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ONE REMEDY FOR THE HIGH COST OF LIVING

By BOARDMAN REED, M. D.

TO CUT NEARLY ONE-THIRD OFF THE AVERAGE COST OF LIVING—one-third, at least, off the outlay for food—would certainly be worth while. If, at the same time, health and longevity could be greatly promoted by the same remedy, it would be doubly desirable, especially if the remedy involved no pain nor actual hardship when begun in childhood, before the habits have been perverted, and then persevered with regularly thereafter.

MY PROPOSED REMEDY, faithfully carried out, would not only reduce by about one-third what are now generally considered the necessary expenditures for the table in the case of people who need to economize, but for families of limited means who manage to keep a servant only by much pinching,

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it could be made to save much more by enabling them to get along fairly well without such help. As regards the very large number of families in which the poor wives and mothers are obliged to do all the housework, toiling early and late, morning, noon and night, week-days and Sundays, holidays and all days, with the result often of broken health and shortened lives, their duties would be markedly lightened, so that they would find much more time for rest, recreation and outings in the open air.

The Remedy

TO BEGIN WITH, it would involve accustoming children from babyhood up to have their food and drink limited, both in kind and quantity, to the actual needs of the body. Neither in their early childhood nor later would they ever be permitted to crowd into their stomachs an incongruous lot of indigestible stuff nor a surplus of any food, even at the usual meal hour.

They would be trained to like all kinds of proper food and never allowed to acquire a penchant for unwholesome articles which, in fact, would never be on the tables of their hygienic parents or guardians. The vitally important fact would be early drilled into their brains, that people should eat to live and not live to eat.

AND AFTER THEY HAVE REACHED THE SOCIETY AGE the girls when they "gabble and git" at the inevitable afternoon teas, would not on such occasions nor any other, "gobble" candy, cake, ice cream, etc., between meals. All the grown-up, dietetically reformed citizens and citizenesses would have learned the insidious harmfulness of indulging in suppers after the opera, play, or lodge meeting. For at most of these late suppers the menu is not restricted to crackers and grape juice,

and even if it were the extra meal is always surplusage and the eliminating organs—liver, bowels, kidneys, etc.,—are put to the extra task of casting out the overplus beyond the limited amount which the system can appropriate. And moreover, the surplusage must be paid for by somebody.

ONE OF THE MOST DYSPEPSIA-AND-APOPLEXY-PRODUCING DISSIPATIONS in the way of overloading the stomach and overworking both the digestive and excretory organs, besides being expensive, are the elaborate banquets which all the thousand and one special associations and organizations, commercial, political, scientific and even hygienic, usually give, once a year or oftener, and nearly always at some hour in the evening long, ordinarily, after the usual time for dinner. It is unnecessary to describe here, the customary menu on these occasions. Suffice it to say that no one could partake of each course, from the oysters and soup to the dessert, without getting outside of a heterogenious mixture which, when his stomach tolerates it, ought to be enough of itself to nourish him sufficiently for at least one whole day, and many public or society men now-a-days partake of a banquet or extra formal dinner on one or two evenings of nearly every week.

IT IS NEEDLESS TO ADD that when one of the properly trained citizens is invited to a banquet given, we will suppose, for example, by the S. P. C. A., he should either send his regrets or take his usual sensible dinner beforehand, at the regular hour for it, and then simply enjoy the feast of reason and flow of soul, which is the most enjoyable feature of most such affairs. If called on for an after dinner speech, he might in a humorous vein remind the members that most farmers and all scientific breeders of fancy stock know better than to feed their

animals excessively, or at irregular times, however regardless they may be of hygienic rules in the feeding of their wives and children; that they are very rarely guilty of that kind of cruelty to animals, because it would be unprofitable pecuniarily.

IT MAY BE OBJECTED AT THIS POINT that cutting off a few extra meals, while it might prevent some attacks of indigestion and conduce to the prevention of unwholesome fat—not an unimportant consideration in these days when fat women are very much out of fashion—yet could scarcely reduce the cost of living greatly, and a few bilious attacks, more or less, would be of little consequence in comparison with the pleasure of gratifying one's palate to any extent desired. That is the usual idea upon which an immense majority of people act; but it is just where a colossal mistake is commonly made.

In the *Dietetic* and *Hygienic Gazette* for January, 1912, appeared an article by the present writer, which showed that an enormously large proportion of present disease, both acute and chronic, especially the latter, results directly, or indirectly, from dietetic errors, chiefly from the excess of food eaten. Indeed, considering the great saving of life and health produced by the recent advances in public sanitation, experienced physicians realize, and most of them will admit, that but for the excesses at table and sexual faults, there would be little left for us to do, apart from surgery and obstetrics. Now the money spent for drugs, medical treatment, massage and travel for change of climate in search of lost health, amounts to a large part of the annual expense in very many families.

The loss of earning power, through sickness, is another tremendous drain, and to obviate most of this, by normal eating and drinking, would vastly help in meeting the soaring rates for nearly all kinds of food.

Two Meals a Day Enough—Only One Hot

BUT THE PROPOSED REFORM in eating habits could and should extend much further. Persons in good health, and many invalids, can be as well nourished on two meals daily as on three, with the exception possibly, of those engaged for long hours in the hardest manual labor. For them a luncheon at midday, consisting say of whole-wheat bread and butter with cheese or nuts if desired, and ripe fruit, would fully satisfy all their actual needs. And with the multiplicity of wholesome, palatable and ready-cooked cereal preparations in the form of flakes, bread, zwieback, biscuits, crackers, cakes, etc., and the variety of nuts and cheese available for immediate consumption, with the addition of milk and butter, there is no real need of preparing a hot breakfast, except to continue a useless habit. The nuts and cheese contain a larger percentage of protein, the tissue-forming element, than meat or any other food known. A tumbler of water upon arising and another shortly before breakfast, with more of it, or milk, or some fruit juice, at the end of breakfast, would meet healthfully the demand for liquids in the morning, and there is nothing which will better quench thirst afterward than water, mixed when preferred with the juice of ripe fruit.

The child brought up simply and rationally, as suggested, would never want coffee nor tea, and would certainly be better without them, quite aside from the cost and the trouble of preparing them.

DINNER, SERVED AT THE END OF THE DAY, should be the one hot meal when economy of either money or work is a desideratum. This, while it sometimes includes meat for those who can afford it, yet the other protein foods mentioned

supply its place better, except for habit or custom. The non-meat eaters comprise some of the strongest men in the world and in many of the races or other endurance tests which have taken place in Germany and elsewhere, they have borne off the lion's share of the prizes. Let it be emphasized, that habit, from long indulgence in it, is the chief excuse for the use of meat as of coffee, tea and the stronger condiments. They are all both expensive and superfluous.

It is now a well-established fact that coffee and tea are in no sense foods, except for the sugar and milk usually served with them, but are merely stimulating drugs which, so far from adding anything to the nutrition, have for their final effect a certain lowering of vitality. Even the strongest persons who live long in spite of them, would live longer without them.

ONE HOT MEAL A DAY INSTEAD OF THREE would be a double economy—in fact a triple gain—a decided saving in the cost of fuel, a saving of work, and the avoidance of much added discomfort for the kitchen workers from the extra heat in the long summers. The majority of even bottle-fed babies in civilized nations in this twentieth century, are nourished with a considerable amount of regard for their actual physical requirements, almost as scientifically, indeed, as our prize chickens and cattle. After they have been weaned, and have passed their second summer, the unhygienic feeding generally begins.

IN MANY HOUSEHOLDS at the age of two or three years they are set up in high chairs at the family table, and then gradually introduced to the various drugs misnamed "food accessories," which their elders have formed the habit of demanding as necessities. For example, they are given a taste, occasionally, of coffee and by many parents, often a sip of beer, or wine,

until gradually there has been developed, first a tolerance, then a liking, and finally an imperative need of these superfluous and generally harmful additions to the normal daily diet.

In early childhood, too, they are commonly put through the ordeal of learning to tolerate the highly seasoned combinations spiced with pepper, mustard or some still more fiery sauce which have become indispensable to the jaded palates and worn-out stomachs of so many gourmands.

ONE CAN EASILY IMAGINE THE PLIGHT OF A YOUTH who has been always limited to natural food seasoned simply with the little salt that the system requires with others of the mildest flavorings, when he first swallows a generous portion of one of the red-hot compounds in common use. His tears would flow and his throat burn, as happened in the case of the man who sat at a hotel table near a missionary just returned from India. As the story is told, the latter had become so habituated to the extra fiery sauces of that heathen land, that he could not do without them and had brought home a bottle of one of them which stood on the table near by. His neighbor, supposing the bottle to be for general use, asked the waiter for it only to learn that it was the minister's private property. The latter insisting upon its being given him, he poured on his meat a large dose of the abnormally hot stuff. Then with streaming eyes, and choking voice, after taking a mouthful he said to the missionary:

"Arn't you a minister, sir?"

"Yes."

"Do you still preach the old-fashioned doctrine of hell and damnation?"

"Yes; I do," confessed the missionary.

"Well; you are the first minister I ever saw who carried samples."

SIMPLE UNSEASONED OR slightly seasoned food always stimulates sufficiently the appetite and the secretion of the digestive juices of the healthy man before the injurious concoctions of the cooks have spoiled his stomach. He will eat as much as he needs of plain nourishing foods without the help of any whips or spurs, such as the sharper spices furnish. Goaded by these his stomach soon begins to demand an excess of food and, as a result, in the opinion of many leading physicians, the majority of people eat far too much, often twice as much as their systems need or can digest and assimilate. The gastro-intestinal specialists insist that a preponderance of their patients have an excessively strong gastric juice, which is a joint result of overstimulation and overeating. As a further consequence, many of them develop a gastric or duodenal ulcer, and one of these is the most frequent precursor and probable cause of cancer in the same parts.

FAMILIES THAT POSSESS ENOUGH OF THE WHEREWITHAL, and also many who complain loudly of the high cost of living, nearly always have a rich toothsome dessert at dinner and frequently at lunch as well. Then, after the diners have eaten as much of the meat, vegetables and other substantials as they can be induced to take with the help of the stimulating liquids and condiments, and the real wants of the body have been fully supplied—often oversupplied—the dessert is eaten additionally for the palate's sake—because it tastes good. Thus the system is still further overburdened.

A Plea for the Women

IF NOT FOR ECONOMY'S nor even for health's sake (though health would be promoted by giving the stomach a partial rest on every holiday when other work stops), at least for

decency's sake, the men of the family, where there is no servant, should refrain from demanding a more generous hot cooked dinner on Sundays than on other days. When the wife and mother has to prepare the Sunday dinner, it ought to be a simpler meal than usual, not a richer one, as is attempted in many such families. Rather than oblige the poor fagged-out house-wife to spend several hours on what should be her day of rest, in preparing an elaborate hot meal while the men are taking it easy, why not depend again on raw fruit, salads and the ready-cooked preparations as at breakfast? No one would suffer or be the worse off, and the extra toadying to the palate could be left for the week-day dinners.

INDEED, IT WOULD SEEM AT FIRST THOUGHT that women might better be fighting for a more equal division of labor than for the right to vote and sit on juries, though doubtless winning the latter would help mightily to gain the former. There is no good reason why men should have their working hours cut down to eight and the partners of their joys and sorrows, whose duties are in the household, be compelled to work sixteen, besides often having to nurse a baby once or twice during the night. To make Sunday still more a day of rest for the women who are overworked let their husbands, brothers and sons be gallant enough to help set the table and wash up afterward, when there is no servant.

THE IMMENSE AMOUNT OF MONEY WHICH IS WORSE THAN WASTED ON ALCOHOLICS AND TOBACCO is another story which need not be gone into here. No comment could add to the significance of the startling fact stated by Fayant in a recent magazine article, that the smoking and drinking bill of the American people now reaches the enormous figure of $2,700,000,000 a year.

CONSIDERING the abuses of the eating function, and the money squandered on alcohol and tobacco, it is easy to understand why the cost of living is high; why also the human race is degenerating, and the doctors obliged to work overtime. That the almost universal overeating must largely increase the outlay for food and prove burdensome to all but the rich, is apparent. The cost of supplying the necessities and ordinary comforts of life, the experts agree, is likely to go on increasing, since specialists are unavoidably multiplying in all the arts and trades, as well as in medicine. People of limited means must learn to live more simply if their actual wants and comforts are to be supplied.

Besides avoiding other foolish extravagances they should cut out of their diet all articles not needed for nutrition, especially such as are harmful to health, tending therefore to lessen their earning power, hasten old age, shorten life, and contribute to the further degeneracy of the race.

Chinese Statesman Rebukes American Drinking Customs

WU TING FANG while serving as Chinese Minister to the United States gained a well deserved reputation as a wit, and was ever a popular guest at social functions of all kinds, appearing to particular advantage as an after-dinner speaker. His experience, therefore, well qualifies him to write of "American dinners and American manners," which he does in the March *Harper's*. Very much that he says about American dinners and manners is complimentary, indeed, and much flattering, but he takes the opportunity to challenge one feature of American entertaining—the serving of wines.

"WILL SOME ONE INFORM ME," he asks, "why so many varieties of wines are always served on American tables, and why the sparkling champagne is never avoidable?" To say nothing about the hygienic value of abstinence, the improved intellectual quality of conversation at non-wine dinners alone would justify a change in our customs, says the writer. "I do not suppose that many will agree with me, but in my opinion it would be more agreeable, and would improve the general conversation, if all drinks of an intoxicating nature were abolished from the dining-table. It is gratifying to know that there are some families (may the number increase every day) where intoxicating liquors are never seen on their tables. So long as the liquor traffic is extensively and profitably carried on in Europe and America, and so long as the consumption of alcohol is so enormous, so long will there be a difference of opinion as to its ill effects; but in this matter America, by means of its State prohibition laws, is setting an example to the world. In no other country are there such extensive tracts without alcohol as the 'dry states' of America. China, which is waging war on opium, recognizes this fact as a kindred, active moral force which is absent elsewhere, and, shaking hands with her sister republic across the seas, hopes that the later will some day be as free of alcoholic poisons as China hopes to be of opium."

THERE IS THE STILL FURTHER OBJECTION to alcoholic beverages, that, together with tobacco and poisonous foodstuffs, they are prejudicial to health, which, after all, plays a very important part in successful social life.

The writer alludes to a volume entitled "The Aristocracy of Health," written by Mrs. Mary F. Henderson, wife of the late Senator John B. Henderson, of Missouri, and one of Washington's most successful hostesses. "The facts and

arguments adduced against tobacco-smoking, strong drink and poisonous foods," he says, "are set forth in such a clear and convincing manner in a book written by a talented American lady, that soon after reading it I became a teetotaler and 'sanditarian,' and began at once to reap the benefits. I felt that I ought not to keep such a good thing to myself, but that I should preach the doctrine far and wide. I soon found, however, that it was an impossible task to try and save men from themselves, and I acquired the unenviable sobriquet of 'crank'; but I was not dismayed. From my native friends I turned to the foreign community in Peking, thinking that the latter would possess better judgment, appreciate and be converted to the sanditarian doctrine. Among the foreigners I appealed to, one was a distinguished diplomat, and the other a gentleman in the Chinese service with a world-wide reputation. Both were elderly and in delicate health, and it was my earnest hope that by reading this book, which was sent to them, they would be convinced of their errors and turn over a new leaf. I was disappointed. Both, in returning the book, made substantially the same answer: 'It is very interesting, but at my time of life, it is not advisable to change life-long habits. I eat flesh moderately and never drink much wine.' They both seemed to overlook the crucial question whether or not animal food contains hurtful poisons. If it does, it should not be eaten at all. The rule of moderation is applicable to things which are nutritious, or at least harmless, but not to noxious food, however small the quantity of poison it may contain."

THE EDITOR OF GOOD HEALTH has received during the past few months several letters from Wu Ting Fang, and can vouch for the strenuous missionary zeal of the "sanditarian."

Naturally of an inquiring mind, he keeps thoroughly in touch with the results of scientific research, and is indefatigable in his efforts to convince his friends of the benefits to be derived from right habits of living, benefits that express themselves, not only in terms of personal efficiency, but in happiness as well.

More Evidence on Arteriosclerosis

SINCE THE PUBLICATION OF DR. LOUIS F. BISHOP'S ARTICLE on arteriosclerosis in the March GOOD HEALTH we have received, through the courtesy of the author, F. de Havilland Hall, M.D., F.R.C.P., consulting physician to Westminster Hospital, London, a copy of a striking address on "The Treatment of Arteriosclerosis and High Tension," read before the Medical Society of London. Coming from so eminent an authority as Doctor Hall, the paper affords remarkable confirmation of the claims put forward by Doctor Bishop. The address in abstract follows:

"AS A PHYSICIAN, keenly interested in the subject of life assurance, I have been much impressed by the figures which have been brought forward to show that the great improvement in the general mortality of the country is becoming confined to the earlier years of life, but that after forty-five the mortality has not improved of late years—indeed, between forty-five and sixty-five there is an actual increase in the death-rate. For females the figures are somewhat better, there being still a considerable decrease of death-rate between the ages of forty-five and fifty-five, and a very small decrease continues until eighty-five is reached, but the gain is much less than in the earlier decades.

"FROM THE REGISTRAR-GENERAL'S REPORT it has been shown that, both in men and women, diseases of the heart and blood-vessels were the registered causes of about one-third of the total deaths in the age period, fifty-five to sixty-five. It is, of course, probable that this high mortality from diseases of the heart and blood-vessels is in part the consequence of rheumatic fever occurring in earlier life. A large share of it, however, is caused by degenerative changes occurring between the years forty-five to sixty-five, these changes being of an arterio-sclerotic nature. Before we can expect to cope satisfactorily with these degenerative changes we must have a clear idea of the conditions which tend to induce the early onset of arterio-sclerosis. In this respect certain factors have to be considered. In the first place, I think that it will be conceded on all sides that we live faster than we did even twenty years ago. More work is expected of a man in a given time, and even as regards amusements they seem to be of a more exciting nature than formerly. The advent of the telephone and the motor car has done much to increase the strain and stress of life. Can we, then, be astonished that there is a greater tendency to early degenerative changes when we consider this aspect of life? The increase in the amount of insanity is another evidence of the ever-growing pressure of business competition. Another factor in the occurrence of premature degenerative changes is that of the survival of weaklings, who would have succumbed under the harder régime of fifty years ago. A great many, therefore, reach adult life who would formerly have died from various infectious diseases and illnesses incidental to early life.

"THEN COMES THE IMPORTANT QUESTION OF FOOD. There can be no doubt that much more meat is consumed than formerly. The consumption of tea and coffee has also

enormously increased. With regard to alcohol, there seems to me to have been a great change in the particular form taken. When I was a young man malt liquors were the general drink; whereas now wherever you go and at any time of the day it is whiskey—whiskey. Lastly, I would draw attention to the ever-increasing consumption of tobacco. It is difficult to produce definite evidence, but I have no sort of doubt that excess in tobacco is a potent factor in the production of emphysema, arteriosclerosis, and other degenerative changes; and in a recent conversation with Professor Schott he expressed the opinion that tobacco had a deleterious effect upon the cardio-vascular system.

"HUCHARD HAS GIVEN SOME VERY INTERESTING STATISTICS on the etiology of arteriosclerosis. Out of 15,000 personal observations he has been able to sift 2,680, with the following results:

Gout (with gravel and lithiasis	693
Rheumatism	355
Syphilis	336
Alimentary	315
Tobacco	188
Infectious Diseases	77
Diabetes	76
Alcohol	52
Malaria	42
The Menopause	24
Moral and Nervous causes	21
Doubtful cause	501
	2680

"I HAVE VERY LITTLE TO SAY ABOUT THE ROLE played by syphilis in causing arteriosclerosis. Though the malignant forms of syphilis, which were not infrequently seen in my

student days, are now of rare occurrence, the more the question is investigated the more far-reaching is found to be its influence. That aortitis of syphilitic origin is a very common cause of aneurysm is now universally accepted, and similar changes are met with in the smaller arteries.

"IN THE FIRST PLACE, the question of mental strain must receive careful consideration. Of course if the high tension be accompanied by signs of cerebral congestion, then absolute rest from all mental work must be enjoined, and work should only be very cautiously and gradually resumed.

"The difficult cases to advise are men with high tension, leading strenuous lives of great mental activity. I endeavor to meet the requirements of the case by suggesting that the patient should leave off earlier than he has been accustomed, and take an afternoon off every week, in addition to the whole of Saturday. It is, however, impossible to lay down any general rule; each case must be decided on its own merits.

"IN THE NEXT PLACE COMES THE QUESTION OF DIET. Autointoxication plays a very important part in the production of degenerative changes in the tissues generally, but especially in the arteries. Most people over fifty eat too much, and particularly too much butchers' meat. While writing this I was consulted by a gentleman eighty-three years of age, who said that he had three meat meals a day. His pressure was 202—a very suitable subject for an apoplectic stroke! The first direction I give to a patient suffering from arteriosclerosis and high tension is that the amount of meat eaten must be reduced. In advanced cases I advise that meat and soups made from stock should be discontinued entirely.

"I AM CONVINCED THAT EXCESS OF SALT IS INJURIOUS, so I, therefore, limit the amount of salt and forbid salted foods. But not only the quality of the food eaten should be considered, but also the amount. The patient should endeavor to reduce gradually the quantity of food to as little as is sufficient to keep him in good condition. If the patient be instructed to eat very slowly and to thoroughly masticate his food, he will find that he is satisfied with a smaller quantity of food than would otherwise be required.

"The amount of tea and coffee should be strictly limited. Black coffee should, of course, be prohibited. If possible, I get my patients to abstain from alcohol.

"I LAY GREAT STRESS UPON THE IMPORTANCE OF DRINKING AN ABUNDANT SUPPLY OF WATER. I think it very desirable that this should be free from chalk. I therefore order salutaris, or tell patients to get a still, so as to be able to provide their own distilled water. I recommend that a pint and a half should be drunk daily, apart from meals, and preferably hot. If the flat taste of distilled water be objected to, it may be flavored with a little lemon juice.

"REGARDING TOBACCO AS ONE OF THE FACTORS IN THE PRODUCTION OF ARTERIOSCLEROSIS, I advise that less than two ounces should be smoked weekly, and if the patient can be induced to give it up entirely, so much the better. In cases of tachycardia, palpitation, angina, or where the left ventricle is dilated, tobacco should be absolutely excluded. It is very striking how speedily improvement may ensue if tobacco be entirely discontinued. While I was writing this paper, a medical friend consulted me on account of cardiac discomfort and irregularity of heart action. I advised him to give up tobacco

and coffee, and when I saw him six weeks later all his cardiac symptoms had disappeared.

"AFTER DIET COMES THE CONSIDERATION OF WHAT MAY BE TERMED GENERAL HYGIENE. The condition of the skin requires careful attention. The cold bath is inapplicable to the class of patients we are considering, but a daily tepid or warm bath will be of great advantage. The question of Turkish baths often crops up. If the patients have been accustomed to them, and they have not been attended with any ill-effects, then I allow their continuance, provided the patients do not go into the hottest room. For a patient with arteriosclerosis who has not been used to these baths, the risk, in my opinion, is too great. I would not, therefore, countenance a patient of mine commencing Turkish baths if he suffered from arteriosclerosis of at all an advanced nature. Electric light baths will sometimes be found to act most beneficially, but, like the Turkish baths, they require to be used with great discretion.

"IN THESE DAYS it seems hardly necessary to advocate the importance of fresh air, but some people getting on in years have a great dread of contracting a chill, so that it may be advisable to see that they do not shut themselves up too much. Whenever practicable, exercise should be taken in the open air. Walking is the best form of exercise, but those accustomed to riding may be advised to continue to do so as long as possible—for 'the outside of a horse is the best thing for the inside of a man.' Golf may be permitted, unless it fatigues the patient too much, or he is suffering from an advanced form of the disease. Should the patient for any reason be unable to take sufficient exercise, general massage will be found to be a very efficient substitute."

THAT TIRED FEELING

THAT TIRED FEELING which comes on with each recurring spring is a call to readjustment of every day habits to new seasonal conditions. During the winter months the fires which supply the body with heat have been burning overtime, and have demanded large quantities of fuel. The heat not actually utilized to provide the body with warmth is converted into energy. This surplus energy, it is, that seeking an outlet through work, makes us more ambitious and energetic in winter than in summer.

THEN COME THE WARM, spring days, and the body demands less heat, and, of course, less food for generating it. Less heat spells less energy—and there you have it! A letting down of heat production causes a feeling of lassitude and languor; we become, for the time, actually tired. Unfortunately the man or woman with abnormal self-respect fears that acute weariness will become chronic laziness. Too often ambitious people see in this feeling of tiredness, signs of chronic laziness, with vagrancy a possibility, and prod themselves on to an energy which the body can not supply without drawing on reserve vitality.

THE SITUATION is complicated by the peculiar manner of the appetite, which, taking a cue from the lessened demand for food, begins taking a rest. Nothing tastes good; the daintiest tid-bits do not tempt; we discard the heavier foods of the winter, but have difficulty in finding something to take their place.

NOW IF WE ARE SENSIBLE we ease up a bit on our work—we at least cut out the "side lines" so dear to most of us, and trim down the day's work where possible—and eat just

as little as the appetite calls for. But just here most of us, with every good intention, think to help Nature out by stimulating the appetite by artificial means. Bitters, blood-purifiers, appetizers, and tonics of every kind are pressed into service as whips of the laggard appetite; food is forced upon the system which it can not by any possible manner of means make use of; and this excess food ferments and the poisons thus generated circulate through every nook and cranny of the body and produce biliousness, headaches, increased lassitude and languor, so that the last condition of that man is worse than the first.

BITTERS, SARSAPARILLAS, blood-purifiers and other preparations of their like act as tonics, all-right, but for identically the same reason that whiskey or wines "tone" the system—because of the large percentage of alcohol they contain. Two well known "sarsaparillas" contain, one eighteen and the other twenty-six per cent of alcohol. There are seven brands of so-called "bitters" on the market which contain over forty per cent of alcohol—one of them as high as 45 per cent, and two forty-four per cent; there are eight which contain between thirty and forty per cent of alcohol: while those containing from ten to thirty per cent of alcohol are legion. Of "tonics" over a score are handed over the patent-medicine counter containing sufficient alcohol to make you as tipsy as the proverbial lord, and which, if indulged in until they become a habit, will make you as confirmed a toper as the veriest drunkard. Then there are elexirs and cordials and exhilarators of various kinds, likewise containing alcohol in dangerous proportions, the users of which, as Samuel Hopkins Adams has put it, "are sipping by the tablespoon or wine glassful what the tippler takes across the licence-paying bar."

A FEW YEARS AGO the *Journal of the American Medical Association* reported a case which illustrates the typical effects of this class of patent-medicines as follows:

A respected clergyman fell ill and the family physician was called. After examining the patient carefully the doctor asked for a private interview with the patient's adult son.

"I am sorry," said the physician, "to tell you that your father is suffering from chronic alcoholism."

"Chronic alcoholism!" exclaimed the son. "Why, that's ridiculous. Father never drank a drop of liquor in his life, and we know all there is to know about his habits."

"Well, my boy," rejoined the physician, "it's chronic alcoholism, nevertheless, and at this present moment your father is drunk. How has his health been recently? Has he been taking any medicine?"

Said the son, "For some six months, I should say father has often complained of feeling unusually tired. A few months ago a friend of his recommended ———— to him, assuring him that it would build him up. Since then he has taken many bottles of it, and I am quite sure that he has taken nothing else."

We repeat, there is not a so-called "blood-purifier" or spring tonic or bitters on the market which does not contain alcohol in dangerous proportions, and whose effects are not the effects of plain alcohol.

THE ONLY BLOOD PURIFIER thus far discovered are the kidneys. That is what they are for. In the processes of food digestion and assimilation, and in the generation therefrom of heat and energy, the body is constantly manufacturing poisons, which it empties into the blood. These poisons are taken from the blood and excreted, part through the lungs in the exhaled breath, and part of them through the skin in the perspiration;

but the greater part the blood gets rid of by way of the kidneys. The kidneys, like the heart and other organs, are subject to fatigue, and the more poisons they are called upon to eliminate, the greater the injury from overwork, and the less thoroughly they do their work.

One should aim, therefore, to give his kidneys as little as possible to do, and to take into his system as few poisons as possible—and no poisons at all so deadly as alcohol, which forms so large a part of every patent medicine.

IT IS FOR THE SAME REASON THAT THE SPRING DIET should consist of foods which produce as few poisons as possible in their digestion and assimilation. Foods rich in nitrogen, such as beans, peas, lentils, cheese, and lean meat should be eaten very sparingly—the latter, not at all. The foods in which nitrogen does not predominate are what are known as the "carbohydrates" and "fats." But these are the foods which enter largely into the production of heat and energy, and since at the close of the cold months the body requires less heat, one finds himself confronted by the diverting problem of how to keep the body and soul together on a diet in which the various nutritive elements are kept at the lowest quantity compatible with health. The solution of the problem lies in choosing as far as possible foods which with a considerable bulk give a small proportion of nourishment. Green vegetables are valuable on this account. Green peas, string beans, spinach, lettuce, celery, radishes, and similar vegetables are particularly acceptable at this time of the year, and most of them have this advantage, that they can be obtained in tins where they are not to be had fresh. Potatoes and other root vegetables are also available for the spring diet, since a large proportion of their bulk consist of

water. Fresh fruits are likewise useful, and besides the fact that they contain a minimum of nourishment they have this additional value, that their acids have a blood-regulating quality of their own, and along with the green vegetables tend to remove any tendency to constipation.

Omit pepper and other condiments, also hot sauces and relishes, for though they do not directly affect the body as do alcohol and other poisons, yet by irritating the delicate linings of the stomach and intestines they interfere with the digestion, and thus indirectly injure the kidneys.

THE KIDNEYS CAN BE MATERIALLY AIDED in their work of blood purifying by taking pains to breathe deeply. The exhaled breath is heavily charged with carbonic acid gas and other poisons which otherwise must be eliminated by the kidneys—or in case the kidneys are crippled by overwork, remain in the body to do all sorts of damage. Spend as much time as possible in the open air, where deep breathing becomes second nature to one. If the daily grind is relentless and you must stay by the desk, then walk all or part of your way to and from your work. There is no one who can not indulge in this fine bit of gymnasium work at least once a day. Do not exert yourself to the point of fatigue—be careful just to bring about a deeper respiration, which will, at the same time, be accompanied by an increased activity of the pores of the skin, a poison-excreting organ hardly less important than the lungs and kidneys themselves.

AFTER A FEW WEEKS OF CAREFUL DIETING and gentle exercise you will find that the body has toned itself automatically; the blood has become purified by natural methods; the system has adjusted itself to a warm-weather diet, and, we

say again, you will be wise to take the hint and become less intense about that work you think so important until the cooler months of autumn and winter come again.

T. C. O'D.

Hotel Men Begin to See Light

THE CONSTANT COMPLAINT OF THE HIGH PRICES they are charging for meals has led hotels to consider ways and means of reducing the rates. The Secretary of the Hotel Men's Association of Missouri, Kansas and Oklahoma at a recent meeting discussed ways and means of reducing prices and agreed that the most practical plan was to lessen the amount of meat supplied, as it is meat that is chiefly responsible for the high prices of meals. It is quite likely that in Kansas, Missouri and Oklahoma, at least, travelers will note an increased supply of fresh vegetables, and smaller servings and less variety of meat.

Meat Swarming with Putrefaction Germs

ALL FRESH MEAT IS SWARMING WITH THE GERMS OF PUTREFACTION and other bacteria. These disease-producing germs are the cause of colitis, appendicitis and numerous other diseases. Fresh meat contains these bacteria in countless numbers, and they are not destroyed by ordinary cooking processes.

Fruits, cereals and vegetables are, by nature, put up in sterile packets and only carry germs upon their exterior, so that by proper cleansing they may be made absolutely free from bacteria.

The following table shows the number of bacteria found by Dr. A. W. Nelson, Bacteriologist of the Battle Creek Sanitarium, who in the laboratory of this institution made a careful examination of meats obtained fresh from the markets. Repeated examinations have shown that the results given below fairly represent the condition of meats offered for sale in meat markets throughout the world:

SPECIMEN	PUTREFACTIVE BACTERIA PER GRAM (Moist)	
	When Purchased	After 20 Hours at Room Temp.
No. 1 Large sausage	420,000,000	490,000,000
" 2 Small sausage	663,000,000	640,400,000
" 3 Round steak	560,000,000	840,000,000
" 4 Roast beef	560,000,000	750,000,000
" 5 Smoked ham	43,120,000	750,000,000
" 6 Hamburger steak	129,000,000	700,000,000
" 7 Pork	126,040,000	1,036,000,000
" 8 Porterhouse steak	30,000,000	700,000,000
" 9 Sirloin steak	378,000,000	.....
" 10 Tenderloin (well done)	25,200,000	.....
" 11 Tenderloin (rare)	168,000,000	.....

The Shrinking of the Sun

ACCORDING TO PROFESSOR BOSLER the sun is losing material in the emission of heat and light, and its mass is diminishing at such a rate that in the course of a million years the loss will have been equal to the mass of the earth. The sun's attractive power will thus become diminished and the movement of the earth in its orbit slowed to such an extent as to lengthen the astronomical year six seconds.

Governor Ferris, of Michigan, Gives Rules for Combating Tuberculosis

THE HON. WOODBRIDGE N. FERRIS, Governor of Michigan, has joined the ranks of "health hinters." In a set of rules entitled "Common Sense Health Hints," recently issued, Governor Ferris avers that he is a "kicker," but denies that he is a "knocker." "I wish I could have say my 'say' without mentioning disagreeable facts, but I can't," he says. The present superstition against which the Governor directs his attack is the fresh air fear.

"TODAY every civilized country is waging war against the ravages of tuberculosis," he says. "We build sanitariums for this unfortunate class with special reference to exercise, rest and sleep *in the open air*. For these patients we demand pure air and more pure air. This demand is sensible. If rational living is so necessary for these patients, why isn't rational living necessary for those who are well? The one superstition of all superstitions that aflict men and women who are supposed to be intelligent is a morbid fear of pure air. This superstition costs this country millions and millions of dollars every year, and worse than that, costs this country thousands and thousands of human lives every year. We long since discovered that cattle, horses, sheep and hogs must have an abundance of fresh air night and day. These animals have a marketable value, a money value. Human beings are creatures of Providence and therefore are not amenable to the laws of health. In the vast majority of our best homes, where books, magazines and signs of intelligence exist, there is no adequate provision for the free use of clean air. Sleeping rooms are small and securely closed and in winter are frequently supplied with a kerosene heater, one of the

abominations of civilization. When a member of the family falls ill with tuberculosis, then and not until then must the afflicted actually breathe air. He must get out of doors and live out of doors. Churches, school rooms and auditoriums are generally hermetically sealed jars in which human beings are voluntarily incarcerated. At night even the college graduate fancies that deadly microbes are scurrying about in the open air pounding on windows and doors seeking admission; therefore, the deluded inmate tries to shut them out. The truth of the matter is, the deadly microbes are on the *inside* and rarely on the *outside*. The writer makes a plea for the living, for the rising generation who are the slaves of their so-called superiors. It is a simple matter to maintain a high standard of health. Normal human beings can acquire the necessary knowledge relating to health under the direction of a wise teacher in two hours. Just give to well people the same opportunities you give to sick people. Let all work, physical or mental, all recreation, all exercise or rest, take place in the presence of clean air. Empty school rooms for God's school room out of doors when the weather will permit. When the weather will not permit, open the windows and doors and throw the fuel on the fire.

"EAT simple, nourishing food in moderate quantities. Sleep regularly seven or eight hours a day under suitable covering, in the open air. If you can't wash the outside of your body oftener than once a month wash out or keep clean your mouth and all the rest of your alimentary canal. Work, work, after the manner of Thomas Edison. When you play, play out of doors. Keep in the light. Tear down your curtains and draperies. You destroy your eyes by working in darkness, rarely when you work out of doors in the sunshine. Occasionally think a thought and

throw away your rabbit's foot, or potato, or "rheumatiz ring," or charm. Your brain needs exercise. Don't be afraid to let the gray cells of your brain play tag occasionally. If you really wish to escape tuberculosis, dyspepsia, 'liver complaint' and all 'the ills that flesh is heir to,' be physically decent. Fresh air, sunlight, pure water, loose clothing, wholesome food in sufficient quantities, manual work, mental work and sleep used intelligently, offer the sure means of building a constitution that best defies all disease, whether contagious or otherwise."

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No Meat Means Better Health, Says Hospital Matron, After 16-Year Trial

UNDER the above head the Saint Paul *Pioneer-Press* reports an interview with Mrs. Margaret Clough Montville, matron of the General Hospital, Kansas City, who has not eaten a mouthful of meat for sixteen years, and who for four years has not tasted an egg, and who said, laughingly, "At 57 years 'young' I feel like a schoolgirl."

MRS. MONTVILLE'S EXPERIENCE with the vegetable, fruit and nut diet has been interesting, says the interviewer. "Primarily she stopped eating meat because she believed it wrong to take lives in order that she herself might live. Then one day she sat down and figured out the muscle building power of her diet as compared with that containing meat. The result was amazing, she says, so she had another point to bring out when her friends laughed and chided and wondered at her ability to live without meat.

"'BUT NOW I'VE GOT THE BEST ONE OF ALL,' she said. 'While my neighbors and friends through all these years have poked fun at me, I have had to sit back and take it to a certain extent. And now, when I hear one of them going into hysterics about the terrible price of steaks and eggs—well, it does me all the good in the world to tell them what my grocery bill amounts to. That's the greatest pleasure of all.'

"Mrs. Montville is a healthy, robust woman and is active in physical culture. Through the summer months she gathers young women about her and takes them for long walks through the country or to nearby towns. She always comes in first at the end of the hikes, and women high in physical training circles in Kansas City have wondered at her ability. She attributes her fine physical condition to her diet.

"'The only persons who ridicule any good move which has been proven successful are those who do not know what they are talking about,' she continued. 'It only takes a few minutes of figuring to show anyone the amount of waste which they take into their system when they eat meat. It only takes a few more minutes to prove to them that meat is harmful to the digestive system—that it is unnatural and therefore unhealthful.

"'Any right thinking person can easily satisfy himself that meat is the highest priced food today. People all over the country are protesting against the soaring prices. Everyone knows that. But do you hear anyone expressing dissatisfaction at the price of vegetables, nuts or fruits? Certainly not.

"'Then, there's another mighty good reason why we should think twice before eating meat of any kind. Here it is, taken from Gen. i. 29: "And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree in which is the fruit of a tree yielding seed; to you it shall be for meat."

" 'Now, who will not say that is not proof enough in itself to bear up our cause?

" 'As for myself, I never expect to eat flesh, fish, fowl or eggs again, and I believe my life will be prolonged because of it.' "

New Text-Books Hit Tobacco and Alcohol

IN A RECENT NUMBER OF GOOD HEALTH, we commented on the extent to which the newer text books are laying emphasis upon danger from those very popular but very deadly poisons, alcohol and tobacco. A more recent illustration of this new tendency is afforded by a text-book on elementary physiology, in which the author, Dr. John Calvin Willis, describes tobacco as being very injurious "to the tissues of the whole body. Tobacco first attacks the nerves, then all vital processes. It weakens the muscles; it affects the heart, and makes its action very irregular; the heart is first too slow, then too fast. Palpitation is very common, and there is danger of heart failure, because the walls of the heart are not properly nourished. Short breath ensues, because the blood does not properly circulate in the lung. One loses his power to work, grows prematurely old, and finds an early grave.

"When the heart is weakened and the whole system poisoned with nicotine, a little additional strain from disease is dangerous; the heart may fail. Many a death occurs in this way."

ALCOHOL GETS AS LITTLE SHRIFT at the hands of Doctor Willis. It affects the circulation, he says, and "all functions that depend upon it: (1) it deprives the blood of much of the food it should carry; (2) it injures health by bloating;

(3) it deprives the body of much of its oxygen; (4) it makes a surplus of heat; (5) it destroys muscular power in the arteries; (6) it weakens the heart by overwork; (7) injures the brain; and (8) causes loss of power to endure extremes of heat and cold.

"It must not be forgotten that while alcohol excites the cells to greater activity, it does not give them additional strength for their work, and finally results in a state of cell depression. It hinders digestion and disturbs the liver; in doing this, it weakens the blood by decreasing its nutritive element. In case of beer drinkers, too much water reaches the cells, and makes the muscles large, infirm and weak.

"Alcohol takes up much oxygen from the body; this produces two bad results, namely, poisoning the blood, and leaving much unoxidized food. The effect of this is to deprive the tissues of much nutriment, and to aid the formation of uric acid from the unoxidized particles of food. Uric acid is a dangerous factor in rheumatism, indigestion and many nerve diseases.

"ALCOHOL IN THE SYSTEM MUST BE OXIDIZED; this produces much extra heat and increases circulation. The blood rushes into the capillaries, making the drunkard's 'blush.' This extra blood reduces the power of resistance and retards the healing of wounds. In all such diseases as typhoid fever, penumonia, and consumption, the death-rate among drinkers is much higher than among those who do not drink.

"Alcohol weakens the heart by overwork, a lack of nutrition, and a surplus of water. Alcohol also affects the nerves of the heart. Most people think that a drink of alcohol "braces" one up by giving added strength, but this is not true; alcohol really weakens the brain until it is not so sensitive to fatigue. This weakness of the brain results in loss of mental power, moral

power, and will power. Owing to general loss of strength and resistance, the drinker can not endure extremes of either heat or cold. Alcohol does heat the body temporarily, but a period of chill and depression follows. It is also true that drinking alcohol in hot weather cools the body by increasing sweat, but this is unnatural, and weakens the glands of the skin."

LITTLE DEFINITIONS IN DIET—2

CELL: The unit of all organic substance, usually invisible to the naked eye. The cell is made up for the greater part of a viscid, colorless substance, known as "protoplasm," in which, according to modern biology, is hidden the secret of life. Forming a core as it were to this minute particle of protoplasm is the "nucleus," composed of a modified protoplasm, hence a definition of the cell that has become classic—"a mass of protoplasm containing a nucleus." Imbedded within the nucleus, in turn, is another protoplasmic substance, known as chromatin, which plays an important part in cell division, and is generally believed to be the determining agent in heredity. The cell is largely protein in character, the protein of the nucleus differing from that of the rest of the cell largely in the fact that the nuclear protein is combined with phosphoric acid. This protein plays an important part in the diet of the body, inasmuch as for the growing body (in which cell multiplication is proceeding rapidly) and for the renewal of wasted cells precisely the right amount of protein is essential, too large a quantity on the other hand setting up in the system poisonous processes that manifest themselves in such disorders as colitis, etc. For a brief point of time at its beginning, every human life consists of

a single cell. Presently, however, this is divided into two cells, which, again, divide into four cells, these, in turn, into eight, *ad infinitum*, all forming, not individual and separate cells, but all united in a growing and developing organism. Another remarkable fact connected with cell-division, or "mitosis," as it is called, is what is known as "differentiation," or that mysterious process by which various kinds of cells are made and assembled, each in its proper place; cells, that is, for the muscles, nerve-cells, brain-cells, bones, nails, etc.

TISSUE: A term used to designate any portion of the body substance, and usually conceived of as cells in the aggregate. Thus we speak of certain poisons as being destroyers of human tissue, such as tea, tobacco, alcohol, meaning that they destroy cells because of their injurious effect upon the protoplasm. The term is also used in referring to particular kinds of cells, such as muscle tissue, nerve tissue, bone tissue, etc.

DIGESTION: That process by which our food is made to undergo a series of chemical changes that prepare it for absorption into the body. The proteins, fats and carbohydrates in their natural states can not be utilized by the body, the protein particularly acting as a virulent toxin when injected into the circulation. To reduce them to a form acceptable to the system there are added to the food at intervals along the intestinal canal, five digestants: the saliva, gastric juice, pancreatic juice, bile, intestinal juice.

ENZYME: The active agent in any of the digestive juices. The precise nature of the enzymes is as yet a mystery; by some physiologists they are thought to be merely certain properties of other substances, while others believe a structural corres-

pondence to exist between the enzymes and the particular substances which they digest.

SALIVA: The digestive agent with which food comes in contact in the mouth. The chief function of its enzyme, ptyalin, is to digest the carbohydrates, changing them into maltose and dextrins, in which forms they are assimilable into the system. It is alkaline in nature, so does not continue its digestive functions for more than a few minutes after reaching the stomach, which is highly acid, though after reaching the intestinal canal, which has an alkaline reaction, it begins its operations again. In addition to the digestive functions, the saliva plays an important part in the sense of taste and also softens the food for swallowing. Saliva is a mixture of the secretions of the salivary, parotid, sub-maxillary and sublingual glands, together with secretions of small glands of the mucous membrane.

GASTRIC JUICE: The digestive fluid secreted by the stomach. As in the mouth the saliva changes the starches into dextrin and maltose, so in the stomach the gastric juice changes the protein into "peptones." This it does by means of an enzyme called "pepsin." A second enzyme known as "rennin" affects solely the proteins of milk, causing them to form into soft curds, these curds in turn being changed into peptones by the pepsin, in quite the same manner as other proteins. The gastric juice is acid in chemical constitution, due to the presence of hydrochloric acid, without which the pepsin and rennin can not act. A nice balance must be maintained between the amount of hydrochloric acid present, on the one hand, and the pepsin on the other. A lack of pepsin results in a derangement of the digestion known as "hypopepsia;" an excess of pepsin produces a condition known as "hyperpepsia." When food has been

acted upon by the gastric juice, it leaves the stomach and enters the small intestine to undergo action by other digestive juices. As showing the importance of cheerfulness at and after meals, Professor Pawlow, of St. Petersburg, experimenting upon dogs found that when the animals were annoyed the flow of gastric juice ceased, while, when the dogs were in a playful frame of mind, the gastric juice flowed in abundance. Music, it was shown, especially stimulates the flow of the juice.

CHYME: A term applied to the food mass after it has undergone digestion by the digestive juices of the stomach and has entered the intestinal canal.

PANCREATIC JUICE: A digestive fluid secreted by the pancreas, a gland lying just back of the stomach. It is a clear, limpid, alkaline substance containing four digestive ferments: *trypsin*, *amylopsin*, *steapsin*, and a *milk-curdling ferment* resembling rennin. *Trypsin* is not in function unlike the pepsin of the gastric juice, the chief difference being that whereas pepsin works only in an acid medium, trypsin demands an alkaline or a neutral. It serves as a sort of sentinel, posted near the stomach to hold back any particles of undigested proteins that may pass by and change them into peptones, the form in which the system demands its protein for assimilation. *Amylopsin* is also on sentinel duty and performs a function similar to that of the ptyalin of the saliva, attacking the stray bits of undigested starch and changing them into dextrines and maltose. It is thus complementary to the action of the saliva, which, reaching the alkaline intestinal canal, soon renews its operations. Amylopsin, it might be added, digests pure, unmixed starch, a function which the ptyalin of the saliva does not possess. The function of *steapsin* is to attack the fats, which have proceeded

thus far in the intestinal canal unchanged, and to change them into a milky fluid and otherwise prepare them for absorption into the system. The milk-curdling ferment has as its duty the making certain that the rennin and pepsin of the gastric juice have done their work, and digesting any uncurdled milk which in any way may have passed the pylorus.

BILE: An alkaline fluid manufactured by the liver and stored up in a reservoir called the "gall-bladder," whence it issues forth through the bile-ducts into the intestinal canal. The digestive functions of the bile, so far as known, are three: first, it has a slight digestive action on starch, especially if pancreatic juice be present; in the second place, it is a non-acid medium, and thus insures the neutralizing of the gastric juice; and third, it prepares the fatty elements of the food for absorption into the system. The bile is usually dark brown or greenish in color, and is secreted to the extent of about two pints daily.

INTESTINAL JUICE (also known as "succus entericus"): a digestive fluid produced by small glands which invest the membranes that line the intestine. When food has been thoroughly chewed and the saliva given an opportunity to do its work effectively, the intestinal juice has little work to do, for its chief use, so far as is known, is to convert cane sugar into dextrose and other substances preparatory to absorption by the system.

ABSORPTION (or assimilation): the process by which the food, when it has become thoroughly digested, is utilized by the system in the production of tissue, heat and energy. The intestinal canal is lined with countless hair-like projections known as "villi," which are filled with tiny blood-vessels spoken of as "capillaries." Into these capillaries are absorbed the sub-

stances that have resulted from the digestion of proteins and carbohydrates. The blood-stream, in turn, passes them on to the liver, which reconstructs them into new forms of protein and carbohydrates. The liver passes these reconstructed substances back into the blood-stream, by which they are carried into every nook and corner of the body and deposited, we might say, at the very feet of the cells. But let us trace the fats. In the blood is found a fluid called "plasma," which oozes out through the thin walls of the minutest ramifications of the blood-vessels and circulates freely through the tissues of the body, bathing, as it were, the cells which compose the tissues. This fluid, or lymph, is prevented from accumulating in the tissues by collecting in a network of fine tubes known as "lymph-capillaries," through which it finally emerges into two large canals—the thoracic and the right lymphatic ducts—which, in turn, pass it back into the blood stream. Now those lymph-capillaries which line the intestinal canal are known as "lacteals." The lacteals take from the chyme those substances which result from the digestion of the fats, and pass them along to the lymphatic ducts, which, in turn, empty them into the blood-stream, the blood-stream distributing them to every part of the body along with the reconstructed proteins and carbohydrates, laying them, as we have already suggested, at the very feet of the cells, whose duty it is to transform the proteins into cell structure, the fats into heat, and the carbohydrates into energy, a process known as "metabolism."

METABOLISM: Metabolism is a dual process, involving a destructive and a constructive process known as "katabolism" and "anabolism" respectively. Every activity of life, be it a beat of the heart, the winking of an eye, or strenuous muscular labor, is performed at the expense of fuel substances in the cell

and of cell tissue itself. Beyond the fact that generation of heat and energy take place in the cell and that the cells themselves are being constantly destroyed by their own activities, and beyond the further fact that the process is one of oxidation, katabolism is wrapped in the utmost mystery. Equally mysterious is the further process of anabolism, by which the protein, distributed by the blood-stream throughout the tissues, is made into new cells and by which the cells take the fats and carbohydrate material brought to them and generate from them heat and energy.

KATABOLISM: That process by which the activities of life break down the body cells and consume body heat and energy. (See metabolism.)

ANABOLISM: That step in metabolism in which new cells are built up from protein and other essential substances distributed throughout the tissues by the blood, and the transformation of the fats and carbohydrates into potential energy and heat is accomplished. (See metabolism.)

PERISTALSIS: A series of wave-like, churning movements which, beginning at the upper end of the stomach, extend across the stomach and traverse the entire length of the intestinal canal. These peristaltic movements commence soon after the beginning of digestion by the gastric juice—five minutes, Professor Cannon, of Harvard, found in X-ray experiments on cats, the waves following one another at intervals of two or three minutes. Peristalsis in the stomach performs a double service: it assures a thorough mixture of the gastric juice with the food, and also propels the chyme forward with sufficient force to drive it through the pylorus, the valve which guards the en-

trance to the small intestine. As soon as the stream of chyme has passed through the pylorus, the gate closes again until the next peristalsis sends through a second stream, and thus the process continues. These movements, Professor Cannon demonstrated, react very decidedly to states of mind. He found that when a cat became angry, for instance, peristalsis ceased. This cessation causes the chyme to remain stagnant in the stomach, where it soon begins to ferment and give off poisons that, when absorbed into the system, produces autointoxication. In the intestine peristalsis also plays an important part, for it pushes the chyme forward without retardation, and when the nutrient materials have all been absorbed by the system it carries the residue on to evacuation.

T. C. O'D.

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AN exhibition of sculptures by Prince Paul Troubetzkoy being held in the Knoedler Art Galleries, New York, is attracting a great deal of attention in art circles, a quality that never fails to attract visitors being the remarkable vitality shown in all his work. Prince Troubetzkoy is a vegetarian, a fact which seems to perplex many people who cannot reconcile vitality of thought and feeling with a non-flesh diet. An amusing statement illustrating this point of view appeared in a study of the Prince which appeared a year or two ago in a leading American art magazine: "If you study the people he has represented, or the animals," the critic said, "or the groups embracing both, you know more or less exactly how he felt about these creatures in life. You discover that while he is a prince, he is also a democrat; that while he reveres strength, physical and spiritual, he is a vegetarian"!

THE cigarette seems equally fatal whether smoked or unsmoked. In a gas explosion in a Russian coal mine a fortnight ago, caused by a miner attempting to light a cigarette, twenty-four men were killed. The only safe cigarette is an unrolled one.

A Spring Tonic

SPRING TIME REQUIRES A HYGIENE ALL ITS OWN, as we have shown elsewhere in this number of GOOD HEALTH. We wish here merely to enter a plea for a particular feature of spring hygiene—frequent doses of fresh, balmy air, taken on a country road. The temptation is to yield to the languor which the body feels, and to sit down and wait for the return of the energy and appetite that have left us.

QUICKEST RESULTS will be obtained by leaving the office or the house, and taking to the fields. The remedy is suggested with the more zeal because its efficacy is so little understood. It is very much as John Burroughs once put it: "Of these gleesome saunters over the hills in spring, or sallies of the body in winter, those excursions when the foot strikes fire at every step, when the air tastes like a new and finer mixture, when we accumulate force and gladness as we go along, when the sight of objects by the roadside and of the fields and woods pleases more than pictures, or than all the art in the world,—those ten or twelve mile dashes that are but the wit and effluence of the corporeal powers,—of such diversion and open road entertainment, I say, most of us know very little." I notice with astonishment, says Burroughs, that "at our fashionable watering-places, nobody walks; that, of all those

vast crowds of health-seekers and lovers of country air, you can never catch one in the fields or woods, or guilty of trudging along the countryroad with dust on his shoes and sun-tan on his hands and face."

THE STIMULANT POSSIBILITIES OF WALKING ARE TREMENDOUS. Robert Louis Stevenson in a famous essay on walking ascribed this influence very largely to the variance in the walker's mood. "From the exhilaration of the start," he said, "to the happy phlegm of the arrival, the change is certainly great. As the day goes on, the traveller moves from the one extreme end towards the other. He becomes more and more incorporated with the material landscape, and the open-air drunkenness grows upon him with great strides, until he posts along the road, and sees everything about him, as in a cheerful dream. The first is certainly brighter, but the second stage is the more peaceful. A man does not make so many articles toward the end, nor does he laugh aloud; but the purely animal pleasures, the sense of physical well-being, the delight of every inhalation, of every time the muscles tighten down the thigh, console him for the absence of the others, and bring him to his destination still content."

THESE WORDS MAKE ONE SAY WITH THOREAU, "Think of a man's swinging dumbbells for his health, when these springs are bubbling up in far-off pastures, unsought!"

THE hook-worm is by no means vanquished. The annual Texas hook-worm report for 1913, shows that 46.3 per cent of about 11,000 Texas children examined microscopically during the year were afflicted with hook-worm.

IN A paper read before the Section on Vital Statistics, at the 1913 meeting of the American Public Health Association, Dr. Louis I. Dublin, Statistician for the Metropolitan Life Insurance Company, remarked upon the fact that while the 1911 census returns show an apparently significant rate of 4.9 per 100,000, "this is only a trace of the deaths resulting from alcoholism. No one can estimate the annual mortality loss that is hidden behind such returns as 'pneumonia,' 'acute and chronic nephritis,' 'cirrhosis of the liver,' 'organic heart disease' and 'arteriosclerosis,' all of which causes are now, as we observed, on the increase in their incidence at the higher ages. If further evidence of the causal relation between alcoholism and higher mortality were necessary, we should need only refer to the body of facts which have been accumulating in insurance offices showing that total abstainers are by far the best risks and that the mortality rates observed in various occupations are significantly tinged by the degree of exposure to alcohol, which is characteristic of the occupation."

Fighting the Dust Germs

SPRING HOUSE-CLEANING TIME has come again, with its reminder of dust dangers—dangers which are run whether we clean or whether we do not. In a study of dust and its dangers to members of the household made a few years ago, seventy-five bacteria and one mould were found to have settled on an exposed space in the space of five minutes before sweeping. Shortly after sweeping, two thousand seven hundred bacteria and six moulds were obtained during the same period of time. In an investigation by Neuman, 82,140 bacteria were obtained immediately after sweeping, as against 4,210 later in the day when the dust in the room had settled. Out of doors

the dust problem takes on rather a different aspect. Here, although air is in motion, yet it is subjected to the bactericidal properties of strong sunlight, summer and winter. Throughout the winter, too, snow and rain act as deterrents to the blowing about of ordinary street dust, while in summer systematic sprinkling and flushing of streets serves to keep the air comparatively free from germ-carrying dust.

IN THE HOUSE, on the other hand, we are at the mercy of whatever germs the dust may happen to contain. Most rooms are so dark as to prevent the sunlight from entering in antiseptic doses, while their temperature makes them favorable to the growth of all kinds of germs. Until our houses are open to the full strength of sunlight, or else some means is discovered of keeping them out entirely, the dust problem will be with us. If we sweep, we fill the room air with germs; if we do not sweep, the germs are less likely to be inhaled, but the room soon becomes insanitary. Fortunately the last few years have seen the advent of suction apparatus of various kinds, which clean our floors and walls and hangings quite without the aid of the dust-raising broom and dust cloth which formerly figured so prominently in the daily house work. Fortunately, too, they may be obtained at so reasonable a price as to be within the reach of any household, thus serving very acceptably until that time shall come when there shall have been discovered a dust-proof house.

ON his ninety-third birthday the late Lord Strathcona was asked for the secret of old age. "The best way to live to an old age," he said, "is by not thinking about age at all, but by just going on doing your work."

IN A RECENT VOLUME on "Expectant Motherhood," Dr. J. W. Ballantyne, Physician to the Royal Maternity Hospital, Edinburgh, insists upon the important relationship between good fatherhood and healthy childhood, quoting, in illustration, the researches of Bunge to the effect that often, if not always, "the daughters of a man who is the slave of alcohol are unable to nurse their children at the breast. It is a strange phenomenon this! The grandfathers drink alcohol and the grandchild's milk supply is dried up! The drunkard's daughter is unable to act the part of a nursing mother. There are other ways, too, in which the health of her father, or his lack of it, may help or hamper his daughter when she is preparing to become a parent; it is, for instance, a terrible and a lifelong dead-weight for her to have had as a father a man suffering from syphilis, for her whole existence from the time of her conception in the womb of her mother up to the time when she may expect to carry children in her own womb is overshadowed by the menace of this disease."

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Popularizing Vegetarian Foods

A VERY GOOD CASE FOR A VEGETARIAN DIET is made by Lucia Millet Baxter in a recently published popular book on kitchen economy. The main objection to meat, says the author, is purely hygienic. "Comparatively recent investigations indicate that a diet of meat makes an excess of nitrogenous elements, which cannot be absorbed without poisonous or toxic effects. The toxic elements have to be thrown off, and the process induces colds, fevers, rheumatism, and other illnesses by putting too great a strain on the different organs; the liver, bowels, kidneys, etc. Nitrogenous excess is regarded as harmful to persons of sedentary habits, particularly when not robust.

"ANOTHER OBJECTION TO A MEAT DIET lies in its stimulating character, inducing a carnivorous, or meat-craving appetite, resembling in a degree that caused by the alcohol habit. Many people, who are quite sure they cannot live and keep strong and well without meat, may be said to have the meat habit; they really crave it for stimulation, not nourishment, as an inebriate craves alcohol.

"The peasant in many countries, who from necessity is obliged to abstain from meat, has proved by a vigor greater than in any other class that a meat diet is not essential to strength and endurance."

SEVERAL PARAGRAPHS THE AUTHOR DEVOTES to the commoner vegetables, with a summary of their nutritive and digestive qualities, from which we quote as follows:

"The seeds of the leguminous plants, such as beans, peas and lentils, are the most highly concentrated of all foods and contain more protein nourishment than any kind of meat. When cooked long at a low heat, as in a fireless cooker, they are made more easily digestible.

"Green peas are more nourishing than any other succulent vegetable. Green beans of all kinds are similar to green peas in that respect. Lentils, baked, boiled or stewed, served with jelly or apple sauce, are nourishing and most delicious.

"Wheat is the most important of all cereals. Spaghetti and macaroni, as well as white bread, are wheat-flour preparations.

"Indian corn, or its meal, comes next in value to wheat. It is highly nutritious.

"Rice has the least nitrogen of all grains, but it is one of the most easily digested, is a good addition to bread, and to the nitrogenous food, as beans, peas, and lentils. Rice in its un-

polished state contains desirable elements eliminated by polishing for the market.

"Chestnuts, used as a vegetable instead of potatoes or rice, are wholesome and nourishing, though not easily digested by many. There is a richness in their flavor not found in any other vegetable, and in many parts of Southern Europe the peasants eat chestnuts twice a day.

"Milk is called the most perfect food, as it contains all the elements of nutrition. Strictly speaking, however, it is an animal food.

Vegetables with little or no starch are cabbage, turnips, parsnips, beets, celery, green beans, asparagus, egg-plant, artichokes, tomatoes, squash, cucumbers, spinach, and all green vegetables.

"There is no other green vegetable so valuable as spinach. It is rich in iron and other elements which cleanse the blood; it should be eaten as often as twice a week when in season, and once a week in winter if possible.

"Foods for growth and repair are eggs, milk, cheese, nuts; and combined with butter, cream, or oil—beans, peas and lentils. Eggs, milk and cheese, though animal food, are freely eaten by many who are otherwise vegetarian, not being meat.

"Recommended for heat and force are fats (butter, cream, oil), sugar, and the starchy foods, cereals, rice, corn, potatoes and tapioca.

"As great care should be taken that vegetables are not undercooked as that they are not overcooked. Most people do not cook them enough. A few lose their flavor, and are destroyed by being overdone; such as peas, corn, and cauliflower.

"Always wash lettuce, cabbage, dandelion, spinach, or any kind of greens, in water with half a cup of salt; it will drive

out the worms or insects. It will also loosen the grit, often hard to get rid of.

"All green vegetables should be blanched to remove the bitter taste; it makes them greener and keeps them from wilting or losing flavor."

European Authority Points Out Dangers of Meat Eating in Diabetes

WFALTA, writing in *Medizinische Klinic* for January 4, in a historical survey of the modern study of diabetes gives it as his opinion that the diet of diabetes should be predominantly boiled cereals. When baked (we quote from an abstract of the article in the *Journal of the American Medical Association*) the grains are broken up in a different way and absorption proceeds under conditions that do harm. In gruels, porridges and soups, however, all the cereals, are available, as also rice, tapioca, potato, corn and millet, alone or in combination. He thinks that the greater consumption of meat is possibly responsible to a certain extent for the increasing frequency of diabetes. When there is a predisposition to diabetes, the abuse of meat should be warned against; it is possible that a strict vegetarian diet, with cereals boiled instead of baked, might help to ward off the disease better than the restrictions hitherto in vogue.

How to Keep Milk Where Ice is Scarce

TO AID PERSONS WHO FIND ICE DIFFICULT TO OBTAIN to keep their household milk in better condition than if it is allowed to stand around in heated rooms, the dairy experts of the Department of Agriculture have issued the following recommendations:

IF IT IS IMPOSSIBLE to procure ice, the milk bottle can be kept cooler than the surrounding air by keeping it in a jar or pail of running water. Where it is impossible to use running water from a faucet, wrap the bottle in a damp cloth and put in a current if air. This method will keep the milk a few degrees cooler than if left simply in the air. The use of ice, however, is always preferable.

IF THERE IS NO REFRIGERATOR IN THE HOUSE, an inexpensive ice-box for keeping milk cool in summer can easily be made by putting about two inches of sawdust or excelsior in the bottom of a small wooden box about eighteen inches long, twelve inches wide, and fourteen inches deep. Into this set a covered jar or tin bucket about eight inches in diameter and tall enough to hold a small milk bottle. A stone jar is better than a tin pail, as it will not rust nor grow leaky. Pack sawdust around the outside of the pail or jar, place the milk bottle in the pail, and place cracked ice around the bottle. Put a cover on the pail or jar. Lay several thicknesses of newspaper on top of the pail and close the lid of the wooden case.

Curing of Disease by Expectation

THE "MIND CURE" in its various phases, magnetic healing, mental therapeutics, Christian Science, Emmanuel movement, etc., offers nothing new except in the elaboration of essential details. Dr. Gideon Harvey, an eminent English physician, more than two hundred years ago wrote a book on the "Art of Curing Diseases by Expectation," from which we quote the following prescription for the health: "In the Gout, if the Expectation Physician presents his patient gratis with the fol-

lowing nostrum, it will not only be well taken, but much more veneration will be given to it, than if paid for—and to the physician will redound a lasting, and diffusive glory, and reputation; viz.—ten links of thread, half yard long, dipt in wax of ten different colors; each to be tied by the patient, if possible, or by his nurse, to each distinct toe of the feet, and to be untied every hour or two, and changed to other toes, namely—the red-wax't thread where the green was, the blue where the yellow, etc., etc. By this means a great deal of time will be passed, and if the patient continues tying and untying, till a good long fit is expired, it will have also another good effect, of rendering his back very flexible and being tired at night—prove a means to make him sleep, without the charge of a dose of opium."

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TWO GIANTS were recently exhibited in Edinburgh, Scotland, the brothers Hugo, each of whom stands eight feet high. One weighs 406 pounds, the other 322 pounds. They were born in Nice.

We have species of gigantic horses, why not gigantic men. The "Heidelberg Jaw," the oldest human relic known, must have belonged to a man eight or nine feet in height. "There were giants in those days," why not now? If giants are so rare that they are carried about and exhibited as curiosities it is only because the race has degenerated and big men have gone out of fashion.

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Health Discussions in Trade Magazines

SIGNIFICANT OF THE GROWING INTEREST IN HEALTH, and especially of that new attitude toward health which seeks efficiency of body and mind because efficiency pays in dollars

and cents, is the entrance of the trade journal into the field of popular discussions of health problems. More and more editors of this class of publication, as well as that newer type of publication known as the "house-organ," are insisting on health as the very basis of success in any endeavor. This observation is called forth by a valuable article which appeared in a recent number of the *Chicago Apparel Gazette*, a clothiers' monthly, entitled "The Clothier and his Stomach." The article, which men and women of every profession can apply, is as follows:

IT DOESN'T MAKE MUCH DIFFERENCE HOW SHINY THE PAINT and brass on an automobile are if the engine isn't working right. Nickel-plated trimmings and fourteen coats of paint, rain-vision windshield and turkish upholstery won't run the car a mile if the motor won't start.

On the other hand, none of us feel very proud to ride in a car with paint peeling off and the brass turning black, and we certainly do not feel very comfortable riding in a car with cushions flat and hard and the wind-shield broken to let the dust and wind and rain blow into our faces—even if the engine is working perfectly.

Well, the business man is subject to just about the same rules as the automobile. Your engine might be called your heart, or your brain, perhaps, but I'm going to call it your stomach. Not many dealers realize that their efficiency depends on their stomachs. A retail store just about travels on the stomach of the manager.

When your stomach is out of order you can't do business right. Your brain will not work right. You cannot be energetic, ambitious, efficient, successful in any particular.

The man whose stomach is wrong starts the day wrong. He comes down to business with a grouch. He is not competent

to do a full day's work and he is late getting started. That means that when night comes it will find him with uncompleted tasks and poorly done work behind him. It handicaps him for the next day, even if the next morning should find him feeling right.

CARE IN DRESS and in all matters relating to the outward appearance of the man will not help him to do business right if his engine, his stomach, is all wrong. There are plenty of men just as there are plenty of automobiles with forty horsepower-looking paint and sixteen horsepower engines.

On the other hand, we don't enjoy doing business with the sloppy-looking merchant, even if he is bubbling over with energy. If a man cannot have both a good stomach and a good external appearance, it is no doubt better to have the good stomach. We can entertain a certain amount of respect for the automobile that can get there in spite of its dilapidated looks, and we feel somewhat the same toward the rough, uncouth-looking man who delivers the goods, who accomplishes things, but because a man succeeds with rough-and-ready manners is no recommendation of those manners. He would succeed far easier, achieve far greater success if he were not handicapped.

Of course, there are other causes for a man feeling physically unfit than his stomach's ailments, but when all is considered, if you treat your stomach right you will eliminate nine-tenths of the reasons for complaint.

YOU CANNOT SLEEP WELL with your stomach wrong, and if you do not sleep well you cannot get up in the morning fit to do the day's work right. You may put in full time and do all the things set for that particular day, even when you do not feel right. It may seem at night that you have even accomplished as

(*Continued on page 18, Advertising Section*)

Book Review

Essentials of Health

THE present volume well illustrates the new attitude toward the teaching of physiology—to approach the subject from the standpoint of health, rather than from the abstract consideration of the structure of the body. The entire study is based upon the construction of the body as a group of cells, or body units, emphasizing the fact that whatever is injurious to the health and life of the cell is likewise injurious and destructive to the body itself, and its corollary, that whatever builds up the cell likewise builds up the body. From this standpoint, the author takes up in separate chapters, the bones, the muscles, nerves, digestion, foods, drink, water, circulation, exercise, the organs of sense, sleeping, etc. A particularly valuable chapter is that dealing with "Bacteria," which not only tells what bacteria are, but shows how they are to be destroyed by simple and practical means of disinfection. Indeed, the entire volume is eminently practical, and while it must give great satisfaction to the teacher, it must also prove of value to the student in the intermediate grades by fixing in their minds at an early age a knowledge of right habits of living.

"Essentials of Health." By John Calvin Willis, A.M., Ph.D., M.D. New York: American Book Company.

Origin and Nature of Life

THE most remarkable thing about the present volume is the confession of faith—may we call it?—with which the author, a distinguished English scientist, closes his review of inorganic and organic evolution, and of the origin and nature of life: "There is continuity and consistency in it all; there is beauty in it and design. There is a scheme in it all and an eternal purpose which is ever progressing. It means that this much has been revealed to us, and having once seen it, there comes a touch of illumination and faith that kindles something sacred within the mind akin

to reverence and love. One must need work for the highest and for more knowledge of this revelation, whatever the future may hold in store, for we do not now know how more and more glorious things may yet be." This statement indicates the spirit in which the author approaches the task of interpreting our present knowledge of life and its processes, a spirit which the author succeeds in inspiring in the reader. It is a difficult task, to tell a story of this character, involving as it does scientific abstractions and complicated terminology, but the author has acquitted himself in a most commendable manner, every page of the book being as readable as its story is fascinating.

"The Origin and Nature of Life." By Benjamin Moore, M.A., D.Sc., F.R.S., Johnston Professor of Biochemistry, University of Liverpool. Fifty cents net. New York: Henry Holt and Company.

Housekeeper's Handy Book

THE present volume is, as its name denotes, a collection of useful information, generally *un*handy because stored away in a thousand notebooks, clippings, cookbooks, and almanacs. It covers every phase of household economy, from "Cleanliness and Health," and "Housekeeping Made Easier," to emergencies and needlework. The book is really a very practical piece of work, and will fill a long felt want. We are particularly glad to see emphasis laid upon the importance of hygiene, and especially gratified are we to see a chapter devoted to the vegetarian diet, which is additional evidence that the non-meat idea is catching on.

"Housekeeper's Handy Book." By Lucia Millet Baxter. Illustrated by Mary H. Northend. Boston: Houghton Mifflin Company.

Expectant Motherhood

DOCTOR BALLANTYNE in a passage of great beauty likens the unborn life to the clay in the hands of the potter. When the workman, he says, "fashions a vessel upon the wheel he may find his work marred, not only by reason of some inherent defect in the clay from which he makes it, but also on account of faults of handling, of turning, of firing, of glazing, and of decorating; the expert workman may do much even with an inferior

material, while in the hands of the bungler the finest substance may be fatally spoiled." The author has not attempted to deal at length with what may be termed inherent defects or excellences in the formative substance which has been handed down from one generation to another, he says, but has chosen to focus the reader's attention upon "the care which should be taken of that substance as it lies ready to be moulded in the womb of the mother during the nine months which go to making an infant ripe for his birth.' This is not a work upon heredity in the strict sense of the word; but it has to do with the regulation of the immediately pre-natal influences which play upon the child, possibly with even greater effect than those which are termed hereditary. Without depreciating the potency of what may be called the ancestral life of the new individual, or denying the need for regulation of the forces which act before procreation, the writer is concerned with events subsequent to procreation and with their control in the interests of the expectant mother and her expected child." In the rare sympathy with which Doctor Ballantyne approaches the subject of motherhood, in the delightful literary style that characterizes every page, and in the practical nature of the advice that is given, the reader has here one of the best books that has yet been written on this subject.

"Expectant Motherhood: Its Supervision and Hygiene." By J. W. Ballantyne, M.D., F.R.C.P., Physician to the Royal Maternity Hospital, Edinburgh; Author of "Manual of Ante-Natal Pathology and Hygiene," etc. $1.50 net. New York: Funk and Wagnalls Company.

The Home Nurse

IT IS always a pleasure to welcome a new book by Doctor Lowry. Although the present volume is distinctly different in character from the series of books for children and young people by which she is best known, yet we take pleasure in recommending it to our readers as being quite up to the high standard of her former works. "The Home Nurse" is a health book for the home, giving directions for caring for invalids and in meeting emergencies. It is free from technical terms, and is intended particularly for family use.

"The Home Nurse: The Care of the Sick in the Home." By Dr. E. P. Lowry, author of "Herself," "Himself," "Confidences," etc. $1.00 Chicago: Forbes and Company.

American Red Cross Text Book

THE full title of the present volume conveys the aim and scope of the work: "American Red Cross Text Book on Elementary Hygiene and Home Care of the Sick." Fully half of the book is given to those practical subjects that relate to the prevention of disease, while first aid is also given thorough consideration. Disinfection, the care of food, water and ice, ventilation, heat, sewage and garbage disposal, the laundry of the sick room, the care of beds, infant and invalid feeding, the household medicine cabinet—these subjects are representative of the entire book, the authors not contenting themselves with telling what should be done, but going a step farther and telling how really to set about doing it. The eminent authorship of the volume alone is a guarantee of its value and reliability.

"American Red Cross Textbook on Elementary Hygiene and Home Care of the Sick." By Jane A. DeLane, R.N., Chairman of the National Committee, Red Cross Nursing Service; Late Superintendent of the Nurse Corps, U. S. A.; of the Training Schools for Nurses, Bellevue Hospital, New York, and of the Training School for Nurses, Hospital of the University of Pennsylvania, and Mabel McIsaac, R.N., Member of the National Committee Red Cross Nursing Service; Superintendent of the Nurse Corps, U. S. A.; Late Superintendent Illinois Training School for Nurses, Chicago; Author of "Primary Nursing Technique," "Hygiene for Nurses," "Bacteriology for Nurses." Philadelphia: P. Blakiston's Son and Company.

Flies in Relation to Disease

FOR the first time the non-biting fly has been treated attractively in a really scientific manner. During the past dozen years, as the author points out, it has been shown that blood-sucking flies are necessary factors in the transmission of several important human and animal diseases, and intensive studies have been made of every phase of their activity. Little attention however has been paid to non-blood-sucking, or non-biting flies. Here an attempt has been made to collect the most important and reliable information available on the subject, and to arrange it in such a manner that all who are interested in its various aspects may be able to ascertain the present state of our knowledge. The useful and very complete

bibliography shows that no source of data has been left unconsulted, and if along with the more spectacular facts concerning the fly in its relation to disease the lay reader finds details that must interest only the laboratory worker, he will remember the words of the editors of the excellent series of monographs to which this volume belongs, that it has been their desire "to arrange that the books should appeal to various classes of readers: and it is hoped that they will be useful to the medical profession at home and abroad, to bacteriologists and laboratory students, to municipal engineers and architects, to medical officers of health and sanitary inspectors, and to teachers and demonstrators"—an ambitious program, but one of whose accomplishing this the first number is an excellent earnest. The volume discusses, with the utmost thoroughness, facts concerning the life history of all types of non-blood-sucking flies, their physiology, their habits, the diseases and parasites with which they themselves are plagued, and summarizes our present knowledge concerning the relation of the fly to disease and epidemics. It is profusely illustrated, and is printed and bound in an attractive and very substantial manner.

"Flies in Relation to Disease: Non-blood-sucking flies." Volume One in the "Cambridge Public Health Series." By G. S. Graham-Smith, M.D., University Lecturer in Hygiene, Cambridge Universsity. Cambridge and New York; Cambridge University Press.

Exercises for Women

THE author in the present work has aimed to afford women a definite, simple, and suitable course of exercise to be done in the home, without apparatus when necessary. Among the excellent exercises outlined are those designed to reduce flesh and others to build up the body into a rounded, graceful figure. Particularly valuable features are the chapters on clothes and shoes, which show how fatal may be the results to the system of improper dress. A glossary made up of photographs gives a complete outline for a series of chest-weight drills. The book is profusely illustrated throughout and the busy woman in the home will have no difficulty in following the author's suggestions.

"Exercises for Women." By Florence Bolton, A.B., Former Director of the Women's Gymnasium, Stanford University. $1.00 net. New York: Funk & Wagnalls Company.