisting essentially of potato. Because of the low percentage of protein in potato, one is apt to think that Hindhede has taken an extreme position; but he claims to have raised a daughter, in superb health, on such a diet, and when one considers the high quality of potato protein, as shown in Rubner's report, Hindhede's experience does not seem so strange.

Two more arguments have to do with the fact that the vegetable proteins are often incased in indigestible cellulose, and are thus lost to the body; and that some of the vegetable proteins are imperfect, and cannot be built up into body

protein. It is because of the imperfect proteins in wheat and corn that the proteins of these cereals are so poorly utilized in the body.

Finally, the production of such diseases as pellagra by a deficient diet is mentioned, though it is admitted that the use of beans as well as meat may prevent the onset of this disease.

Now most of these arguments are what may be termed *ad hominem*. They are arguments to encourage people to believe as they have always believed. I doubt if such arguments would be seriously made by one who had not been brought up in an atmosphere where the necessity for a meat ration is considered practically axiomatic. G. H. H.

LOWER ANIMALS AND HUMAN DISEASE

At the quarter centennial of the University of Chicago, Dr. David John Davis read a paper "On Certain Relations of the Lower Animals to Human Disease" (*Science*, Sept. 8, 1916), in which he lists a formidable array of diseases transmitted from animals to man, classified under the animals which convey the infection. The article occupies some ten pages of *Science*. We must content ourselves with brief quotations:—

"Certain reasons may be here enumerated why man is subject to at least many of the animal diseases. Man is commonly concerned in caring for sick animals, and some diseases, like glanders, are communicated in this way to veterinarians, hostlers, and teamsters. The demand of the human for animal pets and the social demands of certain types of humanity for dogs, cats, and other animals, living in intimate association with them, explain the origin of certain diseases, especially those parasitic in character. Man lives largely on meat and other animal products, many of which are uncooked or improperly cooked. Man uses animals in a variety of ways in the industries, the relations being often such as to necessitate intimate contact. . . .

"While animals play such a very important rôle in the transmission of disease to man, it is interesting to note that plants play practically no rôle whatsoever in this regard."

We must not forget, of course, poison oak, poison ivy, and poison sumac, and the weeds which transmit hay fever; but the writer has in mind, doubtless, the infectious or "germ" diseases. Nor

should we forget that the disease germs themselves are plants, or at least are more like plants than animals. But his main contention is that plants, as we understand them, do not convey the diseases which influence mortality rates; and the corollary is also true that the plant foods are safer foods for man.

G. H. H.

SYMPTOMS OF POISONING BY ILLUMINATING GAS

By the older methods, coal was distilled, and the purified gases driven off constituted the illuminating gas. But more recently it has been customary to enrich coal gas by adding a carbureted water gas. When steam is passed over carbon at high temperature, equal quantities of the inflammable gases, hydrogen and carbon monoxid, are given off. This is water gas. It is enriched by incorporating some volatile oil, to make the flame luminous, and is added to coal gas. Carbon monoxid is a very fatal product if inhaled in any considerable quantity. For this reason it is important for users of water gas to know the principal symptoms of carbon monoxid poisoning.

The action of the gas is on the hemoglobin in the red blood cells; and if there is as little as .07 to .12 per cent of carbon monoxid (7 to 12 parts in 10,000, or a cubic foot, in an ordinary room), breathing it for half an hour will render one quarter of the red blood corpuscles incapable of uniting with oxygen. In other words, the damage is equivalent to the destruction of one fourth of the blood as a carrier of oxygen. "The attack of the gas is so insidious," says an article in the *Journal A. M. A.*, Oct. 28, 1916, "that often before a person becomes aware of its pres-

ence, there exists a certain amount of mental depression, if not stupor. This is particularly the case when the gas is inhaled during sleep. Escaping gas is almost always detected by its odor when one is awake."

McCombs,¹ who has observed one thousand cases of illuminating gas poisoning, gives the following symptoms:—

First, a feeling of discomfort and a throbbing of the blood vessels, dizziness, headache, weakness, and sometimes nausea and vomiting; occasionally pains in the extremities and muscular twitchings.

Difficulty in breathing begins with a feeling of constriction around the chest. The pupils are widely dilated, and there is a gradual sinking into stupor or unconsciousness. Then the breathing becomes noisy and more rapid, the skin dusky, and the lips and extremities blue.

But this will be sufficient description of the symptoms. The important measures are to get the patient into the air, summon medical assistance, and if possible give pulmotor or lungmotor treatment, forcing oxygen into the lungs. But pending the arrival of the pulmotor, artificial respiration should be practiced.

According to McCombs, if proper treatment is resorted to before the usual signs of death, almost all patients should recover from the immediate effects of the gas, in from forty-eight to seventy-two hours. But the victim of such an experience is a long time making a complete recovery. There may be pulmonary and nervous symptoms, loss of memory, insomnia, neuralgias, and other symptoms, which, however, clear up in time, if the patient survives.

G. H. H.

¹ *American Journal Medical Science*, October, 1912.

The TEMPERANCE MOVEMENT

MAN'S WORST ENEMY — DRINK

ORISON SWETT MARDEN

The following, which appeared in the editorial columns of the *Washington Herald*, Sept. 22, 1916, is well worth reproducing. Mr. Marden has a way of saying what nearly everybody knows, in such a way that it comes as a new truth.

HOW many hundreds of times every day, at public bars in our own country, men may be heard uttering good wishes while "treating" one another with alcoholic poison! "Here's health to you!" "Success to you!" "Long life to you!" or "Good luck to you and yours!" they cry as they drain the glasses which are the beginning of ruin for so many. I sometimes wonder what the effect would be upon these often splendid young men if, instead of those rousing pledges, they were obliged to repeat what the real meaning underlying their words often turns out to be.

Instead of "Here's health to you!" "Here's success to you!" a young man should say, when he proffers his friend a convivial glass and takes one himself, "Here's death to you! Here's disgrace, failure, dishonor, a weakened body, a muddled, demoralized brain! Here's the loss of self-respect, the weakening of will, the loss of self-control, an unutterable sense of the loss of manhood. Here's an insult to your family, disgrace to yourself and to those who have believed in, loved, and helped you! Here's something, my friend, which, if you put it inside of you, will make you despise yourself; something which will marbleize your affections, harden your heart, so that you will neglect, and even be cruel to, your wife and children, now so dear to you! This enemy you are taking into your mouth will brutalize you, will make you do things you loathe. It will rob you of health, strength, ability, your good qualities, all the things that make you a man. It will bring poverty and wretchedness to your family, and will

make your children despise your memory."

How many times "one drink more" has promised a man relief from worry, sorrow, melancholy, discouragement, relief from disappointment, and all sorts of heartaches, but has always deceived him. For many years this perpetual deception has been going on, and yet he continues to trust. Every time he is blue, discouraged, disheartened, or in trouble, he resorts to this same old enemy, who has always deceived him, and has never given him anything more than a temporary release; and he pays for it all at a fearful cost of self-respect and a terrible reaction.

I know nothing so deceptive as are these stimulants, because they seem to do just what they do not do. The habitual drinker, suffering from the reaction of the stimulants, feels sure that if he drops into the saloon and gets another drink, he will give nature a boost and be himself again. He does not realize that every time he does so, nature will demand a price in lessened power; that the reaction will take more from him than he gained by the artificial stimulus; for every draft from her must be paid,—there is no ultimate cheating of nature a particle,—and he who tries to draw out of his physical bank each day more than there is in it, faces physical bankruptcy.

Whisky drinking, drug taking, and all sorts of dissipation tend to kill all that is finest, most delicate, and most exquisite and beautiful in the nature, and they tend to create abnormal appetites. They develop moral color blindness, so that the victim can no longer distinguish

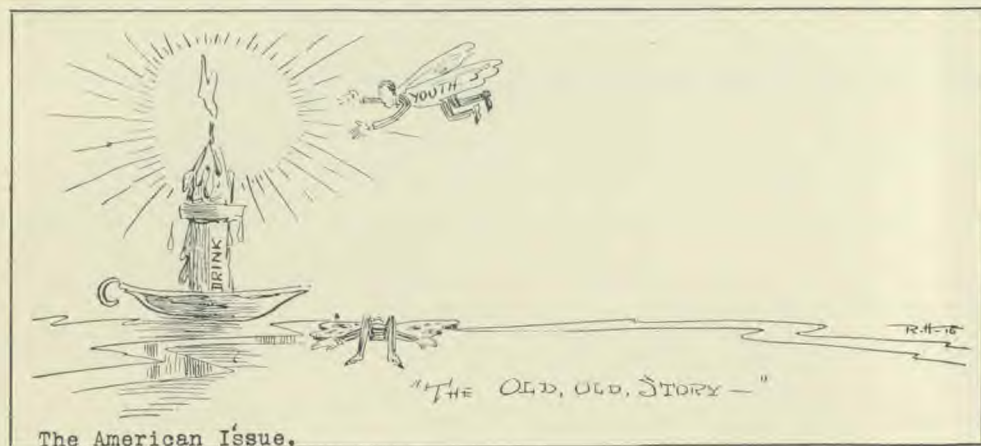
the finer shades of ethical values. They tend to deaden the finer sensibilities, to destroy the finer tastes, destroy the judgment, coarsen and harden the nature, and marbleize the affections so that men who in their early married life were extremely kind and generous to their wives and children, often become so hardened that they are utterly indifferent to their families and their needs, their necessities and comforts. They not only become so hardened, their tastes so depraved, that they have no scruples in using the money for their own dissipation which should go to their families, but they also become abusive and brutal to their wives and children.

Oh, what a picture in millions of homes, of wretchedness! Men and women, robbed of everything that is

worth while,—health, character, prospects, everything gone,—still follow that awful deceiver, whisky, the wrecker of the world's hopes, the blaster of prospects, the blighter of ambition, the destroyer of everything worth while!

How little do youths and older people realize that many of the things they consider their friends, helpful exhilarators, are their mortal enemies! How little do they dream, when they first make acquaintance with them, that their feet are fast taking hold upon hell itself!

The intoxicant that makes you feel good is your enemy. It is subtle, insidiously stealing from you that which is priceless. It is sapping your will power, undermining your ambition, killing your efficiency, blighting your self-respect. It will mar your whole career.



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For prompt attention, questions should be addressed to J. W. Hopkins, M. D., Chief Physician, Washington Sanitarium, Takoma Park, D. C.

Healing by Prayer

"If Christians pray to be healed, how are they to know that their prayer is according to the will of God? Does it show a lack of faith to make use of remedies?"

There is wonderful power in prayer, but if we might believe some of those who write on this subject, there is no reason why Christians on this earth might not be immortal simply by praying. There comes a time in the life of every person when prayer for the continuance of life and health avails not. If this were not the case, we might run the universe, instead of God.

Regarding faith and remedies, you will remember the statement that "faith, if it hath not works, is dead, being alone." A man would be foolish to pray to the Lord to give him a good crop of wheat, and not put in the seed. I think you will see the point. The Lord expects us to do our part, and he will do the rest.

In general, I think it is safe to say that drugs do not cure disease; they may do away with certain symptoms of disease, but the cause that produced the disease must be removed; and if it has gone too far, there is nothing that will produce a cure.

Cold Feet

"I should be very grateful if you would advise me what to do for cold feet caused by poor circulation. I work outdoors and suffer terribly. Woolen socks, felt boots, and over-shoes give very little help. I am strong and healthy and full blooded, but my feet are cold even in this mild weather."

If you have cold feet in mild weather, there is probably some disturbance of the control of the blood vessels, so that the blood is driven inward. I doubt whether local treatment will relieve your condition, although you might try using alternate hot and cold foot baths. Get two pails of water, one as near scalding as you can stand it, and then make it a little hotter, and the other as near to ice water as you can get it. Dip the feet well down in the hot water, and hold them as long as possible, then a brief dip into the cold; alternate this for ten

or fifteen minutes until the feet are thoroughly reddened. Finish with the cold, and give them a thorough rubbing until they are perfectly dry. Do this daily.

Is it possible that the cold comes partly from your shoes being too tight, so that the moisture cannot escape? If the feet are damp from perspiration, they are more liable to be cold than if they are dry. It may be that if you would thoroughly dry your stockings before putting them on, it would give you some relief.

Heat Attack

"About a month ago I took a very hot bath, remaining in the tub twenty minutes, in order to break a cold. The bathroom was very hot. My head throbbed and burned when I retired after the bath. Should I not have put an ice bag to my head? For a week I felt bad, and now with slight exposure to snow or wind, or while in a warm room, my face becomes red and burns terribly. I should like some advice from you.

"If I sit in a draft or get my back cold, it starts an irritation in my bronchial tubes. Does that mean I am susceptible to lung trouble?

"Are the blood vessels in the eye more prominent when one's health is bad?"

You seem to have had an attack of heat prostration, leaving you unusually sensitive to heat. Evidently there is a disarrangement of your vasomotor mechanism. The ice compress or a cold compress might have prevented your trouble. Try hot or alternate hot and cold foot baths, using at the same time a cold compress around the neck. Do this daily, and see whether you do not receive benefit after a few treatments.

Susceptibility to bronchial trouble indicates that you may be susceptible to lung trouble. From what you have stated, it appears to me that you should avoid very hot or very cold treatment to the entire body.

I suppose you refer to the blood vessels in the white of the eye. If they are congested, it is probably owing to the trouble which causes your red face and headaches, that is, the dilatation of the small blood vessels of the face,

brain membranes, and eyeballs, caused probably by that very hot treatment which you took.

Possibly the treatment I have suggested, if kept up, will remedy this trouble. It is at least worth trying.

Atomizer or Inhaler for Consumption

"Is an atomizer or inhaler of value in consumption? If so, what is recommended?"

An atomizer or inhaler may give some relief in consumption, but it probably does not remove the cause. When an atomizer is purchased, there usually comes with it a formula for preparations containing as a base either tincture of benzoin or mineral oil, and with this some of the essential oils, such as eucalyptus or wintergreen. Sometimes the formula may contain menthol or menthol and camphor. In formulas prepared for tuberculosis, creosote is also added. Whether the creosote is of any real benefit in these cases, or is simply palliative, I cannot say. I have seen some evidence that oil of peppermint, inhaled about as strong as it can be obtained, has some ameliorating effect in cases of tuberculosis. I suppose, of course, the effect is only temporary.

Sour Stomach, Constipation

"My stomach contains too much acid, according to analysis. Foods sour on my stomach, which is tender and sore most of the time. Cascara taken as a purgative disturbs it. I can eat lemons, but not apples or tomatoes or sweets. I should like some laxative that will not cause stomach trouble."

Ordinarily, excessive acidity is a condition that is not easily relieved. It may be secondary to some nervous condition, for very often we find nervous patients who have this trouble, and it is worse when they have some condition which produces worry. You may relieve your condition temporarily, when it is very bad, by the use of a little bicarbonate of soda, best taken in water. You may do better on a milk diet than on anything else, using largely of milk. What starches you use, have them very well cooked.

I know of no medicinal laxative that is better than cascara. You will find the use of mineral oil, liquid vaseline, or liquid paraffin to be excellent; they will not produce the condition resulting from cascara. Agar-agar is also excellent for this purpose.

Pyorrhea

"Has a remedy been found for pyorrhea? Will extracting the teeth cure the disease, or is it systemic?"

Some have believed that emetine is a remedy for pyorrhea; but it seems now that if it does good at all, it is only temporary, and that when pyorrhea is at all advanced, that is, when the teeth are loose, the best and most sanitary method is to have them extracted, and wear a plate.

In the early stage, pyorrhea may be cured by good dental work,—scaling the teeth and treating the gums,—but unless the dentist is one who has taken a recent course in a thorough dental college, the chances are he will be unable to do this work properly.

Extracting the teeth will cure pyorrhea. It is a fact that some persons, after having their teeth out, have better health than they had had for years. You ask, "Will extracting the teeth cure the disease, or is it systemic?" The disease originates around the teeth, but is carried all over the body. As soon as the source of the infection is remedied, the condition improves in the joints and elsewhere. It is probable that much of the so-called rheumatism is secondary to bad mouth conditions.

When the gums have become infected, one or two treatments by a dentist will not save the teeth. It will be necessary to make repeated visits at comparatively short intervals, and have the teeth properly scaled and cleaned. So long as there are deposits on the roots of the teeth, it is impossible for the gums to heal.

Cold Morning Baths

"What value is there in a cold sponge bath taken in the morning?"

A cold sponge bath in the morning is an excellent tonic, provided there is no contraindication, such as Bright's disease or high blood pressure. I should think your method of taking this bath would help to stimulate your heart and circulation.

Whole-Wheat and Graham Flour

"Where can I purchase whole-wheat and Graham flour such as is recommended in the recipes in *LIFE AND HEALTH*?"

The surest way to obtain real Graham or whole-wheat flour is to obtain it from one of the little old-fashioned stone burr mills that are still grinding in country districts. The large roller mills very seldom make a real Graham. Ordinarily they take one grade of their flour, and add certain other ingredients of the wheat, thus making an imitation of Graham which yields them the greatest profit, rather than furnishing the most desirable product.

Transportation would be an important item, and it would hardly be worth while to name some mill at a distance from you. If you can possibly find in your own vicinity one of the old mills, that is where you will get what you want.

A still more economical method is to purchase a little mill of your own, like a large coffee mill, buy your own wheat, and grind it yourself. The wheat will cost you a good deal less than the flour would.

Hypophosphites

"Kindly give me your opinion of hypophosphites in the treatment of tuberculosis."

I have little faith in hypophosphites. Leading physicians of the American Medical Association consider such preparations to be worthless.

Spastic Constipation

"How can one tell when bran or coarse vegetables should not be taken for constipation?"

In spastic constipation, when coarse foods are eaten, they increase the trouble. This would be an indication that they are not the best food to use in such a case.



CURRENT COMMENT

Bread, the Indispensable

For a long time bread was prepared from wheat flour, or corn meal with salt, and with or without other ingredients, such as fresh milk, buttermilk, molasses, etc. The wheat flour or corn meal was made by crushing the whole grain between stones, or by various other means, to the desired degree of fineness. This flour was sifted to rid it of the coarser particles of bran. Accordingly the bread contained practically all of the nutritive elements of the whole grain. During the last fifty years, however, radical changes have taken place with the evolution of new methods, most of which unfortunately have had a tendency to reduce considerably the nutritive value of bread. The causes of these changes have been many and various, but all have been more or less closely connected with the progress made in our social and economic life.

The increase in the price of labor, as well as the demand for flour or meal, brought about the invention of a device for the more economic milling of these cereals, the roller mill system, which came into use in 1878. This process made it possible to separate the several parts of the grain,—the germ, the bran, and the endosperm, or starchy part. This allowed the latter to be ground to a fine flour, which because of its whiteness appealed to the housewife as a purer product. The germ and bran were largely discarded as human food, and sold as fodder for cattle, horses, and hogs. This new flour has undoubtedly kept better than that made by the old process; the new method employed in its preparation, however, deprives it of valuable food constituents. Thus it contains less protein, fat, and ash, but what is even more important, it is markedly deficient in certain so-called accessory food substances,—the so-called vitamins which are contained in the intact kernel, the outer layers (aleurone layer), and probably in the germ. In other words, wheat flour, corn flour, hominy, and grits, minus the bran and germ, are lacking in vitamins, while whole-wheat flour and corn meal contain practically all the vitamins of the whole grain.

But with the introduction of this new flour, it developed that when mixed with salt and water and used according to the old methods, it did not yield a light bread. Housekeepers, therefore, resorted to artificial leavening by adding baking soda, or sodium bicarbonate. Bread made in this manner has under certain conditions a distinctly alkaline taste and reaction. The high temperature liberates carbon dioxide (CO_2) from the sodium bicarbonate, and the last mentioned is converted into sodium carbonate, a strong alkali. This change causes the bread to rise, and makes it light and porous. Vitamins, however, lose their physiological activity when exposed to alkalis, especially at high temperatures. Hence, in making bread,

too great care cannot be used to avoid excessive alkalization.—*American Medicine*, November, 1916.

Gluttony

Dog fanciers have long noted that when a house dog begins to get fat and wheezy, it is pretty apt to be attacked by a stubborn skin disease. In such a case they cut down the diet and increase the open-air exercise, thus relieving the overburdened body of poisonous substances. The sin of gluttony is common, and therefore much condoned, but, like every other violation of nature's laws, has a penalty. Fat inefficiency, sluggish mentality, the reddened nose, the pimpled face, certain of the chronic skin eruptions, and much fatigue and nervousness are due to the abuse of the digestive apparatus. Rich, indigestible foods in large quantities, highly seasoned to stimulate the jaded palate, are forced into a body already rebellious from repletion. Exercise is largely limited to walking to and from the table, and bodily deterioration proceeds rapidly. Many an overfed dyspeptic, suddenly dragged by the stern hand of circumstances from a life of physical ease and plenty and forced to work out of doors, suddenly discovers that his semi-invalidism has gone, that a chronic skin derangement of many years' standing has disappeared, and that a new vigor and zest of life has been given him. Not every one can spend his whole time in the open air; but a certain amount of exercise, and plain, wholesome food in an amount not exceeding the body's needs, can be had by almost every one. Simple, moderate diet and exercise make for health. These are not faddish food theories; they are just plain, common sense.—*Medical Fortnightly*, Dec. 15, 1916.

Bromide in Epilepsy

SEDATIVES, used in the so-called "treatment" of epilepsy, are greatly responsible for the transformation in the patient's behavior, the estrangements and abnormalities. I have, in former articles on the subject of epilepsy, suggested that those who doubt this statement visit the insane asylums throughout the country and behold the thousands of epileptic insane. Investigate their history, and it will be found that bromide brutalization has played the heavy rôle in their tragedy.

Look over the legion of the lost, and you wonder where are the doctors who have treated these creatures, who have encouraged them with worthless pet theories, new methods, with 'pathy, with drugs, fads, and surgery.

I should like to see the array of medical men who have fed bromide to these patients; the bulk of bromide consumed, the amount of money wasted, the tears and heartaches, and the trepidation of those who loved the patients. I should like to see all these elements repre-

sented in some way, and then put them in opposition to the results obtained—the insane epileptic behind the walls of the asylum, the living dead. Then I should ask the bromide-prescribing physician of the day to view and behold his work, and I should ask him whether such abundant, such heavenward-erecting proof of failure, were not reason enough to persuade him to discard his “remedy.”—*William Held, M. D., in Pacific Medical Journal, November, 1916.*

Dangers of Drink

If the drunken automobile driver endangered no one but himself, there would be no reason why he should not drive a car to his heart's content, or to any other outcome, for that matter. But unfortunately, he is a menace to other users of the highways and streets, and as such he should be prohibited by law from driving.

Moreover a couple of drinks are often as dangerous as complete drunkenness, for even these will often take all the discretion or care from a driver. In fact, the only safe way in passing a car driven by a man who is under the influence of drink is to invariably give him the entire road. It is not the same as in the case of a horse-driven vehicle, where the horse will usually turn out from force of habit, when passing another vehicle.

It does not require more than a drink or two for many to get an idea that they can drive a car far better than they are really able to do. Nor does it require more than a drink or two for many to become dull, sleepy, and sodden. The most important qualities for safe automobile driving are alertness, coolness, good judgment, and discretion. These are all qualities that liquor affects most unfavorably.—*Automobile Dealer and Repairer.*

Coddling and Colds

THE crusade now being undertaken against tuberculosis has clearly brought to the minds of every one that the only intelligent treatment of the disease is by means of fresh, pure air, and a good diet. In all parts of the world, sanitariums, conducted on those principles, are springing up; and even in England, where one would think that the climate was hardly suitable for the out-of-door treatment, the system is being carried out on a large scale. But, after all, it should be remembered if proper care is taken of children when young, and if their bringing up is carried out more with the view of hardening them, and thus rendering them proof against the ubiquitous microbe, the need of sanitariums would be much less than is at present the case. It is a fact, both instructive and pertinent, that in many of the coldest portions of the globe, colds are unknown. Nansen and his men, when in the arctic regions, although they underwent exposure of every description, never once suffered from colds; but no sooner had they set foot on their native shore of Norway than they, one and all, caught severe colds. The experience of other arctic explorers has been the same.

It seems probable, then, that there may be something in the theory of the infectiousness of colds, and that we shall have to give up our

traditional belief to the contrary, however much we may have treasured it. If the infection theory be the true one, and if it be frankly accepted, a radical change in the method of treating colds must necessarily follow. If exposure is not the direct cause, but merely acts by so lowering the vitality that the germs can gain an easy foothold, the radical treatment must be to build up and harden the constitution in such a manner that it will refuse to harbor the seeds of disease. Mothers and nurses are too much afraid of fresh air and ventilation, but when they understand that the hothouse plan of rearing children will produce a nation of weakly, delicate individuals, susceptible to every complaint that is about, they will doubtless see the error of their ways.—*Editorial in Pediatrics, December, 1916.*

Movies and Morals

A RECENT number of the *Hospital Review* calls attention to the effect of the moving picture shows as an evil influence upon home life, and declares that any educational influence they exert is more than offset by the disturbance to normal home influence. The article maintains, and we think with justice, that the craving for excitement, which can be so cheaply gratified by attendance at the moving picture shows, is one of the strongest influences at work in modern American life to destroy the home feeling and interfere with serious pursuits. It points out that, instead of providing wholesome intellectual entertainment for children at home, parents are permitting their children to frequent the movies to the exclusion of genuine intellectual pleasures. As this has long been our own feeling, it is a source of gratification to find that others are seeing a menace in the modern tendency to substitute cheap excitement for intellectual improvement.

It was the writer's misfortune not long ago to be so placed that for two weeks the only occupation available during the evenings was attendance at a free open-air moving picture show; and if he may judge by the character of the films exhibited, he can affirm that while they were entertaining, they were for the most part nothing else. Every one can recall how in his boyhood he read “Old Sleuth, the Detective,” and his impossible doings, on the sly, just as he smoked corn-silk cigarettes where he was not likely to be caught at it. The ordinary film play is an insipid and often impossible portrayal of the penny dreadful variety that is unsuited to growing children, inasmuch as it presents situations that are often broad, to put it mildly, and not infrequently indecently suggestive, and recall Old Sleuth in more ways than one. One has but to stand near the entrance of any moving picture show during the hours of daylight to be impressed with the character of the crowds that pour out at the close of the show. It is a sad commentary on the American craving for cheap excitement to note the large number of young men and women who fritter away the best hours of daylight in the unwholesome surroundings of the moving picture palace, just as it is a bitter reflection to consider the thousands of well-to-do women who spend their afternoons playing bridge, and who seem to be able to con-

verse only in terms of bridge and the most ephemeral sort of literature.

The writer would not be understood as wishing to minimize the possible educational qualities of moving pictures. He realizes perfectly what an immense influence for good they possess, but he is also deeply impressed with the distance that lies between the portrayal of the life and habits of the mosquito and the undressed antics of Annette Kellerman.—*H. G. W., in Long Island Medical Journal, December, 1916.*

The Doctors and Liquor

THE banishment of liquor from the medicine chest accelerates the approach not only to a new and better standard in public health, but in the morals of the country. In recent days the world has stood in shocked and sorrowful contemplation of the god of war chariotteering through a continent, and leaving an overwhelming river of blood in his trail, but the weeping of the widows and the wailing of the orphans assailing his ears is only a faint echo against the tumultuous wave of anguish that has swept over the civilized nations for ages past in the wake of King Alcohol. Liquor has drenched the world in a volume of tears that would cleanse the battle fields of all peoples from every crimson stain.—*From an address by Mr. Wade H. Harris before the North Carolina Medical Society at Durham, April 19, 1916.*

The Child and Faulty Environment

It is obvious that in the rearing of a child very much depends on environment. From the moral and mental standpoint, environment is of

greater importance than heredity, and from the physical point of view environment is equally important. If the surroundings of the child are not hygienic, and if it be not fed properly, it will be probably a failure physically.

Dr. Hector Charles Cameron . . . points out that it is in early infancy that the part played by faulty environment is most striking. Efficient ventilation, cleanliness, and the provision of warm but porous clothing, equally distributed over the child's body, are essential, if infection is to be avoided. . . . The baby should be kept out of rooms crowded with adults, and kissing and close contact of face with face should be avoided. Faults of hygiene, which are relatively harmless for adults, are of the most serious import for young children, and in every case of unexplained continued ill health in an infant, the whole environment must be explored with a view to their detection.

But after all, diet is the phase of environment which bulks most largely in the upbringing of the child. If a child be not properly fed, it is not adequately nourished or may be even poisoned. The infant should be fed on the breast during the early months of life, and the reasons . . . should be strong indeed for deviating from it. It must be always borne in mind there is an element in human milk which it is impossible to substitute. Probably this element is the vitamine element. However carefully and scientifically, then, cow's milk may be modified, there is always something lacking which renders it less nourishing than mother's milk, and it is not only a potent factor in the causation of scurvy, but also plays a prominent rôle in the production of rickets.—*Editorial in Pediatrics, November, 1916.*



SOME BOOKS

Personal Health: a Doctor Book for Discriminating People,

by William Brady, M. D. 12mo, 407 pages. Cloth, \$1.50 net. W. B. Saunders Company, Philadelphia.

By long experience in hospital and private practice and as a popular writer on medical subjects (the daily "health talks" of the newspaper service), Dr. Brady has had excellent preparation for his task of writing this book on personal hygiene and the home care of simple disorders.

It is written in an attractive and convincing style, and is free from faddisms; and considering the small size as compared with some of the older, ponderous "doctor books," it contains a wonderful amount of instruction valuable for the family.

There are appended chapters on "Miscellaneous Major and Minor Maladies," "First Aid in Emergencies," and "The Medicine Cupboard."

A medicine cupboard, while it might be overdone, would, if used according to instructions in this book, be vastly superior to the common method of self-doping with patent medicine.

How to Live: Rules for Healthful Living, Based on Modern Science,

by Prof. Irving Fisher and Eugene Lyman Fisk, M. D. English edition revised, \$1 net. Funk & Wagnalls Co., New York.

This excellent little book, the first edition of which we reviewed a few months ago, needs no further comment from us, except that it is the outcome of a concerted plan by a hundred of America's most eminent sanitarians and hygienists, to bring to the people a knowledge of how to live, as well as how to increase the length of life.

An effort is being made to give the book a wide circulation, in the hope that people may be induced to put in practice its common-sense teachings.

A Laboratory Handbook for Dietetics

by Mary Swartz Rose, Ph. D., assistant professor Department of Nutrition Teachers College, Columbia University. Cloth, 8vo, \$1.10. The Macmillan Company, New York.

The ordinary physician receives in his college course comparatively little instruction in dietetics; in fact, almost none. Unless he takes a course in a nutrition laboratory, or makes a careful study with the aid of such books as he can get hold of, his knowledge of the science of dietetics is pitiable.

This manual has been prepared with the purpose of enabling those who must prescribe or arrange menus, to do so intelligently. Tables

are given by which the food values on all ordinary foods can be easily computed with a minimum of calculation. With the knowledge furnished by this manual, one may prepare menus, selected so as to furnish a given proportion of the necessary ingredients, and at a certain desired price.

For instance, one can prepare a menu to furnish, say for a family of six, an energy value of 2,500 calories each, with 75 grams of protein, at a cost of 28 or 40 cents each; or one may have a family consisting of an adult of 150 pounds, working at moderately hard work, a mother of 140 pounds doing ordinary housework, two boys weighing 125 and 75 pounds respectively, and two girls weighing 115 and 85 pounds respectively, the children all attending school. The problem may be to make a menu that will furnish an adequate amount of nutrition for the family, and yet be economical. How many grams protein should be furnished? How many calories? Which food should be selected for this purpose? Such questions as these may be answered by the use of the book.

Dietetics is not a simple study by any means, but this book gives the essentials, and any one who gives it a careful study may be enabled to do very acceptable work along this line. The book should be a great help for those who are preparing menus for sanitariums and other institutions, and for doctors who mark menus, or prescribe diets for their patients. It eliminates guesswork.

Feeding the Family

by Mary Swartz Rose, Ph. D., assistant professor Department of Nutrition Teachers College, Columbia University. 449 pages. Price, \$2.10. The Macmillan Company, New York.

The author gives in plain, easily understood language, instruction as to how to apply in the ordinary home the modern scientific knowledge of dietetics. Following the chapters on "The Significance of Food" and "Care of the Digestive Mechanism," there are chapters devoted to food for the man, the woman, the baby, the two-year-old child, etc., including the aged person. Careful instruction is given regarding food for the family group.

There are plans and dietaries for the sedentary man, the muscularly active man, the thin man, the fat man, the active woman, and so on, including the elderly person and the aged person. Then there are menus for the convalescent, for typhoid fever patients, and for those suffering from tuberculosis, diabetes, and chronic gout.

The menus are planned to give variety as well as nutritive balance. One table classifies the foods as to cost per hundred calories—an important point.

NEWS NOTES

Poisoning by Daffodil Bulbs

In the *Pharmaceutical Journal*, London, McNab mentions several cases of severe gastrointestinal disturbance caused by eating daffodil bulbs, which were mistaken for onions, and used in the preparation of stews.

Artificial Infant Feeding

Rürh, in the *American Journal of the Medical Sciences*, reports, as a result of clinical experience, that the soy bean, condensed milk, and some cereal may be used in proper proportion without danger in feeding infants. To give them in proper proportion, however, would require the services of a nutrition expert.

The Iodine Content of Foods

Forbes, in the *Monthly Bulletin* of the Ohio Experiment Station, concludes that iodine is a comparatively rare constituent in foods, and its presence seems to be accidental. Variations in the iodine content of foods seem to bear no relation to any associated conditions, as geographic distribution or nature of soil. Sometimes samples of the same crop vary greatly in their iodine content.

Prevention of Smallpox

The Kentucky State Board of Health requires all teachers and pupils in the public schools to be vaccinated against smallpox at least once every seven years. Suit has been brought to prevent by injunction the enforcement of this rule in Henry County, Kentucky, for the reason that there is strong opposition to vaccination in at least one school district. The Kentucky Court of Appeals, believing that a matter of such vital importance to a community should not be left to the whim of individuals, has sustained the action of the Board of Health.

Spices and Microorganisms

Freda M. Bachman (*Journal Industrial and Engineering Chemistry*), as a result of a series of tests, states that "it does not appear from the extent of the present study that spices as used in the kitchen in the usual amounts for flavoring purposes in spiced cakes exert a very considerable preservative effect. Where cinnamon, cloves, and allspice are used in large amounts, the growth of molds may be retarded. In spiced fruit, where a large amount of the spice is used, the preservative effect may be much greater. This effect may be greater, too, when the spice is combined with vinegar." Pepper and nutmeg have little effect on the growth of microorganisms. Cloves and allspice in large amounts are preventive. Cinnamon seems to be the most effective antiseptic of the spices.

Root Beer Alcoholic

Many persons use root beer under the impression that it is nonalcoholic. La Wall (*American Journal Pharmacy*) found that root beer prepared according to directions, contained, after standing two days, .25 per cent ($\frac{1}{4}$ per cent) of alcohol, and after standing eleven days, 1.52 per cent of alcohol. Beyond eleven days it did not increase in alcoholic strength. Root beer, then, when aged, approaches the lighter beers in alcoholic strength.

Too Much Meat

The lesson to be learned from a study of the restricted diet prevailing in the belligerent countries of Europe, is that, provided there is a sufficiency of food, and that the various articles of diet are well balanced, the need for meals consisting principally of meat and potatoes is greatly overestimated. In fact, it might be affirmed that in prosperous times many persons not only eat too much, but meat forms a much too great proportion of their diet.—*New York Medical Journal*.

Liquor Press on Dry Victories

Despite the assertion of the National Wholesale Liquor Dealers' Association, that the per capita consumption of alcoholic beverages in the United States is increasing with the spread of State-wide prohibition, an examination of the liquor journals fails to reveal any inclination on the part of the trade to welcome the prohibitionists as allies. On the contrary, we find *Midd's Criterion* (Chicago), the chief organ of the distillers, calling upon the "gentlemen of the liquor trade" to "get together and fight as one," if they do not wish to see their business perish in "the great American desert of prohibition."—*The Literary Digest*, Dec. 16, 1916.

Chicago's Dietetic Exhibition

If housewives understood that foods can be classified into many groups, including some costing less than a cent per hundred calories, and that the range of choice is very large; if they could be made to realize that a mere bill of fare is no guaranty of appropriate nutrition; if they were encouraged to appreciate the significance of food values, and to understand, for example, that a can of tomatoes is little else than flavored water, which gains its popularity in part because of flavor and color; if they became convinced of the false economy of restaurant living, with its high calorie cost in the form of apparently low-priced dishes,—if these and innumerable other details such as are today ascertainable, were disseminated intelligibly, some commendable progress might be made.—*Journal A. M. A.*, Dec. 9, 1916.

Vaccination in the Philippines

During the first three months of 1916, 38,881 persons were vaccinated against smallpox in Manila, and 151,566 persons elsewhere in the Philippines. This once common scourge is now almost eradicated on the islands.

Mineral Oil and Appendicitis

De Tanneur (*Paris Médical*) states that at the autopsy of several patients who were under mineral oil treatment at time of death, the appendix was found to be literally filled with oil, indicating absolute sterility of the appendix. If this is so, oil treatment ought, if taken in time, to do away with the necessity of appendix operations.

Food for Boys

Gephart, as quoted in *Experiment Station Record*, Dec. 8, 1916, states that growing athletic boys in a boarding school were not satisfied with a diet furnishing 3,000 calories daily, but took 4,350 calories daily at the table, and bought 650 calories at a neighboring store,—a total of 5,000 calories. In his opinion, these results show that active boys eat more food than is realized, and their ravenous appetite is due to the muscular work involved in their play; and that "lack of appreciation of this factor and lack of provision for it are the probable causes of much of the undernutrition seen in children of school age." Five thousand calories seems a large allowance, even for a healthy boy.



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