LIFE and HEALTH

THE NATIONAL HEALTH MAGAZINE

April, 1910

TEN CENTS A COPY
ONE DOLLAR A YEAR

Published Monthly at

Washington, D. C.

Coming—

¶ We have to offer to our friends this month the following letter recently received from Dr. George Wharton James, a lecturer and writer of wide note. Dr. James is well known for his explorations and researches, particularly in the Grand Canyon of the Colorado and among the Western tribes of Indians. Writing to us Dr. James says:—

I shall be glad to write for you a series of articles with illustrations, all pointing to the health of body, mind, and soul. I should like to call them "In the Open" or "With God Out-of-Doors," and I should deal with the subject in a large, broad way that I am sure would help the reader.

I would first treat the subject in a general way, that out-of-doors is a place of God's, and that indoors is man's invention, etc. Then will follow chapters on "Physical Health," "Improved Motherhood," "Courage," "Endurance," "Greater Understanding of God's Mind," "Serenity," "Faith," "Truth," all enforced by references to the Indians, to my explorations, and to experiences, thrilling and interesting, of others.

Needless to say, we have responded heartily to Dr. James's suggestions, and the series of articles will begin in an early number. Although the introductory articles have not been received at the time this announcement is being penned, it is quite possible that the first number may be in our hands in time for the May issue.

Any who have listened to George Wharton James's lectures or have read his articles, will appreciate the value of the treat which is to be afforded LIFE AND HEALTH readers.

We have just received the manuscript for an article entitled "Growing Old Gracefully," for the May number of LIFE AND HEALTH, written by William J. Cromie, instructor of gymnastics of the University of Pennsylvania. Mr. Cromie is a writer of ability whose experience equips him to deal with such a subject in a most interesting manner. Mr. Cromie's article is one which will be of value and benefit to the old and the young — to the young, teaching how to grow old, and to the old who have passed the prime of life, in giving them the proper perspective and the reliable formula for keeping young.

Lack of space compelled the omission from this number of the second instalment of W. H. McKee's article on "The Establishment of the Home." This is an interesting feature which will be reserved for our readers in May.

E. L. Paulding, M. D., of Rio Grande, Cal., will discuss the subject "A Cure for Sick-Headaches," in the May issue, and any who have been afflicted with this malady will appreciate the suggestions this helpful article offers.

"Elimination and Disease" is the subject of a well-constructed discussion which we have from the pen of Dr. Henry R. Harrower, Editor of the "Medical Standard" of Chicago.

Dr. H. J. Achard of Chicago, who has made an extensive study of tuberculosis for some years, including a period spent at Asheville, N. C., famous for its tuberculosis sanatoria, will give the readers of LIFE AND HEALTH some of the benefits of his observations in the next number, under the title "About the Danger of Tuberculous Infection From Consumptives."

Interest will not wane in the pursuance of the series by Dr. Musselman, as the next article, entitled "The Sins of the Boy and the Sins Against the Boy," is equal in force with that which appears in this number, and nothing more need be said for the enlightenment of those who have been following this excellent series.

CONTENTS FOR APRIL

GENERAL ARTICLES

TERMS: $1 a year; 10 cents a copy. Special rates to agents.

POSTAGE IS PREPAID by the publishers on all subscriptions to all countries.

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Address, Life and Health, Takoma Park, Washington, D. C.

THE BROOK BY THE OLD BACK FENCE
'Twere safer not to drink from it

Vol. XXV

LIFE & HEALTH

THE NATIONAL HEALTH MAGAZINE

No. 4

AIM: To assist in the physical, mental, and moral uplift of humanity through the individual and the home.

G. H. HEALD, M. D. EDITOR

Published Monthly, at Washington, D. C.

Our Best Drink and When to Take It

D. H. Kress, M. D.

WHAT shall we drink? With the lower creatures this question is a simple one; they desire no drink but water. Man feels the need of something that is not furnished by brook or cistern. He possesses a thirst that water fails to satisfy. Why? — The irritation produced by the use of pepper, mustard, large amounts of salt, etc., calls for some narcotic to deaden the irritated nerve terminals. Narcotics do not lessen the irritation; in fact, they intensify it, but they paralyze the nerves, so that the irritation is not felt. Alcoholic beverages, tea, coffee, coca-cola, and a host of other drinks have been invented to meet this abnormal necessity. Without them man, eating as he does, is uncomfortable.

The meat and highly seasoned foods and the wine on Babylon's table formed a natural combination; while the simple foods of Daniel's choice called for no drink stronger than water. He said, "Let them give us pulse to eat, and water to drink." A normal stomach is satisfied with this normal beverage. The natural thirst of the Israelites while subsisting on manna was quenched with pure water from the rock.

The best water is that which is freest from minerals. Hard water produces indigestion; soft water aids digestion.

There are times, of course, when it is conventional, if not necessary, to have something more than water. Very simple, refreshing, and beneficial drinks may be made with the addition of fruit juices.

Tea and coffee should be discarded; they contain a poison which affects the nerves, and which will in time bring about serious structural changes and organic disturbances of body and mind.

All our beverages are produced by the addition of something to water. Water — never that which is added — is the thirst quencher. Anything added to water depreciates its value as a drink.

To be of value, water should be taken at proper times. The best time to take a drink is three or four hours after a meal. It is not best to drink freely with meals. The best time to drink freely is when the stomach is empty. The drink acts as an internal bath, washing out and cleansing the stomach after work. At night before going to bed is a good time to take a drink. Hot water, if taken, is best taken at this time, being relaxing; it will help to cleanse out the stomach

after it is through with its day's work. It also draws the blood from the congested brain, and acts as a sedative, thus favoring sleep. The same principle applies internally as externally. The time to take a short cold bath to revive the drowsy brain and other organs is not at night, but in the morning, immediately after getting out of bed. Warm external baths should be taken at night before retiring, because of their relaxing, cleansing, sedative effect.

NATURE'S BEVERAGE

In the morning a short, cold, internal tonic bath is indicated, and in the evening a warm internal bath just before retiring for the night may be of benefit in many cases. A cool drink taken a half hour before meals, especially in digestive disorders, is beneficial. In cases of catarrh of the stomach a drink of hot water about three quarters of an hour before meals is helpful. In such cases a thick mucus is thrown out, and upon this the germs feed and multiply. Food, if introduced while the germs are there, will decay, and a bad breath result. The stomach is not prepared to receive and digest food when in this condition. The use of hot water should not be too long continued, as it results in debility of the organs of digestion. Care should be taken not to drink freely with the meals. If very thirsty, a few sips of water or of some other drink may be taken near the close of the meal. It should be remembered that the more liquid we take with the foods, the more indigestible they become, because the liquid dilutes the digestive juices, and has first to be absorbed before the digestive process can be carried on. The contents of the stomach should be in a semisolid condition in order to stimulate a healthy flow of gastric juice, and to stimulate the peristaltic action of the stomach. A large quantity of water drunk at one time between meals is often an injury; it overloads or overdistends the stomach, producing dilatation of the organ. A small glassful of water should generally be sufficient. Thirst is more readily satisfied by drinking slowly, and by taking frequent small drinks, than by drinking a large quantity at one time. Injury has resulted from too free drinking of water.

When large quantities of water are swallowed, the kidneys may be overstimulated, and a large amount of fluid be removed from the blood, more than is compensated for by the amount taken in, so the thirst may be actually increased.

Very cold drinks and very hot drinks should as a rule be avoided at meals. The digestive process is carried on at a temperature of a little over one hundred degrees. Lowering the temperature by the use of cold water retards, and may entirely arrest, the digestive process. Anything that delays digestion favors fermentation. Many persons are troubled with sour stomach, because they drink large quantities of liquid at meals. Some persons think that liquid foods agree with them better than solid, because their stomachs feel more comfortable after taking liquid foods. The stomach, being abnormal, is not a safe guide, and must be educated to the use of solid foods. Foods should be well masticated in order to obtain from them their full nutritive value. Reason and enlightened conscience should rule, the digestive organs being thus brought into subjection to reason.

Fruits may be taken with benefit at the close of most of the meals. The fruits contain a liquid which is not only nutritious, but which acts as an antiseptic and aids the digestion. A little fruit taken at the close of the meal allays thirst, so that drinks will not be desired. If drinks are taken, it is best to masticate the food well, and take the drink near, or at, the close of the meal.

Takoma Park, D. C.

Deep Breathing

George McCready Price

REPEATED demonstrations prove that we can do without food for a month or more, and that we can do without water for several days; but how long can we do without air? Only a few minutes without the life-giving oxygen suffice to render us unconscious, and a few more minutes of oxygen starvation, and we are dead. But though so intimately connected with our well-being, it is astonishing how the subject of proper methods of breathing is neglected even by persons who are familiar with other principles of healthful living.

In this article, I shall dwell only on one phase of the subject; viz., the beneficial effects of *rapid and prolonged deep breathing*. I quote at length from a communication to a recent number of *Science* (Dec. 3, 1909), by D. F. Comstock, of the Massachusetts Institute of Technology. This writer sums up the effects of rapid and prolonged deep breathing under the four heads: —

1. Material increase of the time the system can do without respiration.

2. Effective mental stimulant.

3. Material increase in physical endurance for a short time.

4. Rise in the frequency of the pulse beat.

He then goes on to speak of these different effects more in detail: —

" 1. It has been noticed by others that deep violent breathing for several minutes so changes the system as to make respiration unnecessary for perhaps as much as five minutes after this preparatory breathing is over. In my own case I have found that four minutes' enforced breathing makes it possible to hold the breath for three minutes and a half, whereas without this preparation fifty-six seconds was my limit. The time during which it is possible to do without respiration increases, of course, with the length of time during which the preparatory breathing is carried on. The increase does not go on indefinitely, but reaches a limit, beyond which further length of time given to preparatory breathing does not increase the time during which the breath may be held. Below is a table taken from a curve which represents experiments on myself. The limit (three minutes thirty-four seconds) —

(*a*) Length of time in seconds devoted to deep breathing.
(*b*) Time in seconds during which the breath may be held after preliminary breathing is stopped.

(*a*)	00	15	30	45	60	120	180	240
(*b*)	56	84	99	114	132	180	206	214

which is indicated in this table would doubtless differ with different persons. It should be noticed that the preparatory breathing is effective long after the 'washing out' of the lungs must have been completed. The change produced in the system is certainly, therefore, more fundamental than a lung change, and would appear to a layman to indicate a

temporary change in blood constitution.

"2. The effect as a mental stimulant is very pronounced. I have noticed in my own case that mental fatigue may be postponed, far beyond the usual point, by two minutes of rapid deep breathing at half-hour intervals. A feeling of sluggishness or sleepiness may be almost completely dispelled. I have never noticed any reaction, as in the case of most stimulants, and, altogether, it seems to me very satisfactory.

"3. The effect on muscular fatigue is also striking. A difficult arm exercise with heavy weights which I could not repeat under ordinary circumstances more than twenty times, I found after four minutes of this preparatory breathing that I could do twenty-seven times, that is, about thirty per cent more. This increase I found to exist at all stages of fatigue, as might be expected.

WHERE AIR IS AIR

"4. The pulse beat goes up very rapidly while the breathing is continued, in my own case from about sixty-five to one hundred six after four minutes' breathing.

"Another curious effect which perhaps is worth mentioning, is the apparent rapid lapse of time during the latter half of a hard breathing period. This change in the time-sense is very noticeable.

"I might add, in connection with paragraph one, that a friend of mine has found a five-minute limit to the time during which he is able to hold his breath after the preliminary breathing."

In view of these very pronounced results, why is it that we are not more careful of our breathing? We think it a very grave blunder, almost a sin, to get into wrong habits of eating, or drinking, or dressing; but why does not some one come forth as an apostle of deep breathing? If some one would only get this subject as much in mind as a certain person has the subject of chewing, it might not be long before we would have clubs formed for the practise of rapid and prolonged deep breathing, and doctors would be prescribing it for patients, yes, and be getting wonderful results, too; for I honestly believe that this is a much more vital subject than any of us have hitherto realized. Let us resolve that on all suitable occasions we will practise rapid deep breathing. When we walk in the open air if we practise lung gymnastics, we shall find it better than we have imagined.

Loma Linda, Cal.

THAT BOY OF YOURS

BY H. T. MUSSELMAN

NO. 3 — THE INTERESTS OF THE BOY

THE place of interest in the education or training of childhood and youth has long been recognized. Indeed, the recognition of its part in education has been one of the greatest forces in educational reform. The old idea was that training is the making of a life by molding it into conformity with fixed form and by set rules of discipline. The new idea of training is that it is a process of unfolding the life along lines of its natural and healthy interests. Education, in the modern sense, is the unfolding and adjustment of life to the world order, not through the suppression of natural interests, but through the proper expression of those interests. The method is thus vital, and not mechanical. The aim is to develop the individuality and personality of the child itself, and not to reduce its individuality and personality into an imperfect copy of present-day life.

Now, as you discover what your boy is made of, you will discover the things which he is interested in. One of the principal reasons why you should take time to know your boy is for the sake of discovering his interests, for, if you do not discover these interests, you will fail utterly in your work with him and for him. The starting-point, therefore, in your work with a boy is with the things in which he is interested, and not so much in the things in which you are interested. You can bring him in time doubtless to be interested in what is supreme to you, but you must begin, first of all, with what is supreme to him. Before you begin serious work with that boy of yours, put down on the first page of your note-book these words: "My Boy — His Interests," and underscore them seven times. Then breathe a prayer that you may be led by the Lord, your own common sense, and the help of your fellow workers, to discover those interests. It will take a little time, but, as already said, when you come to know your boy as he really is, you will come to know his interests.

With these words on the place of interest in the training of a boy and of the importance of discovering the interests of the boy himself, we are ready to ask, "What are the interests of boy life?" There will be individual interests peculiar to each individual boy, and these should be taken into consideration in dealing with the boy; but all we can do here is to point out briefly the general interests which are common to boy life.

First, there are what we may call the

muscular interests, and these predominate. Forty-three per cent of the boys' clubs, according to Forbush, are organized for activity. The energy of life at this time is superabundant, and every muscle of a boy is quivering with the desire for motion. Dream life has no place in his existence as yet. Every boy is going somewhere, and his interest is in the going. We see now why the boy is so much interested in athletics and outdoor life. Muscular gymnastics, cross-country tramps, running, field sports, and swimming are all supreme things in his mind in the days of youth, and the boy is about right in his feelings here, for these are the things which develop muscles, and muscles are the instruments, as Stanley Hall points out, that do the world's work. They are the great servants of the will.

SUPERINTENDENT OF TRANSPORTATION

Closely akin to these muscular interests of the boy is another group of interests which we may call muscular mental for want of better words. These interests center around the ideas of achievement and work. In a previous article, the boy's ambition was pointed, and the mental aspect of these interests belong to this ambition. Thus, in doing deeds which to the boy are worth while, there is a satisfaction to the craving of the muscles and the mind. The boy is thus interested in conquests and triumphs. In many ways difficulties delight him. Recently, a boy friend said to me, "I made $1.55 to-day." On inquiry, I found out that this thirteen-year-old boy had shoveled snow all one forenoon for this money, and his soul was rightly aglow with the sense of having done something worth while. This interest in doing things frequently leads a boy to leave school and go to work, because at work he can satisfy both body and mind. Hence in our working with the boy, we must provide opportunities for the satisfaction of these muscular-mental interests if we would keep him in the path which leads to genuine manhood. One reason why the city boy is so susceptible to crime is because the city streets do not provide opportunities for the spirit of youth in its desire for conquest and achievement. Hunting, fishing, and other elements of outdoor life are nature's ways of answering these interests. Since municipal life robs the boy of these natural means of development, we must provide the best substitutes we can.

Remember also that that boy of yours is interested in things rather than thoughts. He is in the experiment stage of life, and on a voyage of discovery. The first things he discovers are the concrete, tangible objects about him. He must understand these before he will undertake to understand the feelings or thoughts which these things stir within his soul. If the makers of our school curricula and methods of instruction could come to see the real meaning of this fact in the life of a boy, much of the work now done in the schoolroom would be done in the fields and the workshops of the world. What is known as manual work is the first fruits of the recognition that the boy's inter-

ests center in things and the doing of things, rather than in thoughts and the memorizing of other people's thoughts. Give the boy a chance to work out the lessons of life in play and in manual work, and he will learn them by the doing of them. This is equally true in moral and religious instruction. Professor Palmer has pointed out the difficulty of teaching morals to youth by direct instruction. The better way is the way of the concrete, tangible activities and objects of life. If we must preach to the boy, let us find the sermons which are in these activities and objects so close to his life-interests, and our preaching then will not be in vain.

YOUNG BOTANISTS

Then there are the biological interests of the boy. In a sense, all interests are biological, since interest has been defined as biological responsiveness. What we have reference to here is the interests of the boy in the mysteries and problems of life. Feeling, as he does, the thrill of new powers and possibilities within his own being, he is brought face to face with questions about the meaning of life. He now begins to be interested in reading the newspapers and discussing politics and other practical matters of life about him, and, in his gang, debates with his fellows some of the great problems of life. In my own boys' club I have heard many an interesting discussion over some of the vital questions which enter into the making of manhood. The fact that the boy does not express his view to the unsympathetic adult is no reason to believe that he has no view. Many a time my boys have given me light on difficult problems of life as I have worked with them. The average boy of fourteen or fifteen will be able to give better reasons why a man should not drink, for instance, than the majority of temperance lecturers.

Much of this interest in the mystery of life is centered around the sexual. Coming into the possession of new physical powers, and feeling the thrill of them throughout his whole being, the boy is forced to ask the significance of the same. These interests occupy a much larger part of the boy's life than the average parent or teacher of boys is apt to realize. We call attention to this fact here, and in an article which will appear later we will give further discussion on the same.

The social interests of the boy should also be recognized. Closely following the awakening of the boy to self-consciousness and sex-consciousness, comes the social awakening. At first, the boy is interested in others of his own kind and class. His gang is made up of boys alone, and of those closely related to him. This gang is the first organized social expression of the boy. Fellowship he will have with his fellows, and if we do not provide that fellowship through boys' clubs and other organizations, he will find it for himself. Happy the boy whose parents are wise enough to provide within and about his own home the things which answer these earliest social interests. In the later

stages of boyhood the social interests begin to extend to the girls of his school or community. When this social interest awakens, the wise parent or teacher will seek to guide it rather than suppress it. It is as natural to the boy of sixteen to begin to be interested in the opposite sex as it is for the flowers of spring to open to the rays of the spring-time sun. This interest in the opposite sex is at first general rather than individual. Later, the boy's attention may become centered in one individual. The order of development of the social interests should, therefore, be recognized by every worker with boys. Thus we can bring right influences to bear upon his unfolding life at the right time and in the right place.

THE COMMITTEE ON IRRIGATION

In connection with the social interests, something should be said about the altruistic interests. In these we find one of the most interesting forces in connection with all human life. In a later article we shall discuss these interests and their significance to life as the gospel within the boy. Meanwhile, do not overlook their presence and their power in the life of your boy.

This article would not be complete without calling your attention to the religious interests of the boy. Youth is the most significant stage of life for religion when the religion of youth is properly understood. If we approach the boy in our religious work with him with the idea in mind of imparting to him the beliefs, religious feelings, modes of worship, and idealistic sentiments of adult religion, we shall fail utterly. The boy is interested in religion as a force which will help him in the realization of his own ideals and his own ambitions. In view of the fact that the moral struggle of life in youth is keen, and in view of the fact that the boy's conscience is oftentimes exceedingly quickened, he will hunger for some one or some power to save him from many of the sins which he knows he is committing. When the boy misses the mark is the time when he feels most the need of a helper. It is here that Jesus as the great helper in the moral struggle of life comes to mean so much to the boy. It is a well-known fact that about eighty-five per cent of the conversion experiences occur in the stage of boyhood. The boy's hunger for a sympathetic and understanding companionship perhaps is the basis of his first feeling after God. This feeling is more or less undefined in the boy's own mind, and the greatest possible care should be exercised in our

efforts to make known God to him as the real and present helper in the battle of life.

Further, the religion of a boy must be a religion of activity. A religion that does nothing for the people about him is a religion which will meet, as well as merit, his deepest scorn. "The boy's attitude toward God is not simply an expression of faith by words or forms of worship, such as the bended knee, but the impulses which go out spontaneously to some act, or some form of conduct." If the church would hold the boy, it must give him a religion which calls for heroic activity and manly endeavor in behalf of the world. A passive religion means the passing of the boy from the pale of the church. To win his faith and adoration, God must be presented to him as an active God. The gospel of Mark, presenting Jesus as the great worker for mankind, is perhaps the best book in the Bible to help a boy into a recognition of the value of religion in the world. If we will have patience with the boy, the elements of religion so dear to adult life will be acquired in time. Let all things be done in order.

Speaking of order here should lead us to recognize the sequence of interests and the atrophy of interests. Next to knowing the interests of the boy, we should know the order in which interests develop, in order that we may not expect of the boy certain things before the time for those things. We must work more according to the law of the sequence of interests. Furthermore, the knowledge of this law will help us also to provide for each interest as it develops, and so save it from atrophy or death. One of the reasons why some elements of character are not found in manhood is because those elements were not brought to bear upon the life when the interest made it possible for the life to acquire them. Life is an unfolding process; and as it unfolds, interest awakens, making possible the acquisition of all the marks which make up the well-rounded life. In this article, we plead for a recognition of those interests in boyhood which will enable us, in our work with the boy, to give him all that life intends for him at this stage — no more and no less.

1701 Chestnut St., Philadelphia.

Unfermented or Unleavened Bread

George E. Cornforth


WHITE HOUSE, EAST ENTRANCE

THE term "unleavened" has been applied to hard breads, such as the "passover cakes" of the Israelites, and other breads in the form of hard, thin cakes, crackers, and sticks. While the term "unfermented" may be applied to this kind of bread, this term is also applied to soft bread which is made light by some other process than fermentation.

The earliest forms of bread were "unleavened," and these hard breads are, no doubt, the most wholesome, because they compel thorough mastication, and because there are no yeast germs in them to start fermentation in the stomach; for yeast bread is probably seldom baked sufficiently to kill all the yeast germs.

The making of bread by the method described in our last two lessons is a long process, and it is sometimes much more convenient to make use of a shorter process. The process for making quick breads, which has for many years been in common use, is that in which the breads are made light by the production of gas in the dough by the action of various chemicals, in other words, by the use of bicarbonate of potassium (saleratus) or bicarbonate of soda (baking-soda) with sour milk or tartaric acid. It has been the prevalent belief that these substances disappear by some mysterious process, leaving nothing behind them in the bread. This, however, is a mistake. When sour milk and soda are used, an excess of soda is usually found in the bread. When baking-powder is used, it leaves in the bread the Rochelle salts of medicine, a mild purgative. Our readers will, no doubt, agree with us that the continual consumption of these chemicals, which are not foods, but foreign substances that must be eliminated by the excretory organs, can not be conducive to health.

Recently this fact was forcibly brought to the attention of the writer. Not having eaten real "Boston brown bread" for some time, and desiring to observe how close an imitation of it he was making by the use of yeast, he purchased some brown bread. It was steamed, in order to have it like freshly made brown bread. The odor of it, when taken from the steamer, carried him back to the time when mother used to make soap and hull corn, and the bread tasted as if there was lye in it. This brought to mind the fact that sodium and potassium are somewhat similar metals, and their compounds are somewhat similar chemicals. Lye, or potash, is a carbonate of potassium. Baking-soda is a carbonate of sodium. Every one knows what lye is, how corrosive it is, that it is used in making soap and hulling corn. Baking-soda may also be used in hulling corn. No one would think of putting potash into the stomach, but we have become so accus-

tomed to eating soda that no one thinks anything about it.[1] Many stomachs get out of order, and no one dreams that the chemicals in the bread which the stomachs have to digest have anything to do with the trouble.

In view of these truths, we may be glad that just as light bread may be made without the use of chemicals as with them. The incorporation of air into the dough, or batter, will serve the same purpose in making the bread light that the gas does which is produced by the chemicals. Air is incorporated into a batter by beating, into a dough by kneading. Eggs are generally used in batter breads, because they help to catch air. The common recipe for "puffs" has been given in LIFE AND HEALTH before, but we will give it here, and then tell how it may be modified: —

PUFFS AND APPLES

Whole-Wheat Puffs

1 cup milk (part cream if desired)
1 egg
¼ teaspoonful salt
1 cup sifted white bread flour
½ cup sifted whole-wheat flour

Have all the ingredients as cold as possible, because the colder the air that is incorporated into the batter, the more it will expand when heated, and the lighter the puffs will be. Separate the egg. Mix the milk, yolk of the egg, salt, and flour. Beat with a batter whip till there are no lumps in the batter. Beat the white of the egg very stiff. Carefully fold the stiffly beaten white into the batter in such a manner as to lose as little as possible of the air which was beaten into the white. Turn at once into hot, oiled gem irons, and bake in a hot oven till nicely browned.

The amount of flour required will vary with the quality of the flour. The best flour will make the best puffs, and less of it will be required. The batter should be of such a consistency that when the batter whip is lifted out of the batter, the batter which flows from the whip will pile up slightly in the crock, instead of making a hole in the batter.

Now, puffs may be made with fewer eggs than this, and by a somewhat simpler method. Instead of using one egg to one cup of milk, one egg may be used to one pint of milk. The egg need not be separated. Mix together the milk, egg, salt, and flour, using sufficient flour to make a batter a very little stiffer than when more eggs are used. Beat the batter with a whip for two or three minutes till it is perfectly smooth and free from lumps. Turn it at once into hot, oiled

[1] It is but just to say that caustic lye contains proportionally much more of the metal than baking-soda, which is a "bi-carbonate."— ED.]

gem irons, filling the irons to the brim, and bake in a hot oven. Even less egg than this may be used, and after a little practise one will succeed in making good gems with one egg to a quart of milk, or even without any egg at all, simply using milk, salt, and flour, and beating the batter till it is smooth. The puffs made without eggs, or with little egg, are nicer if part cream is used, or if one or two tablespoonfuls of cooking oil to one cup of milk is used. The puffs in the illustration are made with one egg to one pint of milk. To make other kinds of puffs use other kinds of flour instead of the whole-wheat.

HOE CAKE AND HONEY

Hoe Cake

1 pint corn-meal
¼ cup flour
1 large tablespoonful sugar
1 level teaspoonful salt
1 quart milk (about)
2 tablespoonfuls oil, if desired
1 egg

Mix the meal and flour. Spread it on a pan, and put it into the oven to heat. Heat the milk to boiling. Put the hot meal into a mixing bowl, add the sugar and salt, and quickly mix in nearly all the hot milk. Mix in the egg. Then add enough more milk to make a batter soft enough to drop from the spoon in nicely shaped cakes. It may not take the whole quart of milk, or it may take a little more than the quart. This will depend upon how hot the meal is heated, and whether the milk is *boiling* hot. When the batter is of the proper consistency, drop it in spoonfuls on an oiled pan, and bake in a hot oven.

Granose Drop Cakes

3 eggs
¼ teaspoonful salt
1 tablespoonful boiling water
½ cup sugar
⅓ cup cocoanut
2 oz. toasted granose flakes (or any other kind of wheat flakes)

Break the eggs into a mixing bowl. Add the salt. Set the bowl into a dish of hot water. Beat the eggs with an egg beater till they are light. Add the boiling water and beat again, then add the sugar, a little at a time, beating as it is added, and continue to beat till the mixture is very light and stiff. Then carefully fold in the flakes and cocoanut, making as few strokes as possible so as to lose as little as possible of the air which has been beaten into the eggs. Bake in a moderate oven in spoonfuls on a pan which has been oiled and lightly sprinkled with flour.

Crackers, Rolls, and Sticks

The dough for crackers, rolls, and sticks, after being mixed, is kneaded in such a manner as to incorporate air into it, and the process is continued until the dough snaps when a little piece is quickly pulled off. In the making of "beaten biscuits" the dough is beaten out flat with a wooden mallet, then folded together, beaten around the edge to hold the air in, then beaten out flat again, the

process being continued till the dough is sufficiently kneaded. The kneading of the dough for any of these breads may be conveniently done with a clothes-wringer. One of the wooden bars in the top of the wringer may be removed so as to allow the rollers to separate. The

GRANOSE DROP CAKES

dough is run through the wringer with the rollers about one-half inch apart, then folded together and run through again, the process being continued till the dough is sufficiently kneaded. Then if rolls are to be made, this dough, one-half inch in thickness, is cut into strips one-half inch wide and two or three inches long. If sticks are to be made, the dough is rolled one-fourth inch thick, and cut in strips one-fourth inch wide and two or three inches long. If it is to be crackers, the dough is rolled from one eighth to three sixteenths of an inch in thickness, and cut in squares the desired size. The dough for these unfermented breads is made considerably stiffer than yeast bread dough.

Following are recipes: —

Graham Crackers

1 lb. Graham flour (using the bran)
2 lb. pastry flour
¾ qt. cold water
½ cup cooking oil
½ cup sugar
1 level teaspoonful salt

Mix the water, sugar, salt, and oil, then sift in the flour, and mix to a dough with a spoon or with the hands, or if it is preferred, the dough may be mixed by means of a bread machine. When the dough is mixed, proceed with the kneading according to the directions given.

Unsweetened Graham crackers may be made by omitting the sugar, and plain Graham crackers may be made by omitting both the sugar and the oil. Whole-wheat crackers are made by using whole-wheat flour instead of Graham. White crackers are made by using white flour alone and omitting the sugar. Then these white crackers may be made into fruit crackers by using the sugar in the dough and sprinkling washed and dried seedless raisins on one half the dough when it is rolled out, folding the other half over the raisins, rolling the dough out again to the thickness of crackers, and cutting into crackers of the desired size. These may be made a little richer and more tender by using one cup of oil and one cup of sugar in place of the amounts given.

These recipes may be used for rolls and sticks, simply changing the form in

CHEESE STRAWS

which the dough is baked. Cream may be used in place of the water and oil, making cream crackers, cream rolls, or

cream sticks, or milk may be used in place of water, the oil being used also.

Cheese Straws

1 cup pastry flour
½ teaspoonful sugar
1 tablespoonful oil
¼ cup cream
½ cup cottage cheese

Mix the flour, salt, and sugar. Add the oil to the cream, then mix the flour to a dough with the cream and oil. Knead till perfectly smooth. Roll out. Sprinkle cottage cheese over one half the dough, fold the other half over the cheese. Roll out again. Continue thus till all the cheese is used. Roll as thin as a knife blade, cut in three-sixteenths-inch strips, and bake carefully.

Corn Drop Cakes

3 eggs
¼ teaspoonful salt
1 tablespoonful boiling water
½ cup sugar
½ cup shredded cocoanut
3 ounces freshly toasted corn flakes

These cakes may be prepared in the same manner as granose drop cakes described on page 209.

The next issue will contain an article on the nutritive value of vegetables, and following this will be given a special article on the preparation of vegetables for the table.

ded by mountain peaks, it was thought that in such an apparemote spot very many patients come for treatment.

as soon noised abroad that a foroctor had come, and the same day our arrival, we administered to the ic ailments of the temple lay help- After this we had no more doubt o the district's being populated, did we fear that prejudice against eigners would keep people away. t of groups of ten to twenty who vis- d with us, there were usually a few tients. The rest were friends or ighbors who came along to see what as to be done. These people came rom ten to fifteen miles. As they usuılly stayed for an hour or so, our Chiese friends had plenty of opportunities the gospel to them. Speaking of Chang-

touching indeed to hear the eldest son, twenty years of age, ask, "But do you really think I could worship the true God? and would he hear me when I can not read?" We assured him that God was no respecter of persons, and that he would hear and bless him if only he would forsake his sins and truly worship God, who made the heavens and the earth. God would know and understand. Visiting them just before we left, they said that now they knew their idols were no good, and that worship of them was useless and wicked. We believe these dear people will go on as the light comes to them.

One night about ten o'clock, we were aroused by a call to help a lad who had been beaten by robbers and thrown over a precipice and left to die. In past years at this particular spot several men had been found dead. Due to superstition, been alleged that the

men who performed the dastardly deed.

After working over him practically all night, by the light of a candle, we had the bruises treated, and the large cuts on his scalp and face sewed up and dressed. As the upper jaw had been smashed, and four teeth knocked out, we had to keep close watch over him for a few days, feeding him with liquid food placed in the back of his mouth.

The neighbors soon heard of the case, and flocked to see the lad. They were astonished that he was alive. To see us treating the wounds was a revelation to them, and above all that we did not ask a cent for our trouble and medicine was to them a modern miracle. "Why," they said, as the occasion was used to present truth before them, "the God of these people must be vastly different from our gods. We must inquire about this teaching to see what makes them so different from any Chinese we ever saw." Less than three weeks afterward the boy was discharged with all his serious wounds healed, except a slight discharge from one of them. His healing was a constant witness of God's power to these many hundreds who came to see him.

AN IMPROVISED AMBULANCE

Another case was that of a Buddhist priest from a temple ten miles distant. He had recently abstained from opium smoking, but still used wine and tobacco. His weakened body could not resist disease, and a horrible carbuncle had formed on the back of his neck. Although of a month's standing, it had never been touched in a helpful way. The last prescription applied was from an idol celebrated for its healing. The prescription consisted of a live fish and a live frog pounded up in a mortar with other dirty things. This was applied to the sore, resulting in mixed infection, and driving it all through the cellular tissues in that vicinity. The central mass was decomposed flesh swollen as large as a man's fist.

We told him his case was very serious, but we would ask God to help us care for him. After a week's constant treatment, with numberless lancings, there was little signs of progress, which led us to urge him to co-operate with God by repenting of his sins. Later we heard him praying with one of our helpers; he asked God to forgive his past offenses and make him of some account in the world. How we praise God that he not only heals sickness, but recreates the entire man, causing him to turn from all his cherished idols, opium, tobacco, wine, and other harmful things. We had to bring him to Chang-sha with us, and he is almost well. He willingly attends morning and evening Bible classes.

A man came with severe conjunctivitis, and remained at the temple one week. He returned home not only rejoicing that his eyes were healed, but he seemed to have found peace and for-

giveness for his sins. Daily he would come and request us to teach him the truth and how to pray. It is hoped that the way may open for him to attend our Bible school.

The women in this locality all have natural feet, and run up and down the hills like deer. They carry heavy burdens to market on their shoulders. This is quite a contrast to the women with bound feet in the city. One came with eye difficulty. She lived near by, and could come often for treatment. However, after but one treatment, her eyes were almost well. She and her husband were very grateful, and would sit for a long time listening to the old, old story of Jesus and his love. May they yet see the need of personal salvation. Such blessed results in so many ways attended this, our first venture, that we hope to take other trips as opportunity is afforded. If we can systematically follow up these interests, we hope that many will sit down with us in the kingdom. Pray, friends, for dark Hunan's twenty-three million souls.

Chang-sha, Hunan, China, Sept. 6, 1909.

British Central Africa

S. M. Konigmacher


VIEW IN SENATE CHAMBER

SINCE coming to this field, and especially to this station, we have had a varied experience, which has been good for us. It was hard to lose our baby when we first came, because it was so lonely here. But now, as the work is growing, and the school is larger, time passes more rapidly.

We have been looking around for other sites for out-schools, and, by the blessing of the Lord, hope to secure three more, perhaps others. Recently a man came to ask for a school for his people, who live thirty or forty miles from here. Thus the influence of the mission is spreading.

Our medical work here is not very large, yet we are called out sometimes. Yesterday a boy came to school with a temperature of one hundred three degrees. One look told me that he was really sick. I gave him a dose of salts, and told his companions to take the machila and carry him home. The natives are very difficult to treat. They do not like to take our treatments; but we can give them sometimes. A little boy came the other day who had been bitten by a snake. I put into the wound the strongest disinfectant I had, and one of the boys cut it open, so that it bled freely. He is all right now.

The natives have the same idea that many at home have — that they must feed their people all the time. They will take a small child, a week old, and literally force the food down its throat with their fingers. This same Elizabeth fed her one-day-old baby raw corn-meal gruel. It lived only three days. This is a custom. I always rebuke them for doing it, when I see them; but they will do it behind my back. When this little one of Elizabeth's died, they wanted to bury it in their fashion; but I told Peter, her husband, that we bury our children nicely, just the same as grown people; as the parents had had a lawful marriage, I wanted to give the child a Christian burial. So my wife sent them nice

new white cloth to wrap it in; and on the way to the grave she found some wild sweet peas, which she plucked, and laid on the child. On arriving at the grave, we read those appropriate words in 1 Thess. 4:13. We had song and prayer. Then I placed some dry grass in the bottom of the grave, and Peter laid the baby in, and I covered it with some more dry grass. This made a very impressive service.

One day, while on my way to my nearest out-school, I came to a village where some women were mourning for a child which had died; they were dancing and crying to drive away the evil spirits. The village is very near my school. I had stopped there some days before, and had tried to administer treatments with my handkerchief and a hot brick. I asked the mother to bring the child to the mission, but she said she could not. It was very sick when I went there, and nothing but expert care, which was impossible in the village, could have saved it. I told the women who were dancing and mourning that that could not drive away the evil spirits, but that the Holy Spirit only could drive away the evil one.

It was very difficult to get the consent of the chief of this village to allow me to put a school there, because I had been giving some straight talks against their bier dances. After seeing the progress his sons were making at the mission, and after Peter had talked to them, he consented, and we have an enrolment of more than fifty. We shall have to send three teachers. God is surely blessing.

The rainy season has begun. We had a small fire here, which harassed us some, on account of its being so near the close of the dry season, and the fires had burned off the grass on the mountains. But we have re-thatched one house, and built another wood-shed, and have the material to build a teacher's house. Marie, the wife of the second teacher, threw ashes on some dry grass. She did not think they were hot; but as there was a strong wind, it soon fanned them into a flame, which spread rapidly to the grass roofs near by. The loss was very little, as I was able to buy, with salt, grass which the natives had cut before the bush fires.

We are glad to hear the good news from the Conference, and to see the encouraging reports from other fields. With God's help and the prayers of our people at home, we hope to push forward in Nyassaland. We thank you for your kind letters, and appreciate the sympathy and encouragement sent us.

MR. AND MRS. KONIGMACHER AND NATIVES, BLANTYRE, SOUTH AFRICA

The Master's Masterpiece[1]

W. B. Holden, M. D.

"I WILL praise Thee; for I am fearfully and wonderfully made: marvelous are thy works; and that my soul knoweth right well." Thus exclaimed the psalmist three thousand years ago, after studying that masterpiece of creative genius — man. Then the methods of investigation were crude and circumscribed. Now we have means of knowing far more of the wonders and marvels of man's anatomy and physiology. The microscope has revealed countless millions of individual units in every organ. Chemistry has been solving some of the functions of these glands. Physiologic and pathologic laboratories have been illuminating the wonders of the body in both health and disease. If the human anatomy excited admiration thirty centuries ago, surely it should do so much more now.

Upon the graduation of these nurses it seems quite fitting that we should spend a little time in considering a few of the more striking marvels of our bodies. We are so fearfully and wonderfully made that knowledge of our physiology is very meager in many details, and that, too, after generations of research by the brightest scientists. The commonest phenomena are but imperfectly understood.

We go to sleep. Why? How? Ask the physiologist. He can tell you the influence sleep has upon the pulse, temperature, respiration, secretions, and excretions. But just why one third of each twenty-four hours consciousness becomes unconsciousness he does not know. He has some excellent theories, but not the actual explanation.

Again, why do we awake? The problem is the same. The mechanism of sleep and wakefulness is so wonderfully adjusted that centuries of unlimited opportunities for study and observation have failed to discover the secret.

We hunger. Why? How? We crave certain food elements. How do we know what we want? How is appetite explained? The seat of the sense of hunger is unknown. According to our work and climatic changes we crave more or less food, and special varieties of it. Why? Our appetite is so automatic that, unhindered, it will wisely select the time for eating, the quantity, quality, and combination of food, and do it far better than any physician. This adjustment of appetite is so delicate and complicated that the wisest dietitian can not interfere without causing disturbance.

The chemistry of digestion is fairly well known. It is essentially a process of making food elements soluble in water. We know that the ptyalin of the salivary glands and the amylopsin of the pancreatic gland changes insoluble starch into maltose — one of the sugars. Chemistry shows a dozen or more steps in changing starch into sugar. The proteids are made into soluble peptones by the pepsin of the stomach and the trypsin of the pancreatic juice. The chemistry of these changes is very complex, though fairly well known. The fats are saponified and emulsified by the bile and steapsin of the pancreas. All these changes

[1] Address given for the graduating class at the Portland Sanitarium.

can be thoroughly demonstrated in the laboratory. The food substances are now ready for absorption into the blood current. Here the chemist must stop. Just how and where the sugar, the peptones, the fats, become muscle, sinew, bone, brain, nerve, skin, hair, tooth, and gland no one can tell. This is all unsolved. We evasively cover up our ignorance by calling it a " chemico-vital " change. The intricacies of this ever-present tissue upbuilding are so obscure that its disturbance may be fatal to life, and the difficulty remain unknown.

For example, in the disease called diabetes we have a condition in which the cells of the body fail to appropriate the sugar brought to them by the blood. The appetite for sugar is present,— such patients crave sugar,— the digestion of sugar is perfect, the blood carries the sugar to the cells of the whole body. The cells do not use the sugar, and the excess of sugar is eliminated by the kidneys; gradual weakness, emaciation, and death result. Diabetes has been known for a long time. Its cause and pathology have been diligently investigated. At some time or other every organ in the body has been considered the primary cause of this disease. At present some microscopical bodies in the pancreas stand accused and partially convicted. But the essential cause of diabetes is unknown.

The mechanism of metabolism is so fearfully and wonderfully adjusted that its disturbance may result in death from diabetes, and still that disturbance be so slight that pathologists are unable to detect it, and therapeutists helpless to correct it. So fearfully made and adjusted that undiscoverable error results fatally! So wonderfully made and adjusted that these fearful results but seldom obtain! For diabetes is not a common disease.

You cut your finger. It bleeds, but soon it stops. Why? Physiologists tell us that the clotting is brought about by fibrinogen splitting into a globulin and fibrin, and that all this is caused by a fibrin ferment. But is this a satisfactory explanation?

There is a disease called hemophilia. Its victims are called bleeders. A small cut or scratch on these patients bleeds indefinitely. Any trivial injury may cause fatal hemorrhage. Bleeders have been known and studied many years. Their blood fluid and blood-vessels differ in no essentials from normal individuals. The cause of hemophilia is unknown. Hence we may conclude that the phenomenon of clotting blood is a mystery.

Fearfully and wonderfully arranged is this stopping of hemorrhage,— fearful because its disarrangement may be so slight as to be undiscovered, though fatal hemorrhage may ensue,— wonderful because so seldom do these fearful accidents occur. Hemophilia is a rare disease.

In a cube of blood, one twenty-fifth of an inch on each side,— about one sixtieth of one drop,— are five million red blood-cells. These cells are circular disks, coin shaped. Laid edge to edge, three thousand five hundred make a line one inch long. Stacked one on top of another, twelve thousand make a column one inch high.

A famous investigator once said that the structure and functions of one of the single cells presented more perplexing problems than the engines in the greatest ocean steamboat. Consider! The Creator has concentrated in a single drop of blood five million times more wisdom than inventive man can put into a steamboat.

Each one of these little red blood-cells goes to the lungs, gets a load of oxygen, carries it to the finger, gives up its load of oxygen to the muscle cell there, and takes in exchange a load of carbon dioxid,— a waste product,— which it car-

ries to the lungs, and there exchanges for another load of oxygen. This little cell goes loaded both ways, and carries diametrically opposite gases. In the finger it does one thing, in the lung it does just the contrary. By what arrangement does it make these exchanges without mistake? We would naturally suppose that these wonderful little red blood-cells would be made in some apparently important place. Quite the contrary. They are made in the middle of the flat bones, — like the ribs. They multiply and die by the millions constantly.

Their number and work are so fearfully and wonderfully arranged that in the disease called pernicious anemia the patient dies, and pathologists are unable to determine the cause for the great decrease in the number of the red blood-cells.

In this same drop of blood containing five million red blood-cells we have about seven thousand white cells. These interesting individuals are the standing army of our body to guard it against attacks from foreign foes, as germs, etc. When pus microbes make a boil on the back of one's neck, this standing army of seven thousand per drop of blood is quickly augmented to an active army of twenty thousand or thirty thousand per drop. These soldiers make warfare on the invading pus microbes — engage them in mortal combat. The heat, redness, pain, and swelling in the vicinity of the boil are due to the conflict between the germs and the white blood-cells. The battle is always decisive. If the soldiers are routed, the victim of the boil dies. But far more often, however, the little white blood-cells win, and the patient recovers; not, however, without great casualties on the soldiers' part. Pus cells generally represent the dead bodies of white blood-corpuscles that have sacrificed their lives in the struggle to save the life of the whole body. These white blood-cells apparently will not fight all kinds of germs. Their number is not increased in tuberculosis, typhoid fever, influenza, and malaria. Their increase is very important in many infectious diseases. In a pneumonia patient we count the white blood-cells, and if we find the white cells not greatly increased, we predict a fatal pneumonia — the army is too small. We do not know why they attack one germ and do not another. How does the body know when to increase the standing army, and when not to? — No one knows.

In the disease known as leukemia there is an enormous increase in this standing army, even to fifty or one hundred times the ordinary number. The body then finds itself in the same situation as some modern nations that are overburdened with the cost of too great war preparations. The cause of leukemia is unknown. Its treatment is unsatisfactory, and the termination is death.

So wonderful and fearful is the mystery of the origin, function, and control of these white blood-cells that we know very little indeed of them. They fail to appear when needed, and the patient dies. Again, in leukemia, when not needed, the individual is overwhelmed by their great numbers.

See that young man walking along the street. There is grace in every movement. He is scarcely conscious of what he is doing. In that act of walking he is using several hundred pairs of muscles, each muscle composed of myriads of single cells, each cell controlled by a tiny nerve all its own. Every one of these microscopic cells contracts and relaxes at the bid of its own nerve supply, all of them working in perfect unison, in perfect harmony; the result is ease and gracefulness,— beyond our comprehension, beyond our imitation or explanation. Physiologists call this co-ordination. But so fearfully and wonderfully delicate

in adjustment is this co-ordination that the slightest interference, even on the part of the young man himself, and the beautiful grace is marred. Should he decide to walk gracefully and force his mind to superintend every step and movement, the grace of unconscious co-ordination would promptly become most absurd awkwardness.

How easily we remark, "I remember it." Memory! what is it? Twenty, forty, sixty, or eighty years ago we recall events—a scene of childhood days. Then we saw the little cottage we called home. The picture of that cottage on the retina of our eyes made some impression or disturbance of the brain-cells in that portion presiding over sight. The fragrance of the flowers by the path excited the nerve of smell, and an impression was made in the brain center for smell. The voice of our mother, exciting the nerve of hearing, transmitted an impression to the brain center for hearing. The tender embrace of that same good mother thrilled us by its welcome, and in turn was impressed upon the center of sensation. The flavor of that good supper, through the nerves of the sense of taste, made its impression upon the taste center of the brain.

Now after two-, three-, or four-score years, at our bidding we recall the view, the fragrance, the voice, the embrace, and the flavor, each from its own pigeonhole, all separate, clear, and distinct. The whole experience is complete. It cheers, encourages, and comforts us. This is memory, and memory is considered one of the simplest functions of mind. We expect to remember. We marvel that we forget. The real wonder is that we ever remember. This seat of the mind — our brain — is so fearfully and wonderfully made that in many cases the brain of the insane differs in no known essentials from the sane.

Did time permit, we would consider the wonder of the eye, with its camera and power to receive and interpret form, light, darkness, and all shades of colors; the ear, with its wonderful sounding-board hollowed out of solid bone, capable of detecting the quality, pitch, and intensity of tones; the skin, with its organs of touch and sensation, and its sweat-glands by which our bodily temperature is adjusted to the changes of clothing and climate; the heart, with its delicate automatic valves; the lungs, with their intricate network of blood-vessels whereby the exchange of oxygen and carbon dioxid is accomplished; the liver, with its power to destroy poisons, and to store up sugar and deal it out to the blood current just as the body needs,— all these and the mysteries of the thyroid gland, the thymus gland, the pituitary body, and spleen, and still others. In fact, in every place we discover wonders, marvels, mystery, and wisdom beyond comprehension.

Graduates, your calling is among the noblest. You will be in intimate contact with this wonderful machine when it is out of order. You will see it when wrecked and shattered by disease and accident. You will be called to alleviate its distress, to cheer and comfort in the presence of mortal conflicts. Many times you will win. Often you will lose.

In every patient, whether high or low, rich or poor, may you so fully see a being made in the image of God that you can join the psalmist in exclaiming, "I will praise Thee; for I am fearfully and wonderfully made: marvelous are thy works; and that my soul knoweth right well."

Corbett Building, Portland, Ore.

A Case of Acid Dyspepsia

J. R. Leadsworth, B. S., M. D.

THE following case presents a series of symptoms that are frequently met in the consulting room by a physician. A man, aged forty, of strong muscular build, of sedentary habits, complains of indigestion. He has had attacks of stomach trouble for years, but of late they have grown in frequency and intensity. His appetite is always good; but about two hours after eating, a dull, gnawing pain begins over the stomach just below the breastbone. Left to itself, this pain continues for an hour or two, and then gradually subsides. By taking food at the onset of the pain, immediate relief is experienced; but this, in turn, relieves for only an hour or two. Neither the amount nor the kind of food taken at a meal seems to influence the pain for better or worse. His bowels are sluggish, sometimes constipated. Of late he has grown more nervous and irritable, with disturbed sleep during the latter part of the night.

Several test-meal examinations gave unmistakable evidence that this patient was suffering with a marked increase in the amount of hydrochloric acid present in the stomach. This acid is a normal product of the stomach, and is quite as essential to digestion as is the presence of pepsin. But when the gastric juice contains hydrochloric acid in a too-concentrated form, it is often the cause of erosion, or ulcer, of the stomach walls. And since more accurate means of making a diagnosis are obtainable, ulcer is found to exist much more frequently than was formerly supposed. But it may be said, in passing, that our strenuous life and sedentary habits are important factors in the production of hyperacidity. Worry and depression seemed contributory factors in swelling the number of hyperpeptics that reported for medical treatment during the recent financial flurry.

It is well known that any organ that continues working under abnormal conditions will sooner or later do itself harm. Take, for example, the heart. Normally its rate of pulsation is about seventy-two beats a minute, but when poisons are generated in the system which give rise to a much more rapid heart-beat, organic changes are often produced in the heart itself; and the longer this undue stimulation exists, the more certain it is to produce permanent injury. The same reasoning holds good in hyperacidity of the stomach. In cases where the hyperacidity does not give rise to ulcer, it continues to increase until the acid-forming cells in the stomach are actually worn out. The consequence is, there follows an entire absence of gastric juice, and without this the action of the pepsin is inert. Frequently when the stomach fails to manufacture hydrochloric acid, there is also a failure to produce pepsin. This condition is known to the physician as achylia gastrica. This condition, which is very obstinate to treat, occurs frequently in individuals who are lean and anemic, and who suffer constantly with intestinal indigestion.

The case above referred to was treated as follows: Before breakfast, the patient was instructed to take two or three tablespoonfuls of olive oil; following this two glasses of buttermilk were allowed. About 10 A. M. half a dozen almonds, blanched, were eaten, being thoroughly masticated and creamified before swallowing. At noon two glasses of buttermilk were again sipped slowly. At 3:30 P. M. the ration of almonds was repeated, and at night the buttermilk. In this case the almonds were taken at 10 A. M. and 3:30 P. M. for the reason that they could be taken more conveniently than buttermilk while at work; but where a glass of buttermilk could be taken instead of the nuts, the results were realized more quickly. In aggravated cases it might be necessary to take olive oil at noon, and night, followed by a drink of buttermilk; or where that can not be taken, by a cup of almond cream, made as follows: A dessert-spoonful of sweet almonds are blanched by scalding with hot water and removing the skins. After being allowed to dry, they are ground into powder, and poured into a cup of boiling water; this mixture is then rubbed by means of a spoon, after which it is strained. While it is more pleasant to take, the almond cream lacks the nutritive value of olive oil. This plan of diet was continued for a week, but in cases where the patient has already lost considerable flesh, it may be necessary to add to the nutrition from the first. For these patients I often recommend very soft boiled or raw eggs, to be taken in addition to the buttermilk.

After the first week or ten days, a diet list was furnished as follows: Stale white bread, zwieback, rice or granose biscuits, steamed rice with cream, dextrinized grains, cream soups of various kinds, purées of vegetables and legumes, macaroni, spaghetti, sago, tapioca, spinach, asparagus, baked potato, hulled Lima beans, roasted blanched almonds, olives, olive oil, cream, butter, poached or soft boiled eggs, especially the yolks.

There has been a question as to the influence of flesh foods in these cases, the majority of physicians arguing that the proteid of flesh more readily takes up the excess of acid gastric juice than does either the fats or carbohydrates. But while it may be admitted that flesh does readily combine with the hydrochloric acid in the stomach, it is the one article of diet that excites an increased flow of hyperacid gastric juice. A litter of puppies was taken at birth, and one half the number were fed entirely on milk, while the remainder were nourished on flesh food. At the end of several months individual tests of the gastric secretion proved conclusively that the puppies which were confined exclusively to the milk dietary possessed a much lower percentage of acidity of the gastric contents than those fed exclusively on flesh. According to this experiment it would seem that flesh food would, in the end, materially increase the difficulty that it was sought to relieve. But where meats are taken as a part of the dietary, they should be limited in amount and frequency.

From the above diet list only three or four articles should be eaten at a single meal; variety can come in from day to day. Usually in cases with hyperacidity the appetite is too good, and one is inclined to eat too heartily. The small meal is gotten rid of by the stomach in two or three hours, while a hearty dinner requires seven hours before stomach digestion is completed.

In addition to the diet our patient was given sweat baths three times a week. After the evening meal the hot-water bottle was used over the stomach for half an hour, followed by the wet girdle,—a strip of linen toweling eight

inches wide, wet in cold water, encircling the body at waist line, covered with a snug-fitting flannel girdle. Upon removing this in the morning, the abdomen was sponged and rubbed with cold water.

Measures that are successful in lowering the gastric acidity are often effectual in relieving the constipation, but in cases where the bowels are obstinate, they may be regulated by taking a dish of vegetable gelatin as a breakfast food for a week or two. Vegetable gelatin comes in long fibers, and is kept in large drug houses. It should be ground or cut in small pieces before serving. A small sauce-dish of this, eaten with a little cream at the beginning of the morning meal, being swallowed before it has taken up much of the cream, will work wonders in most obstinate cases of constipation. This is one food that may be ingested without the usual amount of mastication.

With these simple measures, this patient, and many others, have been entirely relieved of the distressing condition known as hyperpepsia. But as patients, not diseases, are to be treated, it is necessary to modify the therapeutic measures according to the individual case. It is naturally presumed that the causes which have contributed toward the production of this disease have been sought out and removed. No other class of diseases responds so readily to treatment when the diet and other conditions are brought as nearly as possible to the normal.

Santa Ana, Cal.

White Bread or Brown Bread?

Chas. Cristodoro

HAVING been a shut-in, an invalid, for several years, I have given many hours to the study of flour and bread, and I wish to say a few words on flours, emphasizing the nutritive value of standard white flour over Graham and whole-wheat flour.

As to Graham flour. I have asked a dozen millers to define for me the meaning of Graham flour, and I have had a dozen varying replies, ranging from "mill sweepings," "clean-ups around the bins," "bran, shorts, and middlings, with more bran thrown in," "whole wheat, crushed, and more bran added," and "ordinary flour with [twenty-five per cent, or even fifty per cent of] bran added," etc.

Bran and Graham seemed to be synonymous in the minds of the millers, and the magic contact of bran filled the purchaser's requirement.

Now a few words upon bran. The wheat kernel, shelled or thrashed from the chaff, has no protection from damage other than its coat of fibrous and cellular bark, called bran. There are several linings to this bark, and enmeshed in them are some gluten and a little starch and phosphates.

The miller, knowing the value of gluten, has worked out process after process, all with a view of leaving as little gluten as possible adhering to the bran. Bran as bran, pure and simple, the ligneous overcoat of the wheat, devoid of gluten and starch and phosphates, *is a substance absolutely indigestible in the human stomach, and never was intended for human consumption.* No human stomach ever digested, and no human system ever assimilated, an ounce of bran. No physiologist will dispute this statement. Bran, in a pure state, has no food value.

Repeatedly tests have been made, at the agricultural stations and by the government, upon healthy human beings, to demonstrate the food value of whole-wheat flour as compared with flour from the same wheat, with the bran, etc., sifted out — standard white flour; and invariably the superior nutritive value of the white flour has been proved.

It is not what you put into your stomach, *in toto,* that counts so much as what the digestive process will dissolve and the system take up. Because the whole-wheat flour contains the rich germ of the wheat kernel (which, if left in the white flour, heats and quickly spoils it) and every fraction of gluten, one would judge that the whole-wheat flour must necessarily be more nutritious than the white flour; but test after test for years has proved otherwise.

The reasons given are varied, one of them, perhaps the most correct, being that because of the irritation of the mucous lining by the bran the food is hurried through the intestine before thorough assimilation can take place; and again, that the adhering particles of gluten to the bran are not properly reached and rendered soluble.

One curious fact was discovered regarding the lime, the phosphates,— and this should be noted because of the contention of the advocates of bran usage in Graham flour,— the phosphates in white flour, far less in quantity than those in Graham or whole-wheat flour, made into bread and eaten with an ordinary mixed diet, *are not all assimilated by the system.* Bran is rich in phosphates, but these phosphates were put there more for the reproduction of the wheat plant, as its primary food during its period of germination, than for human food. If man were to eat bread of whole-wheat alone, nothing else, it is a very serious question if he could or would absorb even a good percentage of the phosphates present in the bran.

Bran is an intestinal irritant, a sort of shavings-and-sawdust castor oil. It produces peristalsis, and excites an otherwise torpid bowel to action. But when you consider the varying amount of bran in Graham flour, fifty to perhaps one hundred pounds to a barrel, it becomes a very expensive mechanical castor oil. Better buy a pound of bran at a feed store for a few cents, and each morning stir a teaspoonful into a glass of water or milk and take before, at, or after breakfast. You will get the results, and you can then go on eating bread from the best of the wheat, white flour; for the miller of to-day, in putting out his family flours, strives to include in them the best of the wheat for the making of bread and the nourishing of the body.

Again: wheat, in passing from the wheat field to the flour-mill, has opportunities to become very dirty. Its kernel formation is such as to gather and harbor dirt and germs of various kinds. In other words, it is like a very dirty boy when it reaches the mill sometimes, and needs a deal of scrubbing. One of the main expenses in a flour-mill to-day is the one incurred in the intricate process of scrubbing wheat before it reaches the grinding rollers. The miller understands that clean wheat means white flour. As to the whole-wheat or Graham flour, it is brown flour, and, like the brown bread Bridget was making with unwashed hands, it made no difference, she explained to the missus, "because it was brown bread." Whole-wheat flour may be dirty flour.

Point Loma, Cal.

EDITORIAL

Preventable Diseases Which We Do Not Prevent

ACCORDING to Thompson Seton, no wild animal ever dies a natural death, which, by the way, is somewhat of a paradox. Some other animal, younger, stronger, and perhaps hungrier, thoughtful enough to prevent the agonies of a lingering deathbed, obligingly hastens the process, and withal furnishes the funeral and the cemetery. So it is with our domestic animals,— at least those that our civilization counts "edible;" we care for them until the prime of life, and then wisely forestall the need of old-age pension, and again the cemetery is thrown in for good measure. We never do our kindnesses singly.

Man, in this respect, joins the popular procession, for he does not die; he kills himself, when the aeroplanes, automobiles, and railways do not perform the act for him. We generally express horror at the suicide who goes crudely about his work with carbolic acid, or a revolver or rope, or who drops off the end of a pier or a ferry-boat, and think nothing of the man who accomplishes the work more scientifically by hardening his arteries. The effect is not so dramatic, but the means is just as effective, though working over a longer period. Every one has heard the expression, "A man is as old as his arteries." He may have digestive disturbance, or lung trouble, or what not, but it is usually the failure of the blood-vessels and the heart that precipitates the end; and many of the diseases of old age are, in short, merely the result of arterial degeneration.

The great pity of it all is that those most prone to arterial trouble, or rather to degeneration of the blood-vessel system, are the great brainy men who have a capacity for an immense amount of work, and who are the prime movers in the progress of the world. Such men are peculiarly susceptible to the beginning act in the drama of vascular degeneration,— a high tension pulse,— and they are unusually prone to indulge in those things that are most effectual in the production of high tension. Lest some might think the writer is here expressing an idea peculiar to himself, he will quote from a recent article by Prof. Alexander G. Brown, M. D., of the University of Virginia, which appeared in the *Journal of the American Medical Association*, January 8, this year.

He begins by stating that derangement of the walls of the arteries is the fundamental cause of many disturbances, not usually credited to this source,— disturbances of the digestive, the nervous, and the circulatory systems. He is not advancing a theory of his own, for a number of investigators have worked out carefully the effects of high-tension pulse and its sequences. Dr. Brown is confident that the subject is one which should engage the attention of the profession.

> "It merits more consideration than has been accorded to it. There is no disease problem, except that of infectious diseases, more worthy of consideration than these diseases of the cardiovascular type."

He believes that the teaching of the public mind is the secret of the prevention

of these diseases; and that when once the public mind is thoroughly aroused to the danger tand to the means of prevention, the physician will find it easier to influence patients to take precautionary measures in time; and he urges —

"that the prevention of the oncoming arteriosclerotic changes be prevented by the removal of the known causes, and that in established cases, treatment be early instituted so as to forestall the inevitable evils sure to come in neglected cases."

Among the known causes are gout, lead poisoning, syphilis, excesses or irregularity of eating, the tobacco habit, etc. Under hygienic treatment, Dr. Brown states that —

"alcohol, tobacco, tea, and coffee should be interdicted in arteriosclerosis. This statement is subject to modification in special cases, but as a general proposition these substances, when used habitually, produce deleterious effects in the arteries, and should be restricted to a minimum if not actually stopped. This is imperative in the last stages; it is wise in the early ones. All food should be taken in moderation. . . . As a general rule, the animal foods should be restricted, for in these foods there are formed during digestion substances that but add to the conditions already prevailing in the body. . . . The vegetable diet may be recommended to the exclusion of the meat diet. In some cases, late in the disease, a milk diet is required."

In other words, the dietetic and hygienic prevention of arteriosclerosis consists in living as LIFE AND HEALTH recommends all its readers to live. The fact that certain substances commonly used by those subject to arteriosclerosis, must be interdicted in order to stop the progress of the disease, furnishes a hint as to the general effect of these substances on the body. To form a habit of living which makes one dependent on these things for comfort, and finally to be compelled to give them up in order to retard the progress of arteriosclerosis, is not getting the most out of life, even considering only from the standpoint of personal pleasure. And when we consider it from the point of efficiency, every argument is in favor of the simpler life.

The Cause of Typhoid

THAT the transmission of this disease is not caused by any one or two or three means, has become more and more apparent. Several years ago the water-supply was the scapegoat, and in some cities purification of the water has caused marked reduction in typhoid mortality. In Washington such a diminution in typhoid was predicted as the result of filtering the city water. As a matter of fact there has been no marked reduction in the typhoid incidence since the installation of the filtering plant.

Milk has been the cause of many epidemics. In Washington a certain proportion of cases has been traced to the milk of certain dairies. Flies in New York seem to have caused many cases. Flies in Washington can not be shown to have caused any large number of cases.

For some time there has been conducted by the United States and Public Health and Marine Hospital Service a most exhaustive study of the typhoid condition in Washington, but with rather disappointing results; that is, there is a large percentage of cases that present methods of investigation can not trace to their true source. There is reason to believe that many of these are the result of direct contact, or of infection of food by "carriers."

The study of the discharges of a large series of persons indicates that typhoid germs may be present in the dejecta of individuals years after the disease has ceased, and in some cases where there has been no history of the disease. In

some cases they may be present in the discharges at one time and absent at another. These facts show that the tracing and final eradication of typhoid fever is a matter of much greater complexity than was once supposed, and the expression, "When a person comes down with typhoid fever, somebody has committed a crime," is foolishness.

Until we know more about the nature and means of transmitting typhoid, it is a little premature to attribute the disease to carelessness or crime, except in cases where the source of the disease is actually known. However, the fact that many cases of typhoid are transmitted in a manner which we can not trace, should not encourage us to be the less guardful concerning means of transmission which are known. The fact that some cases can not be proved to be transmitted by water or milk or oysters should not cause us to relax our vigilance in the matter of these means of transmission, because we know definitely that an important number of cases are transmitted by these means. "It is better to be sure than sorry."

Regarding Uric Acid and Gout

A PAPER has recently appeared in a German scientific periodical, the *Biochemische,* containing some observations on the solubility of uric acid and its salts, which may be of considerable practical value. Most of our observations of the solubility of uric acid and its salts have been made in reference to water, and here the urate is much more soluble than the uric acid, but it seems that in serum, at least ox serum, the solubilities are reversed.

Solubilities at 37° Cent.

	ox serum	in water
Uric acid	1:1100	1:15,500
Sodium urate	1:40,000	1:665

Normal sodium urate can not exist in the body. The form in which it exists is in the form of the bi-urate. Dilution with water retards the precipitation of uric acid and sodium urate. Potassium, lithium, and magnesium hinder precipitation. Sodium always promotes precipitation. Ammonia usually favors precipitation.

These investigators found the blood of gouty persons often supersaturated with urates, and the deposit of uric acid was probably due to some condition analogous to the sudden forming of crystals in a strong solution. These observers found that the use of mineral waters containing magnesium and potassium acted beneficially in these cases, but if the mineral waters contained sodium, they were harmful. A vegetarian diet they found more favorable because of the large amount of potassium and magnesium salts. On the other hand a flesh diet, even when poor in purins, was disadvantageous on account of the large proportion of ammonium salts present.

It would seem that from the findings of these men free water drinking, even of water that did not contain large quantities of mineral matter, might be excellent for uric-acid subjects.

Dentistry and Medicine

EVIDENCE is multiplying to the effect that dentistry and medicine are becoming more firmly associated, and that dentistry will eventually be recognized as a branch of the medical practise, as it is in fact. Even now, a dental course requires a knowledge of the anatomy, physiology, and pathology of the entire organism, and in some dental schools conducted in connection with medical schools, the courses have still more in common. Probably more will be incorporated from the medical into the dental curriculum. In fact, a dentist must now know much more about the practise of medicine than the physician knows about the practise of dentistry. In other words, dentistry is fast taking up the character of a medical specialty, the same as ophthalmology, gynecology, and the like. That it is taught in a separate school is perhaps an advantage, provided the instructors realize the importance of increasing the instruction in general medical lines — not with a view to the transformation of the dentist into a general practitioner, but to enable him to render greater service in that great field, the influence of dental and oral pathology on the general health, and conversely, the influence of the general health on mouth conditions.

Hospitals are beginning to provide on the consultation staff a skilled dentist. The Boston *Medical and Surgical Journal,* commenting on this fact, says, editorially: —

"As our knowledge of the mouth cavity has grown, and of the relation of the teeth to the important fifth nerve in neuralgia and allied conditions, as well as the significance of the mouth as a port of entry of various pathogenic bacteria, it has become evident that to ignore the teeth and their condition leaves a definite gap in the diagnosis of many conditions. There is evidence on every hand of the closer approach of dentistry to medicine in general, and of the recognition grudgingly given in certain quarters that dentistry is, properly speaking, a special branch of medicine."

As We See It

Athletics and the Growing Boy

Two physicians, Dr. N. B. Potter, of New York, and Dr. J. T. Harrington, of New Jersey, having seen a number of boys with dilated hearts, or pulmonary tuberculosis, or some other serious condition who had been taking part in strenuous athletic exercise without any note having been taken of their physical condition, decided to conduct an investigation on a number of selected schoolboys, in order to determine the effect of athletic exercise on the growing boy. Their report is published in the *Journal of the American Medical Association,* December 11. The boys were selected from a number of schools. The examinations, before and after exercise, of pulse, blood pressure, heart, albumin, and casts, showed that some of the boys at least should not be allowed to take part in strenuous competitive work unless supervised by a competent physician. They raise the question as to the advisability of so much devotion to athletics among schoolboys. In the discussion that followed the presentation of the paper at the Atlantic City meeting a number of instances were cited by physicians of serious heart trouble and other difficulties developed by athletic work.

One thing should be remembered; the growing boy is unseasoned. He may exhibit an endurance in wind and muscle that far more than matches the capacity of his heart or kidneys. He dislikes to

be second best; he presses himself to the utmost in order to gain a temporary victory. The result may be a broken constitution, a dilated heart, a damaged kidney, a life of comparative inefficiency. Athletics in some cases does irreparable damage.

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Standard Oil Serum

RECENTLY we received a protest against publishing information concerning the Flexner serum for cerebrospinal meningitis. It was suggested that this was a "Standard Oil remedy." We failed at first to catch the significance of the expression, supposing the reference to indicate the writer's belief that the serum was some patent medicine foisted by monopoly methods. Later our tardy thinker grasped the thought that the Flexner serum is a preparation originated in the Rockefeller Institute! Possibly our correspondent believes that in some way John D. is making a snug little fortune out of the sales of the serum.

Lest others may be troubled the same way, let us whisper that the serum is on a little different basis from petroleum, and that the only thing the Rockefeller Institute brings to Mr. Rockefeller is an outlay. It is an institution endowed by him for scientific research, and the means he has furnished has enabled physicians and scientists to devote their time and energies to the study of human disease. Among these has been cerebrospinal meningitis, with the result that a serum has been produced which has reduced the mortality of this formerly hopeless disease from about eighty to about twenty per cent; and Mr. Rockefeller gets absolutely nothing (except knocks). It is a benefaction pure and simple.

More recently Mr. Rockefeller has given a million dollars for the eradication of the hookworm disease in the South; and here again he was rewarded with kicks, even by some of the Southern papers.

However this money may have come into his hands, we must recognize that he is making good use of it, by applying it to the betterment of the public health. And he is enabled to do what might have taken years to accomplish by public-spirited men of less means.

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Development of the Corset

A WRITER in a recent issue of the London *Lancet* points out some disadvantages resulting from our long-continued erect position. He believes that nature attempts to overcome the difficulty by the formation of peritoneal adhesions to hold the abdominal organs in position. He believes the ordinary corset increases the trouble, and advocates a corset which exerts a backward and upward pressure below the umbilicus while leaving the upper part of the abdomen free. The *Lancet,* commenting on this suggestion, remarks: "We fear that some very radical change will have to be made in the dress of women before they will consent to wear a corset merely for reasons connected with health."

There is a significance in that word "merely." After all, what is *health* as compared with *figure?* Woman wears a corset for two principal reasons — as a point of attachment for her skirts, and as a necessary element in the production of that without which many women would consider life not worth living — a fine form. As to health, that is a minor consideration.

By the way, some recent discoveries indicate that in the island of Crete, many centuries before the Christian era, women to an astonishing extent compressed their waists. There are pictures from that far-off time representing women with waists smaller than their necks! Evidently the fancy for a bifurcated body, after the manner of the

wasp, has descended from a hoary antiquity. There may be some satisfaction in the knowledge that some of the modern corsets are at least an improvement healthwise on some of the earlier types.

Two Mistakes We Make

THERE are two mistakes we are liable to make with regard to disease. A certain class of patients, with a certain mental and nervous make-up, are inclined to consider every little insignificant symptom serious. Such patients worry themselves into actual sickness. But there are many who are not willing to take warning from the first indications of real organic disease, in time to prevent further damage. One man thinks every pain in the back means kidney disease. But the man who really has beginning kidney disease has no startling symptom to mark it, and often, he is not willing to submit to an examination, for he does not want to learn anything about himself that might worry him; so he goes through the period when a proper course might effect a cure, and only in the last stages of the disease, when he can no longer help knowing something is the matter with him, will he consent to do anything for it. O, yes, before that he may consent to take a little medicine; but change his habits — not till it is too late.

Man's Inhumanity to Woman

IF there is one thing that exceeds in perversity " man's inhumanity to man," it is his inhumanity to woman as revealed in the " white slave traffic." That men can become so utterly oblivious to human feeling as to engage for gain in the prostitution of girls to a life of vice and degradation and corruption would be inconceivable were it not a fact. Recent disclosures are bringing this shameful traffic into the lime-light in such a way that it is probable some of the supposedly respectable men who are engaged in this unmentionable business will find it convenient to take to the tall woods. Collusion with corrupt city officials, and an unawakened public have in the past been the fostering factors. The public, now that it is awakening to the horror of the reality, will probably be satisfied with nothing short of a social and political house cleaning which will treat this traffic as an abatable nuisance.

The Leprosy Problem

NOTWITHSTANDING the fact that leprosy is a comparatively rare disease in temperate regions, and is transmitted evidently in very exceptional circumstances, there seems to be connected with it something of the superstition that hovers around the number thirteen. Tuberculosis, a far more transmissible disease, to which a very large proportion of our population seems to be subject, is tolerated by us, and we would consider any effort to isolate forcibly a tuberculosis patient, even in an advanced stage, an outrage.

In our enlightened national capital we have had the strange spectacle of an alleged leper, Mr. Early, on whom the proof of the disease was by no means conclusive, separated even from his own family for more than a year, and this by a medical official, who, we are told, admitted privately that he did not consider the disease especially contagious, but did it in order to follow out the provisions of the law. We are somewhat of the opinion that had he been in the other man's boots, the case might have appeared quite different to him. Dr. Bulkley, a specialist in skin diseases, of more than national reputation, whose opinion should carry with it considerable weight, is of the firm opinion that Mr. Early has not and did not have leprosy; but whether or not Mr. Early had leprosy, it will always remain a matter of astonishment to the person who thinks, that a consumptive, who, when

careless, is known to be constantly a menace to those around him, is allowed to go perfectly free, while a leper, who, so far as we know, has very little power of transmitting this disease in temperate regions, is imprisoned.

In this connection we would call attention to some quotations given in the Medical Forum.

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Prevention of Infant Mortality

UNDER the auspices of the American Academy of Medicine there was recently held in New Haven, Conn., a national conference on infant hygiene, which resulted in the organization of a permanent "National Society for the Study and Prevention of [the first part of the name seems strangely familiar] Infant Mortality." We seem to have entered the era of national societies for the study and prevention of this and that disease, and it is to be hoped that this organized activity may accomplish definite good. The evils which these national societies have organized to combat — tuberculosis, pellagra, infant mortality — are national in character, and their ravages constitute a national evil.

Of all the philanthropic works to which physicians have devoted their attention, perhaps there is none more worthy of their best efforts than the crusade against the present high death-rate among infants, and it is to be hoped that the new association may be in fact, as well as in name, an association for the prevention of infant mortality.

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Regrettable Activity

WE have admired the pluck and persistence of Dr. Wiley and his associates in the face of great odds and wealthy interests, and have rejoiced in the success that has attended the efforts to enforce the provisions of the pure food law, but we can not say that we favor a war on the dictionary, or an attempt by law to restrict to one usage a word which has been used in several senses. For instance, the word "cream" is a word having a number of meanings. The third definition, according to Webster, is, "A delicacy of several kinds prepared for the table from cream, etc. [note the *etc.*], or so as to resemble cream." To decide that ice-cream must come under the first definition, that is, must be composed entirely or largely of cow's cream, is to do violence to the language. When our pure food laws are supplemented by cosmetic laws, I suppose massage creams will also have to be made from cow's cream. Our laws should of right be construed to prevent deception; but is any one deceived by such expressions as chocolate creams? Are we to be forbidden to use the expression "English walnuts" because they are not grown in England? Shall we invent new terms for French prunes, German prunes, Hungarian prunes?

Recently there has been a decision against the Crescent Manufacturing Company, which produces an extract that, added to a sirup made from cane-sugar, gives a flavor that very few would distinguish from maple sirup. It is not sold as maple, and the manufacturers contend that it contains nothing injurious, and I doubt that any one purchasing it has been deceived with the thought that it is a maple product. It is, in fact, made on the Pacific Coast, where no sugar maple grows, and everything connected with it is against the belief that it is placed on the market with the intent to deceive. The label reads: "Mapleine, a vegetable product, producing a flavoring similar to maple. A delicious flavoring for sirups, cakes, candies, bonbons, frosting, ice-cream, etc., made by the Crescent Manufacturing Co., Seattle, Wash." The adverse decision contains no evidence that the product is in any way injurious, the entire contention

being that the name "mapleine" constitutes misbranding. This decision was obtained in the District Court of the United States for the Northern District of Illinois, and supposedly is the verdict of twelve jurymen. They were asked to decide, "Was the label false in any particular? Was it misleading in any particular?" Evidently they decided it was. It is a question of fact. The men who are too busy to get onto juries would probably decide that the label was in no wise misleading. And I doubt that the company expected it to deceive. The statement on their label and in their advertisements that it is an imitation maple flavor, indicates conclusively that they make no pretense that it contains any product of the maple tree.

We trust our good friends who have the work of securing the enforcement of the pure food law will not become so exuberant over their successes that they will permit themselves to "slop over." Every excess in administration is bound to be followed by a reaction.

The Training of Domestic Nurses

LONG has there been felt the need of a class of nurses fitted to minister to the wants of the sick in moderate circumstances to whom a rate of twenty-five dollars per week would be prohibitive. To meet this need Dr. William Stillman, of Albany, N. Y., with some twenty other physicians, has, for the past four or five years conducted an experimental class for the training of "domestic nurses," as he calls them, which seems to have met with marked success.

Pupils who have good health, good moral character, and at least a grammar grade education, are received into the class, and are given a six-months' training, four months of which are devoted to class study and lectures by the physicians or by the superintendent, who is a registered nurse. Instruction is given in anatomy, physiology, dietetics, food for the sick, hygiene and sanitation, nursing technique, materia medica, poisons and antidotes, and emergencies; also in the care of instruments and materials, and the preparation of dressings for emergency surgery cases. They are taught to take the temperature, pulse, and respiration, to keep charts and records of cases, to use the catheter, and to give enemata. In fact, the aim has been to make the course thoroughly practical and useful. In all, about one hundred twenty-eight lectures are given in the various subjects. After this, two months' bedside experience is given under the direction of the head nurse. No one receives a certificate till she is twenty-one. Altogether, over one hundred fifty have been graduated, most of whom are in steady demand. Some have completed a course entitling them to register. Graduates are encouraged to restrict their charges to not more than twelve or fifteen dollars a week.

Undoubtedly these domestic nurses are filling a place that never would be filled by the registered nurses, and they will always be in demand; and undoubtedly the demand will result in a greater output of nurses of this kind; for it is unreasonable to say to a poor family that it must pay twenty or twenty-five dollars a week, or do without a nurse.

Sterilization of Criminals

THIS question has been discussed pro and con. The "con" we can not understand. Why in view of the fact that ninety per cent of the inmates of the Ohio Industrial Home for Girls are the offspring of criminal parents, one or both, and that ninety-five per cent of the boys of the Industrial Home are of similar birth, any one should plead for the "rights" of criminals to perpetuate their like, is a mystery, unless it be the fear that the pleaders may some

day be in the class themselves. It is one function of government to prevent as far as possible the multiplication of the criminal class; and certainly a man or a woman who has a heredity so depraved as to make him or her dangerous to the community, has no "right" to transmit that heredity. The proposed law to forbid marriage to all who are not up to a certain standard of physical fitness is ridiculous, and can only result in the increase of illegitimates; but a law making it physically impossible for criminal degenerates to beget their like can not have any such result.

The Departments and Charlatanry

THE Post-office Department has been very busy the last few years in detecting and breaking up fraudulent schemes carried on through the United States mails. If on careful investigation, a scheme is found to be fraudulent, a "fraud order" is issued, and no mail is delivered to the fraudulent concern. All letters containing money addressed to the concern are returned to the senders by the postal authorities, with proper explanations.

A large proportion of the frauds consists of cures, especially cures for the drug habits. And in practically every case investigated, these cures consist of more of the drug which they attempt to cure. A cocain cure, for instance, is simply a preparation of cocain in a little different form, at a much higher price. While the victim is using the "cure," he does not feel the need of the drug in the old form, but he gradually has to have larger doses of the cure.

The Bureau of Chemistry works in harmony with the Post-office Department in the detection of these frauds. As soon as the evidence is sufficiently strong in any case, a fraud order is issued, and puts a stop to operations under that name; but these men of criminal instincts and tireless activity never cease their work of deception as long as they are outside of prison bars. When one fraud is nailed, they immediately begin a new enterprise under a different name, and work that until detected.

Nutritional Disorders

GRADUALLY but surely, we are learning that many of the obscure diseases of the body originate in the digestive canal, and are to a large extent determined by our methods of eating. The work of Chittenden and others, demonstrating that we as a rule eat more, especially of proteids, than we need; the work of Herter and others, showing how the general health may be affected by the bacterial life of the intestine, and how differences in food cause a marked change in the work of the bacteria; and the work of many others, point to the fact that we condition our health very much by our dietetic habits.

In the January Edinburgh *Medical Journal*, H. M. Church, B. Sc., M. D., F. R. C. P., in an article on rheumatoid arthritis, makes this significant statement: —

> "In almost all cases of rheumatoid in the acute stage, which have been carefully studied, there have been indications of intestinal putrefaction. . . . Rheumatoid arthritis is a disease of nutrition, probably beginning with disturbance of function in the digestive passage."

It is not by any means the heavy eaters, the great meat eaters, if our observation serves us correctly, that suffer from this dread disease. But perhaps in every case, some germ has gotten control in the intestine, and is master of ceremonies, producing the poisons which make for the destruction of the joints.

THE MEDICAL FORVM

The Leprosy Problem

THE attitude of the health officer of the District of Columbia in the Early case, and the position taken by Dr. Bulkley of New York, have stirred up some discussion in the medical journals as to the transmissibility of leprosy. The question is by no means settled. The editor of *American Medicine* says in the January issue: —

"The leprosy problem seems to be farther than ever from solution. Granting, as every humane person must, that nothing gleaned from recent study of this disease justifies the abject fears that once led to the most heartless treatment of patients thus afflicted, we must be as ready to admit that our lack of knowledge of the manner of infection most assuredly does not warrant allowing lepers to mix at will with those uninfected. In other words, the *modus operandi* of a leprous infection is unknown; and such being the case, relaxation of a single precaution would not only be imprudent — it would be criminal. Until the manner of infection is definitely known, society must maintain a defense that is effective in every direction, even though unnecessary in all but one. Mankind can not afford to make any concessions to uncertainty.

"Therefore, when our health authorities seem unduly strict in establishing quarantine against leprosy — or any other contagious disease, for that matter — it should occasion satisfaction rather than suspicion. Common sense dictates that the margin of safety should be too wide rather than too narrow in the practical operation of preventive medicine."

The *Journal of the American Medical Association* seems to take a more conservative and humane view of our relation to this disease. In the issue of January 29 is the following editorial comment: —

"There is hardly any disease, the suspicion of which can so induce popular panic, as leprosy. The accepted opinion of its incurability, the historical and traditional reputation of the disorder, and its repulsiveness have been sufficient to account for this fear to a certain extent and to justify it. The recent resolutions of the British Colonial delegates to the conference on leprosy, held at Bergen, Norway, in August last, support in a measure the popular views of its contagiousness, though they do not justify some of the impressions which have been taken against it in some quarters. They point out that an interval of years may elapse between an infection and the first appearance of the disease, a fact which is itself rather suggestive of terrifying possibilities to timid persons; but against this, however, we have the fact that the leprosy germ does not seem to be particularly viable outside of the human body, and cases of known contagion in other than tropical countries are at most rare. The scattered lepers in Wisconsin and Minnesota do not appear to be foci of contagion, and there is no extensive evidence of its spread in Nova Scotia and Norway, where it has long existed. Although it was common in Europe after the crusades, it almost died out without any scientific treatment. While it can not be said that there is any racial immunity, the Orientals, including the Malay and Mongol races, appear to be most liable to infection. It is probable also that the nervous forms of leprosy will be found, as certain African specialists have declared, much less contagious than the tubercular form. Occasionally imported laborers are found in our Northern cities, mingling with the general population, without restrictions, but investigations by the Public Health and Marine Hospital Service have not disclosed any authentic cases of contagion."

The British and Colonial delegates mentioned in the above quotation have adopted the following resolutions: —

"1. Leprosy is spread by direct or indi-

rect contagion from persons suffering from the disease. The fact that indirect contagion may be effected by fleas, bugs, lice, the itch parasite, etc., has to be borne in mind. Leprosy is most prevalent under the conditions of personal and domestic uncleanliness and overcrowding, especially where there is close and protracted association between the leprous and non-leprous.

"2. Leprosy is not due to the eating of any particular food, such as fish.

"3. There is no evidence that leprosy is hereditary; the occurrence of several cases in a single family is due to contagion.

"4. In leprosy an interval of years may elapse between infection and the first recognizable appearance of the disease. It is a disease of long duration, though some of its symptoms may be quiescent for a considerable period, and then recur.

"5. The danger of infection from leprous persons is greater when there is discharge from mucous membranes or from ulcerated surfaces.

"6. Compulsory notification of every case of leprosy should be enforced.

"7. The most important administrative measure is to separate the leprous from the non-leprous by segregation in settlements or asylums.

"8. In settlements home life may be permitted under regulation by responsible authorities.

"9. The preceding recommendations, if carried out, will provide the most efficient means of mitigating the leper's sufferings, and of assisting in his recovery, and at the same time it will produce a reduction and ultimate extinction of the disease."

Commenting on these resolutions, the *New York Medical Journal* says: —

"In view of these authoritative opinions from scientific men engaged in the lifelong study of leprosy the time would seem ripe for enlightened and progressive action in the United States. Leprosy is undoubtedly increasing in this country, and we are not dealing with it in an intelligent and worthy manner as compared with other countries."

The New York health department has made leprosy a notifiable disease, but it is feared that all cases are not reported. It is estimated that there are at least two hundred lepers in New York. Within three months, in the out-patient department of the Presbyterian Hospital, three lepers were detected, one being a girl of thirteen, who had never been out of this country.

The *Journal* very aptly comments: —

"On account of the senseless hue and cry raised when a case becomes known, as recently shown in the case of Early, most of the victims naturally prefer to remain unrecognized, and quietly disappear when they learn the true diagnosis of their condition. There is greatly needed in the United States at least one country colony and institution for the segregation and scientific study and humane treatment of leprosy."

The *Medical Record* (New York) sums up the Early case in the following language: —

"Mr. J. R. Early, and incidentally the general public, will begin to have a pretty poor opinion of medical diagnosis as an exact science if he is submitted to many more examinations. First he was declared a leper by the health officer of Washington and was imprisoned for the crime. After some time his case was brought to the notice of Dr. Bulkley of this city, who examined him and declared there were no signs of leprosy. With great difficulty the prisoner obtained his release and came to New York, where he was again pronounced free from all taint of the disease. In the meantime a piece of the man's skin was sent to Bergen and was examined by Hansen, who found what he thought was a lepra bacillus, and on the strength of this he pronounced Early a leper. The War Department said he was not a leper; and accordingly cut off his pension. He went to Washington to inquire about it, and was arrested and again incarcerated on the charge of being a leper. After much trouble he was again released and came to New York in a freight-car, the railway officials fearing he might endanger the health of the syphilitics, the tuberculous, the carriers of typhoid and diphtheria bacilli, and other infection spreaders in the Pullmans. Here he was presented to the Society of Medical Jurisprudence, and a committee was appointed to examine him again. This committee reported that he had an anesthetic spot on the leg, and that an acid-fast bacillus was found in a piece of his skin, and so declared him a leper. . . . In the meantime five well-known neurologists examined the man and reported that they found no evidence in skin or nerves of anesthetic leprosy; and no one accuses him of having tubercular leprosy.

"And Dr. Bulkley remains steadfast in his opinion that Early is not a leper. . . . The only evidence of a positive nature that has been given is that the man when first seen had a skin eruption, and that an acid-fast bacillus has been seen in a section of the

skin, and that there is a small patch of slight thermic and tactile hypesthesia on the leg just above the ankle. The eruption has entirely disappeared, the acid-fast bacillus might be one of half a dozen microorganisms, the hypesthetic area is no more than any one might have, and many healthy persons do have. There are no signs of tubercular leprosy, no thickening of the nerves, and no skin eruption now, although the man was declared a leper two years ago. . . . He is a leper and not a leper. He is prevented from earning a living in peace because he is a leper, and his pension is cut off because he is not a leper."

Simply a case of monumental official stupidity and hysteria. Is it any wonder that the *New York Medical Journal* comments: —

"So far as we are able to see, little good can come from the public contention as to whether the man Early really has leprosy. It is a question that ought to be dealt with with as little publicity as possible."

Yes, so far as the reputation of the men who made the blunders is concerned, but perhaps more publicity will serve to deter men from condemning a man to penal servitude on so slight evidence. Let the health officer put the shoe on the other foot for a while, and I think he will want a more certain diagnosis before he is compelled to go into enforced imprisonment.

Pasteurization of Milk

ROWLAND G. FREEMAN, M. D., in a paper read before the New York Medical Society, strongly favored the Pasteurization of milk for infants. "We can all agree," he said, "that what we want is a safe raw milk for infants;" but the question is whether there is such a thing as a safe raw milk; and if not, is milk injured by heating, and to what extent, and by what temperature? It is a restatement of the old query on which there has been such a great diversity of opinion. He admits that we can and do feed babies on a much safer raw milk than was possible five or ten years ago, but asks, "Are even the best certified milks safe?"

"The danger of tuberculosis in such milk may be said to be fairly eliminated by well-aired, well-ventilated cow-stables, and by the repeated tuberculin test. But tuberculosis is one of the lesser dangers in milk. The diseases concerning which we have the most tangible and incontrovertible proof are typhoid fever, diphtheria, scarlet fever, and epidemic sore throat."

While sanitary inspectors and health officers do almost all that is possible to protect us from disease, "epidemics may occur from the sale of certified milk. No system of control can protect a milk supply from a mild walking typhoid or a typhoid carrier among the employees," unless regular bacteriologic examination is frequently made of the discharges of each employee, and no such system is likely to be inaugurated. Diphtheria is apparently spread by the best of milk supplies. We have nothing to protect the milk against healthy employees who have virulent diphtheria bacteria in their throats, and the same argument applies to other diseases which may be transmitted even when all reasonable care is used, as in our most careful dairies.

The opinion current in this country that heated milk does not give proper nourishment is handed down from the time when it was customary to boil milk.

"This opinion that boiled milk causes malnutrition in children is well answered by the fact that European physicians have been using it for twenty years or more without discovering any evil effect."

Dr. Freeman does not accept the belief that scurvy is caused by the use of boiled milk, but by the use of diluted milk. Comby, of Paris, who has had a very large experience, has seen only five cases of scurvy, and they had all used diluted milk. In the Paris milk depots, where the milk is sterilized at such a high temperature that the milk changes color, there has been only one case of scurvy reported. Neither does Dr. Free-

man believe that sterilization of milk causes rickets. However, for safety, he advises using a lower temperature.

"The only safety for the consumer is to get his milk sweet and raw. . . . He should then render it safe by the use of the smallest amount of heat compatible with safety. A temperature of 140° F., but little higher than the temperature in which one can bear one's hand, if continued for forty minutes, with the milk in a closed nursing-bottle, is sufficient to kill all the bacteria we know and fear in milk. At the same time it changes neither the taste, nor, so far as we know, the chemical composition or the ferments of the milk."

The doctor speaks strongly against the use of commercial Pasteurized milks, which, he says, are usually heated to prevent a dirty milk from souring before it can reach the consumer. Sometimes the milk is so dirty that it has to be heated at the dairy and again at the milk depot in order to prevent its souring.

Exit the Family Doctor

WHERE'S the good old family doctor, with his microscopic bills,
With his bag of plasters, powders, and those evil-tasting pills?
How our troubles used to lighten and our aches and pains abate,
When his shabby horse and buggy tied up at the old front gate!

Now it's Doctor This for measles and it's Doctor That for mumps,
And it's Doctor What-You-Call-Him when it's just a case of dumps;
If it's only common colic, just as plain as plain can be,
To a hospital you're hustled for some surgicality.

Comes the twentieth century doctor in a spotless limousine,
Sealed hermetically in it — clothed "germ-proof" to microbes keen.
Or, more truly, this great doctor will not come at all to you —
In an office he's receiving — "Office hours from one to two."

And it's Doctor This for left eye and it's Doctor That for right,
And it's Doctor What-You-Call-Him if you're crosswise in your sight;
When you need some fancy glasses just to see more than you ought,
To Berlin you're shipped instanter to that famous Doctor Whaught.

He can amputate bad tempers, he can make good folks of bad,
He'll immune you from diseases that you never could have had.
Yes, time's come when it's expected, just to keep you "middling fair,"
You must know the specialistic docs of all the kinds there are.

O, it's Doctor This for "eetises" and Doctor That for "ites,"
And it's Doctor What-You-Call-Him when you're seeing things o'nights.
Each will treat one "error" only, will these modern unionists,
Then divide your woes with twenty other waiting specialists.

— *New York Times.*

In this department, articles written for the profession, which contain matter of interest to LIFE AND HEALTH readers, are given in abbreviated form. Where practicable, the words of the author are given, but often the passage is abbreviated, or else paraphrased in popular language. Technical matters and portions of articles having no popular interest are omitted.

Arriving at Forty

NOT infrequently a man of forty or more, hitherto in excellent health, suddenly experiences a marked change, reaching its climax in a few weeks. There are various digestive disturbances, constipation, distension over the stomach, loss of breath on exertion, lassitude, sleeplessness at night, drowsiness in the day, headache, and other symptoms. If he is a smoker, he may have agonizing pains in the region of the heart. These symptoms may be only temporary, but later he notices a lack of enthusiasm for work. The simplest tasks cause great effort. His memory is less reliable. Names and dates are not remembered, and he has difficulty in finding words to express his thought. In matters requiring decision, he is constantly balancing between the pros and cons, and can arrive at no definite conclusion. A timidity develops that prevents his looking a man in the eye when speaking to him; and he slinks from meeting old acquaintances in the street. His features are tired and worn, and he feels that everybody is aware of the change taking place in him.

He is infirm in purpose, even in face of minor difficulties; for fear is uppermost in his mind. His pessimism regarding his condition increases, and he imagines his wealth is wasting away. With his own relatives he is ill at ease. His unhappiness is so dominant that even a casual observer might know that he craves sympathy; but as his appetite is good, even to the verge of gluttony, the observer laughs at his depressions, and this attitude makes him desperate; hence, to command sympathy, he complains of his condition, and by giving utterance to his woes, he comes to think his case has reached a hopeless stage, and that he is bound to have every disease of which he has ever heard.

It is important to note that this mental state, characterized by sadness and fear, is secondary to the physical symptoms, following them by an interval of two or three weeks. Mental depressions manifest themselves only after the organs of the body have sent their complaints to the brain while in a state of fatigue, or suffering, or lowered functioning.

The condition of languor varies according to the dulness or emptiness of the stomach, or the physical conditions of the patient at the time. In the morning he is downcast. In the evening, if he happens to be in a well-lighted room, he becomes quite natural, and will not brook any reference to his depression.

I have seen in the last fifteen years two hundred one cases similar to the one described, and have kept my patients under observation during the whole treatment, that is, for many weeks. The men had been previously in excellent health without any neuropathic symptoms, active, self-confident, and enthusiastic in

their work. Another point,— they did not react to psychotherapeutic treatment. The reason was that the attention of the physician had been concentrated on the mind of the patient, rather than on his bodily condition.

In my treatment of these cases, I abstain altogether from moral re-education. On the other hand, a thorough cleansing out of the internal organs is instituted. When the kidneys are slightly affected, I prescribe a milk diet, then skim milk, or milk greatly diluted with alkaline waters, then milk with a vegetable regimen. In some cases vegetables and fruit are given, careful mastication being advocated; and only on the empty stomach are liquids allowed, and then in the form of abundant diuretic drinks. Lactic ferments, on account of their power to combat constipation and indicanuria, are prescribed, and salt is limited. After two or three weeks of this diet, a return to the normal diet may be undertaken, though from now on the amount of meat should be curtailed. Hydrotherapy (warm baths), moderate massage, and above all, walking in the open country, are indispensable complements of the treatment.— *Dr. Maurice De Fleury, paper read before the French Academy; abstract from translation in Interstate Medical Journal, February, 1910.*

The Ordinary Cold

THE common cold is an inflammation of the upper air-passages. Sometimes such a catarrh is purely of a nervous sort (such are some cases of hay fever), or the result of some food irritant, or of exposure to dust in certain trades; or one may have a psychic catarrh, merely from the apprehension of taking cold. But in the vast majority of cases colds are the result of infection. There must be two factors to the production of colds: the presence of the essential germs, and the predisposition. Individuals differ greatly in susceptibility. Many never catch cold; others show intense susceptibility, blowing their noses incessantly, and making themselves and their fellows miserable upon the slightest provocation.

There are epidemics of colds. An individual comes into a workshop or an office sneezing and sniveling; and presently half the force is engaged in the like proceeding. It would pay immeasurably to give such a man a day off. The laity generally know the symptoms,— nasal obstruction, sneezing, pain on swallowing, loss of voice, chills and feverish sensations, pain in the bones.

The common cold is a privilege enjoyed almost wholly by civilized man; it seems to have come in simultaneously with that emblem of civilization, the house. Therein it has gradually become the custom to shut out the fresh air; and with this custom people came to catch cold, a process oftentimes the result of superheating. People who live habitually outdoors know nothing of cough and colds. Moreover, primitive man was not so overcrowded, nor was he so gregarious as we are; besides, he wore little clothing, such as we wear to the degree that we become enervated by it. Such clothing also harbors germs and carries them from place to place.

Despite our antituberculosis propaganda, which is based largely on pure air, people continue to fear this beneficent agency. In many a rural district the house is hermetically sealed from November to April. Not fresh air, but the want of it, is the cause of many diseases. To prevent colds any local abnormality

or affection should be removed or cured — adenoids, enlarged tonsils, spurs or hypertrophied conditions of the nose. Then the general health should be improved. Stuffy and overheated rooms should be avoided; bedroom windows should be kept wide open at night. A cool bath (in a warm bathroom) should be habitual, if it can be tolerated. The clothing should be warm, but not heavy. The feet should be invariably warm and dry. Remember the precaution, "Put your chest protectors on your feet."

Both overeating and eating the wrong kinds of food are enormous factors in catarrh production. He who overfeeds is likely to catch cold; and what is worse, his cold is apt to become chronic. Dr. H. Campbell finds that practically all the very young children of the London poor suffer from inflammation of some portion of the upper respiratory tract. He attributes this to the absorption of poisons from the alimentary tract; but whatever the exact explanation, there can be no doubt that improper feeding is a causative factor, and that the best way to eradicate the trouble in these cases is to correct the disordered state of the digestive apparatus by enforcing a suitable dietary. Plain food is indicated for those with a catarrhal habit; no starches; no sugars; or at any rate, these things in moderation. One can starve out a catarrh.

The best way to escape colds is to avoid the infective agents. When there is an epidemic, cars, theaters, and public buildings had best be used as little as possible; the imperfect ventilation in most of these structures renders them hotbeds of infection. Other rules are: always to breathe through the nose; never to eat without first having washed the hands; never to neglect even a common cold.

If one fears that he has been exposed to infection, he had best douche the nose and gargle with a hot solution of table salt — one-half teaspoonful in a tumbler of water. More cases of tuberculosis are the result of neglected colds than of any other cause.— *Editorial in Medical Times, February, 1910.*

Hookworm Anemia.— The fact that a New York laborer suffering from hookworm disease passed through three hospitals, diagnosed as "pernicious anemia,"— one of the hospitals being a well-known New York institution,— and was discharged in a supposed dying condition, to be treated for hookworm disease and cured, shows the necessity of physicians being on the lookout for this disease. This case was one of infection by the European hookworm, which is quite different from the hookworm that is common in the Southern States, and it is supposed that he contracted the disease from one of his Italian associates.

Plague in Ecuador.— Bubonic plague seems to be gaining a permanent and dangerous foothold in Ecuador. Seventy cases, with twenty-four deaths, were reported in the capital city the last two weeks in December, and there are cases elsewhere in the republic. Inasmuch as the commerce between Ecuador and Panama is quite extensive, grave possibilities are presented of the infection gaining a foothold in the Canal Zone. The proposal of Uncle Sam to establish a quarantine against the infected district has raised the wrath of the natives, who believe it is an invasion of their natural rights.

The Medical Use of Alcohol

WE have learned much about alcohol in recent years, but we have not given the public the benefit of our knowledge. We have steadily diminished the amount of alcohol used in our hospital wards until it has become almost obsolete as an internal remedy; but still the public has continued to judge the medical profession's attitude toward alcohol by the copious prescribing of it in the past, and by what it sees of the doctor's habits at his club. So far as the public goes, alcohol is approved by the medical profession. It is time to set the public straight in this matter; and if we are not agreed to cast it out entirely, much good would come if the public could know that it is now but comparatively little used in medicine. The practical layman will understand the meaning of the fact when we tell him that in the last twenty-five years the medical use of alcohol has decreased more than seventy-five per cent. A remedy which is being eliminated at this rate is approaching its end.— *Editorial, New York State Journal of Medicine.*

Why Not Educate on the Sex Question?

I DO not believe that sexual education ought to be deferred until a child is ten or eleven years old, but that the attention should be paid to this from the very first, and that from the day it begins asking where children come from, it should be given answers which do not distort the truth. To-day the pure source of life is polluted by the false method of secrecy in education. A boy picks up some of the ugliest facts in the streets, which prompts him to disbelieve his mother; he thus loses his confidence in her, while growing up without the respect he might have had for the laws of nature, and without ability for artless consideration of the multiplying of the species. With children one ought always to be simple, frank, and sincere. . . .

The school of to-day is also full of prejudice; there also prevails the idea that the sexual instinct should be regarded as something unworthy, if not culpable; there, too, a ban is put upon all reference to the propagation of the race. Natural history is taught there without any recognition whatever of the sexual functions. Respiration, circulation, and digestion are all carefully explained, but the organs by which digested matter is removed from the body are not mentioned, because proper bringing up forbids it, and because the region must not be too closely approached where the organs of generation are situated, which — so the school says — do not exist. Anatomical plates for the schoolroom invariably represent beings with no sex. . . .

Our young people learn of the existence of Mesopotamia, and they probably know by name the rivers running through central Asia, but they do not know what to call certain parts of their own bodies, or what the functions of these parts may be. A Danish inspector of schools was quite right in asserting that if schoolchildren were taught at school how

to pronounce, as they might be other words, confinement, pregnancy, semen, ovary, uterus, then these terms would soon lose their terror. The schools could impart knowledge of the wonderful phenomenon of the propagation of the species in a systematic and entirely chaste manner in the course of lessons on vegetable and animal life. It should not be treated separately or given a place of exaggerated importance, but should be taken up, like any other phenomenon of nature, on due occasion. The master ought to teach his pupils to talk naturally about natural things, and in a candid fashion, as well as in that spirit of reverence which the great marvels of nature inspire.— *Pio Foa (a member of Italy's senate), translated in Review of Reviews.*

Black Bread

THERE is very little difference between the nutritive value of the wheat and the rye loaf. In some respects the rye loaf presents certain advantages over wheat, and in others wheat may be better than rye. Rye contains a rather greater percentage of soluble carbohydrate than wheat, and somewhat less gluten, yet the total protein matters amount to the same in both flours. A medical analysis shows very trifling difference of composition between the two cereals. One distinct advantage of rye bread is that it keeps fresh longer than wheat bread. Rye bread also has distinct laxative properties. Pumpernickel, or whole-rye bread, is more laxative than schwartzbrod, possibly on account of its relative coarseness of texture. It is an interesting fact that when the flavor of rye bread is appreciated, ordinary wheat bread seems monotonous, because of its comparative tastelessness; and so it is common to find the rye-bread eater demanding black bread whenever he can get it, and in whatever country he may happen to be. The large consumption of rye bread indicates, no doubt, that in the event of a shortage in the wheat supply, the breach can be repaired by the use of rye without hardship.— *London Lancet.*

The Quack's Harvest

MOST persons consult a physician for their acute ailments, but it is the chronic sufferers that fall a prey to the quacks and charlatans who do not hesitate to advertise and make claims that the etiquette of our profession and common honesty deny to the physician whose chief end is not dollars. The quack is not interested in curing the disease, but in selling his "cure." Hence he acts on the commercial principle that —

> The man who has a thing to sell,
> And goes and whispers it down a well,
> Is not so likely to collar the dollars,
> As he who climbs a tree and hollers.

So loud does he holler, and so persuasively, that at times he misleads not only the laity, but the doctors as well.— *T. H. Farrell, M. D., in New York State Journal of Medicine, February, 1910.*

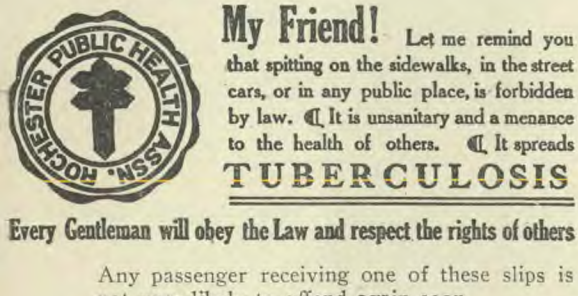
Tuberculosis Notes

MARYLAND is proposing to establish a separate hospital for the treatment of advanced cases of consumption.

THE Michigan board of health has made the October number of its Bulletin an antituberculosis number. It is brimful of excellent suggestions regarding the prevention and treatment of the disease.

THE Bureau of Labor, Department of Commerce and Labor, has recently issued a bulletin dealing with tuberculosis in occupations exposed to municipal and general organic dust. This is known as Bulletin No. 82.

THE Rochester Public Health Association has learned that it is not enough to have a law on the statute-books. Those who have for years been in the habit of spitting anywhere will do it without thinking. By means of little slips handed out to passengers by the conductors of street-cars, they may be reminded of their carelessness without attracting the attention of others. For this reason the Rochester Public Health Association has furnished the conductors of that city with pads of the slips containing the following warning: —



Any passenger receiving one of these slips is not very likely to offend again soon.

SINCE the passage by the New York legislature of the law giving boards of supervisors power to erect county hospitals for tuberculosis, a number of counties have begun the establishment of such institutions.

RECENTLY the banks of one hundred little children forming the Junior Auxiliary of Philadelphia were opened, and enough pennies had been saved to complete the fund needed for the erection of a children's shack at the White Haven Sanatorium.

A BILL will be presented to the Ohio legislature making treatment for tuberculosis compulsory, and giving the health officer the power to order refractory patients imprisoned. Health officers are to have authority to enter houses of tuberculous patients and see that the houses are in sanitary condition, and to send patients to the hospital when necessary.

THE Rhode Island Association for the Prevention of Tuberculosis places in the pay envelope of factory workers printed cards which explain the nature of tuberculosis, and how to avoid it. Similarly, information is posted up in conspicuous places, and is also pasted on the inside of school text-books.

THE board of safety of Louisville, Ky., has issued orders that detectives and plain clothes men be detailed to enforce the antispitting ordinance. When a man does not know what men on the street may be watching to detect him in violation of the law, he is more likely to be careful in regard to spitting.

THE National Association for the Study and Prevention of Tuberculosis has begun a poster campaign. By the aid of the bill-posters of the United States, they are enabled to make use of the bill-boards in the proclamation of the message against tuberculosis. They have already issued a number of striking illustrated posters.

THE sixth annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at the New Willard Hotel, Washington, D. C., May 2 and 3, 1910. The sections on surgical tuberculosis and on tuberculosis in children will be omitted. This leaves the three original sections,— clinical, pathological, and sociological.

THE International Committee on the Control of Tuberculosis of Domestic Animals held its first session recently in Buffalo. The following resolutions were adopted: (1) That general compulsory tuberculin test is impractical; (2) that voluntary testing for owners as a general stated policy should be retained as a means of public education, and as a means of keeping further spread of the disease in check; (3) that we can and should accept tuberculin test under certain conditions as a basis for suitable control legislation.

THE *Journal of the Outdoor Life*, which is just beginning its seventh year, has moved its office of publication from Saranac to New York City. It is now the official organ for the National Association for the Study and Prevention of Tuberculosis, and also for other antituberculosis associations. This journal has been doing very efficient work in the tuberculosis campaign, and from its more central location it will undoubtedly be more influential than ever. The January number contains an article by Dr. Charles L. Minor, of Asheville, N. C.,—"What Every One Should Know About Tuberculosis; and Useful Facts for Patients and for Those Living With Them,"— which should be in the hands of every consumptive.

No Liquor Advertisements.— The great Danish Socialist journal has announced that hereafter it will accept no liquor advertising.

The Mexican Typhus Fever.— Recent research seems to implicate the body-louse in the transmission of this disease, and this theory seems reasonable; for Mexican typhus has the characteristics of an insect-borne disease.

Rest Not Good for Sprains.— It is customary for football surgeons to treat sprains by massage and moderate exercise, thereby avoiding the stagnation of fluids, stiffening, and slow healing consequent upon rest treatment.

Infant Mortality Association Establishes Headquarters.— The American Association for the Study of Infant Mortality has established its headquarters in Baltimore, in the building of the Medical and Chirurgical Faculties of Maryland.

Meat Inspection in Omaha.— The city council has passed an ordinance requiring that all meat sold in the city shall bear a tag, showing that it has been examined by the government inspector, or by a special inspector appointed by the city of Omaha.

Contagious Diseases Controlled by Abstinence.— The British commissioner for Somaliland declares that as a result of almost complete total abstinence in that country, that section of the country has been free from any case of malignant disease during the last ten years.

Order Regarding Cigarette Smoking.— An order has recently been issued by Lieutenant John Oliphant, of the British Army, restricting cigarette smoking; this, because of the observation that overindulgence in the cigarette is harmful, making men less efficient as soldiers.

National Antialcohol League of France.— This league met in Paris in January. The president urged the necessity of a systematic and unrelenting struggle against alcoholism. Liquor stores have increased twenty-five per cent in thirty years, and now there is one shop to every thirty adults. In large cities the drinking places have trebled. It is said that sixty million gallons of alcohol are sold annually in France.

Lepra Bacillus.—The bacillus of leprosy has at last been successfully cultivated by growing it first with other organisms, and then killing off the other germs, the leprosy germ continuing to grow alone.

A New Cause for Pellagra.— Before the British Pellagra Investigation Committee, Dr. Louis W. Sambon stated his views that pellagra may be due to the agency of "sand-flies." The hypothesis will be investigated by the committee.

Medical Treatment of Schoolchildren.— The London school authorities and the London County Council are trying, experimentally for a year, the plan of providing for the medical treatment of schoolchildren needing such treatment, at thirteen of the public hospitals.

Radium Springs Curative.— Many of the mineral springs which have had a long and enviable reputation for the cure of diseases have proved to be strongly radio-active, and physicians are beginning to believe the cures are due to the presence of radium rather than to the mineral salts.

French Working Men Boycott Drink.— One thousand working men in northern France have joined the general boycott against liquor, because of the heavy license taxes which the government is attempting to enforce. High license does not seem to work that way in this country.

A Business School for Physicians.— Physicians are proverbially poor business men. Many of them lose as much by poor business methods as they make by strict attention to their profession. To obviate this lack, a school has been established in Wabash for the business education of physicians.

Health Department Bill Introduced.— A bill has been introduced into the United States Senate providing for the establishment of a department of public health under the supervision of a secretary of public health. This additional member of the cabinet is, according to the bill, to have a salary of twelve thousand dollars a year. All health bureaus, except those of the War and Navy Department, are to be included in the Department of Public Health. The bill was referred to the Senate Committee on Public Health.

Cocain Sellers Sentenced.— Two cocain sellers in New York City were sentenced to one year's imprisonment and five hundred dollars' fine, with the provision that there should be one day added to the imprisonment for each dollar unpaid. The capture of a few of these fellows, and the imposition of such sentence, may serve to diminish their nefarious activity.

Morphinism a Professional Vice.— Of one hundred unselected cases of morphin addiction, fifty were found to be physicians, twenty physicians' wives and widows, ten nurses, six druggists, four dentists, and ten laymen, making ninety per cent closely connected with the medical profession, so says Dr. S. Grover Burnett in a paper read before the Jackson County (Missouri) Medical Society.

Boys' and Girls' Agricultural Class.— The United States Department of Agriculture has just issued a Farmers' Bulletin, No. 385, which gives valuable information regarding the formation of agricultural clubs for boys and girls. These clubs, wherever they have been inaugurated, have been an influence for the building up of a healthy and prosperous country life, and it is to be hoped that many more such clubs will be started. A copy of this Bulletin may be obtained by any one addressing the Secretary of Agriculture, Washington, D. C.

Diseases of Schoolchildren.— An examination of over 300,000 children in New York, about one half of the entire child population, shows that more than seventy-five per cent had physical defects of some kind. Nearly 250,000 needed medical and surgical attention. Nearly 150,000 were lousy, 183,000 had defective teeth, 73,000 had defects of breathing, 11,000 suffered from malnutrition, and 2,400 were anemic.

A Play Congress.— The fourth annual Congress of the Playground Association of America will be held in Rochester, N. Y., June 7-11, 1910. It is promised that there will be a strong force of speakers at this congress. Public recreation as well as playgrounds will be considered. Information regarding this movement may be obtained by addressing the Playground Association of Americt, 1 Madison Ave., New York City, N. Y.

Liquor Drinking Diminishing on Ocean Liners.— The use of liquor by tourists on board ocean steamships is decreasing very perceptibly. On the Oriental Steam Navigation Company's lines, "though their ships carry more passengers than they carried ten years ago, the consumption of wine, beer, and spirits has fallen by fifty per cent." At the same time there is a notable increased consumption of mineral water, which on tropical ships was unknown a few years ago.

Chemical Smoke.—The chemists have made "a smoke essence." When painted over a ham, it gives the appearance and odor of having been smoked, and it is much more quickly and cheaply done than by the old process. Whether the results on the consumer are the same may be judged by the fact that smoke essence consists of creosote, anilin dye, and iron salt.

Congress on Alimentary Hygiene.— The Second International Congress on Alimentary Hygiene and on the Rational Feeding of Man will meet in Brussels, Belgium, October 4-8, this year. Dr. Wiley of Washington is in charge of the organization for the United States. Membership is four dollars, and associated membership two dollars. Undoubtedly this congress will discuss problems of far-reaching interest to physicians and laymen.

"Typhoid Mary" Released.— The original "carrier," who as a cook was the cause of many cases of typhoid fever where she worked, and whose case accidentally led to the discovery of the fact that healthy persons may be carriers of typhoid fever, has recently been released from a prolonged imprisonment by the health authorities, on the condition that she will no longer follow the occupation of cook, and that she will report at intervals to the health department.

Pellagra.— An interesting case is reported by Patterson, in the *Journal of the American Medical Association,* February 19, of a man who last July developed typical pellagra. He had been eating raw meal since May, every day eating large handfuls. The meal was always from the same dealer, and was Western meal. It is also noteworthy that his horse, fed on the same meal, developed blind staggers, and died of it. For some time there has been an opinion that blind staggers is in some way related to pellagra. In other words, that it is pellagra in the horse.

Alcoholic Hardening of the Liver in Childhood.— The Boston *Medical and Surgical Journal* of February 24 has a report of a boy four and one-half years of age who died with hardening of the liver. At first no cause could be found for the trouble, but finally it was learned that the father was accustomed to treat his friends with beer and whisky, and the little child, who was an only son, as soon as he was able to drink from a glass, was given a drink with the others. This probably continued for about two years. It is thought that the amount of alcohol drunk by the child was not at any one time very large. Within five months, the liver enlarged until it extended one inch below the navel. Before death his appetite was entirely lost, and there was very much emaciation.

A Cancer Cure.— Word comes from Manila of the successful immunization against cancer by the injection of triturated cancer cells. Used successfully on rabbits in the laboratory, it was afterward tried on patients, and caused such remarkable decrease in the tumors as to lead to the hope that it may prove to be of lasting value.

Another Open-Air School.— It has been decided to establish an open-air school in Cambridge, Mass., for the tuberculous children of that city. The children will be furnished the necessary extra clothing, and will be given one meal a day at the school. Each child will be taught the necessity and the importance of taking care of himself. This campaign for the child, it is needless to say, not only will be an individual benefit, but will result in direct conservation of national resources.

Italian Antituberculosis Campaign in New York.— Under the lead of Ex-Ambassador Griscom, a large number of New York Italians have undertaken an antituberculosis campaign among the multitudes of that nation in the metropolis. There are more Italians in New York City than in any other city in the world, except Rome and Naples. Most of them have come from country districts, and are here crowded into tenements, a life to which they are not accustomed, and so they are especially subject to tuberculosis, and the fact that the climate here is much more severe than in their own country increases their susceptibility. The close economy and hard work to which they subject themselves, with the changed conditions of life, often leave the young immigrant of six months a consumptive. The present movement is for enlightenment and a better hygiene.

A Federal Children's Bureau.— The National Child Labor Committee has drawn a bill entitled, "A Bill to Establish in the Department of the Interior a Bureau to be Known as the Children's Bureau." The purpose of this bureau will be to collect and disseminate information affecting the welfare of children. It will be similar to the bureaus already established by the federal government regarding the various forms of our material wealth; for instance, the Bureau of Entomology, the Bureau of Chemistry, Bureau of Animal Industry, and Bureau of Soils. It is a remarkable fact that the activity of governments is always manifested first in the lines of conserving various forms of wealth; but that form of wealth which is believed to be, by all odds, the most valuable, namely, the health of the future citizens, is the one usually established at the very last. When a nation begins to think sanely regarding the health of its children, it is an evidence of advanced statesmanship.

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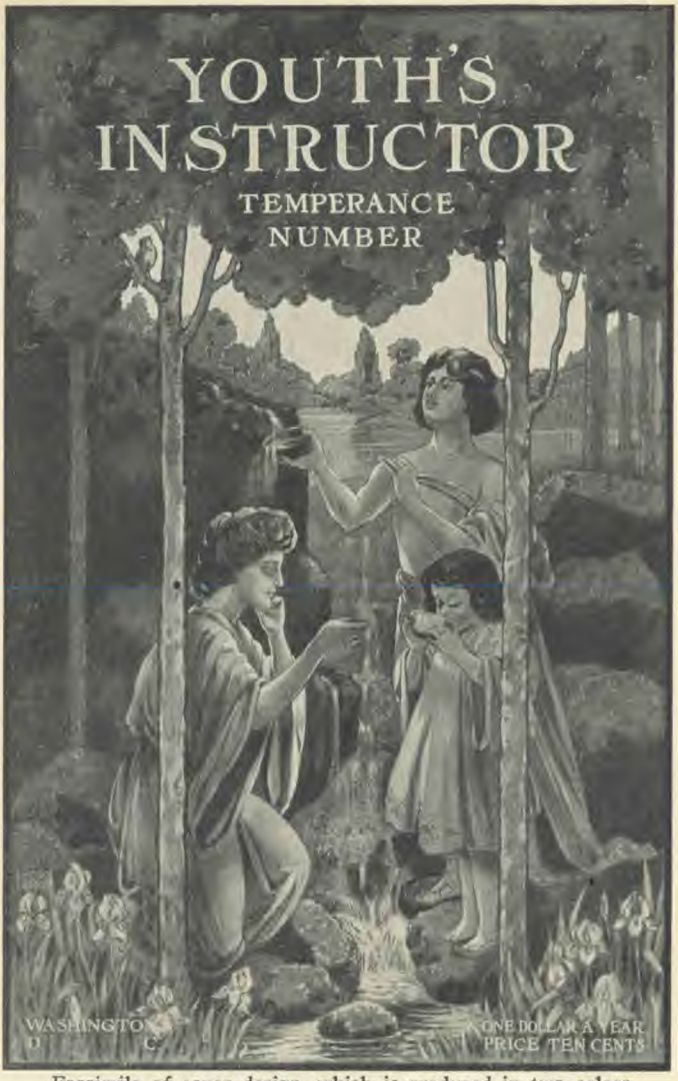

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