

Life & Health

APRIL-MAY
~ 1911 ~

6^d.

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THE TALK OF THE OFFICE



"Who shall dispute what the Reviewers say?
Their word's sufficient; and to ask a reason,
In such a state as theirs, is downright treason."

SCIENCE loses in mystery and gains the confidence of intelligent men and women in every walk of life as its truths become popularised. The old conservative idea that it would be a loss of dignity to science to throw open the great storehouse of knowledge so that ordinary wayfaring men may partake of the accumulated wealth of ages has long ago been dispersed. Inquiry is abroad, and the following favourable reviews, culled from various journals, show a decided appreciation of the mission of "LIFE AND HEALTH":—

Daily News

Otago, N.Z., February 7, 1911

"Life and Health" is a new monthly journal emanating from Warburton, Vic., the price being sixpence. Its name describes its purpose. . . . One is inclined to look askance at such productions, suspecting that they are the media for advertising some school or cult, but such design is absent from "Life and Health." Its contents are a number of eminently sane articles covering almost the whole field. It is apparently a genuine effort to make its readers acquainted with the elementary laws of hygiene, and we fancy few of them are so well informed as to render the information superfluous. There is an entire absence of technical terms, and the articles which deal with alcohol from a health point of view are quite without the suspicion of partisanship. "Life and Health" is evidently superior to fads, might well be welcome in every cultivated home.

The Star

Dunedin, N.Z., February 10, 1911

"Life and Health," a Victorian publication of sixty pages, contains a large amount of instructive and useful information interestingly and pleasantly dispensed. The magazine is devoted to the teaching of the fundamental principles governing the life and health of the human organism. It points out the plain and simple way to regain and retain health, and its articles cover a large variety of subjects contributed by an editorial staff of eight physicians.

The Register

Adelaide, January 28, 1911.

THE GOSPEL OF HEALTH

Books innumerable dealing with health, strength, and kindred subjects have been issued during recent years, but it has remained for an Australian publishing company to produce a magazine devoted exclusively to teaching "the fundamental principles governing the life and health of the human organism." The new magazine is called "Life and Health," and is published by the Signs Publishing Company, Warburton, Victoria. The editor is Mr. A. W. Anderson, and in the opening article he writes:—"It is the purpose of this journal to call attention to the importance of preserving life. As individuals, as families, as communities, and as a nation, we should regard the preservation of life and the maintenance of a healthy physique as of the supremest importance." Judging by the first edition of "Life and Health," the publishers intend to deal comprehensively with all matters affecting health, and there are articles ranging from "consumption" to "vegetarianism." The contributions are by authorities well able to lay down the law on each particular section, and the subjects are handled in a convincing yet readable manner. If it maintains the standard of the first edition the publishers should not have cause to regret initiation of "Life and Health," which is recommended to all wise enough to bestow some care upon their bodily wellbeing. The magazine will be issued every two months at sixpence a copy.

The Talk of the Office (Continued)

The Weekly Graphic

Auckland, N.Z., March 1, 1911

"Life and Health."—This magazine, which we have received from the Signs Publishing Company, is devoted to teaching the fundamental principles governing the life and health of the human organism. It points out the plain and simple way to regain and retain health. Its articles cover a large variety of subjects, which are contributed by an editorial staff of eight physicians, among whose names we notice those of two well-known Auckland practitioners. Space forbids more than a brief outline of the contents of this exceedingly readable magazine, which discusses in its columns very many subjects material to or inimical to health. An article entitled "Chats with the Doctor," is remarkable for the clear and simple language in which it is couched, and should be found invaluable in homes distantly removed from medical aid. Great care has evidently been taken to refrain from using technical or scientific terms, and the advice tabulated is such as could easily be assimilated and followed by the ordinary intelligence. There are, for example, "Home Nursing," "Quiet Talks with Mothers," "Diet in Health and Disease," "Physical Culture," and "Temperance." Editorial and general articles are contributed by experts on a variety of subjects affecting life and health. In short, this tastefully-got-up and admirably illustrated magazine

should supply a long-felt want in these days, when the science and the cult of "hygeia" is becoming with most sensible folks a prominent part of their education.

Queensland Times

Brisbane, February 6, 1911

It is generally admitted that this is an age in which "the school-master is abroad." It would seem, too, that arrangements are being made for the doctor to be abroad; and it is obvious that the ubiquity of the healer is of even greater importance than the ubiquity of the tutor. "Life and Health" is the title of the magazine which will essay, every two months, to bring into the home circle much-needed information regarding the best means of preserving or regaining health. The periodical in question is published by the Signs Publishing Company, Ltd., Warburton, Victoria, and the contributors are eight physicians, three of whom are ladies, two at least of the latter being alumni of the far-famed Edinburgh University. "Life and Health"—which will be forwarded post free for 3s. 6d. per year—is full of interesting and informative articles. Perhaps the section most likely to appeal to the general reader is "Chats with the Doctor," conducted by the medical superintendent of the Sydney Sanitarium, Franklin Richards, L.R.C.P. and S., Edinburgh, whose reputation is not unknown even in Queensland.

"LIFE AND HEALTH" is published once in two months, contains sixty-four pages and cover, fully illustrated. You may have it sent to you, post paid, for 3s. 6d. per year.

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OR TO

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Warburton, Victoria



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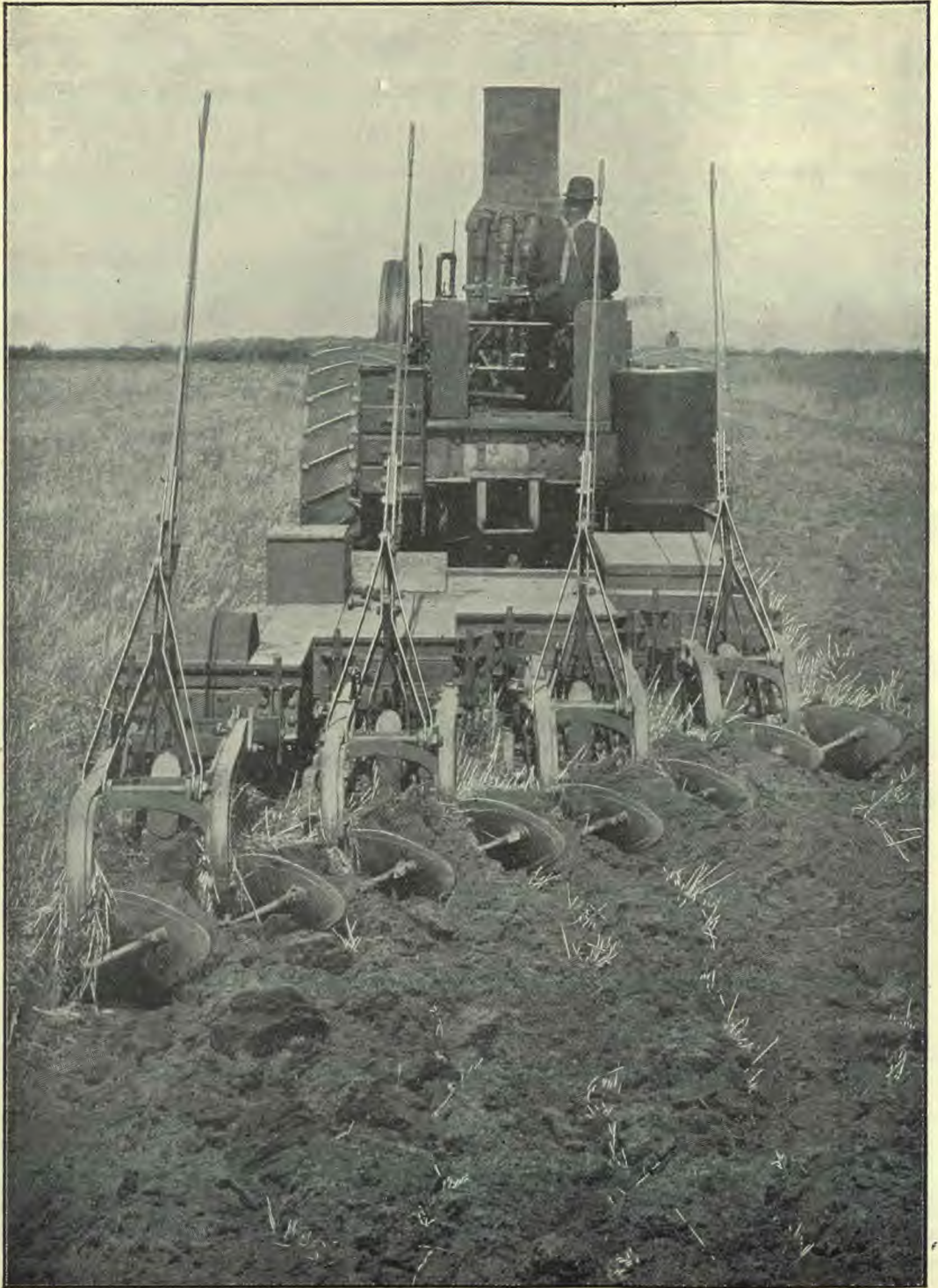
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Our cover design is a reproduction of a beautiful photograph, which Messrs. White and Gillespie, photographers, were fortunate enough to snap while the horses employed at a sawmill were resting under a shady eucalypt in the vicinity of our publishing house at Warburton.



An Implement which reduces the drudgery of farm life. (See page 72.)



EDITOR: A. W. Anderson.

CONTRIBUTING EDITORS: F. C. Richards, L.R.C.P. and S., Edin.; Eulalia S. Richards, L.R.C.P. and S., Edin.; W. Howard James, M.B., B.S., Melbourne; A. Stuttaford, M.D.; A. V. Heynemann, L.R.C.P. and S., Edin.; Ethel M. Heynemann, L.R.C.P. and S., Edin.; P. M. Keller, M.D.; Florence A. Keller, M.D.

Vol. 1, No. 2

Melbourne, Victoria, Australia

April-May, 1911

Where Boys Grow to Be Men

IT is but natural that every boy should grow to be a man, but somehow modern civilisation has a knack of turning things out of their natural course. From the days of Adam boys have grown to be men, and had "all things continued as they were," which they have not, all boys would have continued to follow this time-honoured custom.

Fortunately for the good of humanity generally, as well as for the physical stamina and protection of the race, there is still a large proportion of boys who are being reared amid an environment which conduces to the production of a manly physique. But how sad it is to think of the countless thousands of bright lads who are living amidst such adverse conditions that there is but little prospect that they will ever attain to mature manhood either mentally or physically. Most of these boys may reach the years of manhood, but how few of them will develop into men—men of resourcefulness, and independence, men who can reason, and think, and plan for themselves, men who will exert a powerful influence in the community!

The attractions of city life, together with steady employment in factories at regular wages and fixed hours, have acted as a powerful magnet in drawing the sturdy peasantry from the rural to urban districts. Most disastrous to the national physique are the results of this change from a healthy outdoor life to a mechanical routine in unhealthy factories, situated in densely populated areas, where the atmosphere is vitiated by poisonous gases whose life-destroying fumes are belched forth from thousands of chimney stacks. Not all the benefits of modern civilisation are sufficient to compensate the human race for the loss of physical stamina, which is the natural corollary of the drift to the cities which has taken place since the introduction of the modern factory system.

Possibly amongst the strongest factors which have conduced to this unhealthy drift to the cities, are the everlasting drudgery and isolation of farm life. But, thanks to the inventive skill of this age of marvels, much of the former inevitable drudgery of agriculture has passed away, and should be now a mere matter of

history. Although the first and foremost of the vocations of men, farming is the last to feel the impulse of scientific method. But it is now feeling it to some purpose, and men who formerly scoffed at what they were pleased to call "book farming" are now glad to adopt the scientific improvements which a few years ago they regarded as impractical.

Moreover, the adoption of these scientific discoveries in agriculture, together with the application of labour-saving machinery in the tillage and cropping of the land, have not only reduced the drudgery of farm life to a minimum, but have proved that farming is a far more lucrative business than many of the commercial and professional callings.

Owing to the keen competition in the professions which are being filled to overflowing by the ever-increasing army of graduates from the universities, the average income of professional men is rapidly shrinking. Not so, however, with the farmer. The same causes which have operated in reducing the incomes of professional men have caused a material increase in the income of the farmer; for, whereas the populations of the towns have grown abnormally at the expense of the country, the demand for farm products has increased, while at the same time the numbers of the producers of these necessary products have decreased very considerably. While the invention of labour-saving machinery has enabled the farmer to carry on his work with less labour, thus reducing his expense, the increased demand for his products, owing

to the abnormal development of the cities, coupled with the reduction in the number of his competitors, has tended to make farming on modern methods a most lucrative business.

The Out-door Life Pays

This, however, should not be regarded as the chief attraction of a rural life, and we refer to it only with the hope that some might be induced to try a natural out-door life, who could not be induced

to do so unless it could be shown that such a life would pay them financially. We are sure, however, that we are not alone in our opinion that a man, though poor, who is well and strong is better off than a man who is rich but suffers from some physical weakness. Of what use is all the money in the world to a man if he is in poor health and cannot enjoy his means?

There can be no question that, all other things being equal, the man on the land is the man with the health, and if these horny-

handed sons of toil could be induced to break off such a nerve-destroying habit as tobacco smoking and the twin vice of liquor drinking, two evils which are sapping the vitality of the race, we might see many of them attaining to the longevity of the patriarchs. Parents who enjoy the privilege of rearing a family in a healthy rural district are fortunate indeed. One writer has truthfully observed: "No boy is fit for college or anything else who has not had the chance to 'shin up' a tree, or to wander afield and make his own discoveries of plant and animal life."

A Country Boy

THAT'S just what I am, sir,—a country boy—
And mine is a life that is full of joy;
The city is jolly enough to see,
But the country, sir, is the place for me.

Dull, you call it? I think you'd find
Life on the farm would change your mind;
I've time for sport when my work is done,
And the fun you've worked for is real fun.

In summer I fish and swim and ride,
And roam at will in woodlands wide;
Hunt for berries in long, clear days,
Or go a-nutting in beechen ways.

I'm a friend with beetles and birds and bees,
With meadow blossoms and forest trees,
And I know the secrets of shy, green hoods—
A knowledge you never can learn from books.

The cows all know me, the horses neigh
For pleasure whenever we pass that way;
As for old Rover, whate'er I do
Isn't half the fun if he's not there, too.

I'm as happy and glad as a boy can be,
And I know that this is the place for me;
The world may be wide and the city gay,
But the farm is just where I mean to stay.

—L. M. Montgomery.

If it be true, as some assert, that not only the physical, but a great deal of the mental and moral disease of modern times, has its root in the divorce of the people from the land, then it should be the studied aim of all legislators and reformers to endeavour to remove what is now recognised as the prime cause of much of the physical and moral degeneracy which afflicts this generation.

The Penalty of City Life

The penalty we are paying for our modern city life is out of all proportion to its benefits. Huge cities wherein people are herded together in crowded tenements are a menace to the best interests of any nation, not only because of the unhealthfulness of these congested centres, but because of all the other unhappy conditions which constitute the environment of great cities. The Hon. R. Russell, in his interesting book on "First Conditions of Human Prosperity," says very truly that "the physical well-being depends chiefly on the large amount of time spent in the open air, the abundance of exercise, the absence of worry and overwork of body or mind, the freedom from many epidemics and endemics which occur in crowded places, the wholesome food, and the prevalence of temperate habits." Certainly one would seek in vain for these conditions in a crowded city. The demands of modern trade and manufacture forbid the business man or woman from spending a large amount of time in the open air, while the convenient street cars and rapid suburban railway trains are too strong a temptation for the city man to indulge in the much-needed daily walking exercise. Absence from worry and freedom from epidemics also are more likely to be found in the rural districts rather than amidst the din and bustle of the city.

Increase of Heart Disease

Notwithstanding all the laudable efforts which are being made to make our cities healthful, still with city life there are

necessarily many conditions which militate against either the maintenance or the development of a healthy physique. How is it that there is an ever-increasing number of cases of heart disease and nerve troubles? Any physician will tell



A boy who won a prize in a school boy demonstration of farm work, by growing more than eighty bushels of maize per acre.

you that these diseases are becoming more and more prevalent as a result of the modern method of fast living. Men to-day are too busy to take exercise, yet they eat heartily of nitrogenous food and partake freely of stimulating drinks. The natural results of this trinity of unfavourable conditions are seen in the increasing liability to heart failure and nervous disorders.

Influence of City Life upon the Mental Powers

From statistics which have been very carefully compiled by able men, it has been shown that the growth of large cities has had a most marked effect not only upon the physical powers, but upon the mental capacity of the inhabitants. The Hon. R. Russell declares that "although London contained during the last fifty years from a twelfth to a seventh of the whole population of Great Britain, no great man of the third generation of



Spraying Fruit Trees with a Gas Engine.

Londoners has yet appeared. The big towns," he says, "extinguish genius and greatness in several ways: by withdrawing the finer intellects from the quiet country to the noise and distraction of the crowd, where the majority of them are drowned in prevailing vanities; by their extinction of the most able families which have immigrated; and by their degrading influence on the tone of the provinces."

Continuing, this writer says, "It is well known that the best men and women for public and private service, including the police, and most candidates for positions of trust, are drawn from the country. Further, the want of accommodation for families of more than two or three, and the demand for childless couples in many situations, make towards the reduction of the national growth. The quality and quantity of the supply must diminish with the decrease of the peasantry. The strong population diminishes, the immigrants to the towns die out or decline.

If any symptoms of national peril demands a remedy, none is more urgent than this."

A Change Needed

Of course we know that under modern conditions it is impossible for *everybody* to live in the rural districts, but the tendency now is in the direction of drawing nearly *everybody* into the towns. About one-half of the entire population of the two most populous States in the Commonwealth lives in the two principal cities, Melbourne and Sydney. The population of these two cities is out of all proportion to the rural population, and in the best interests of the nation strong efforts should be put forth to turn the tide from the city to the country.

While the results of the examination of cadets under the Compulsory Military Training Scheme are most gratifying, seeing that so small a percentage are being set aside as "unfit," thanks to the open-air life in which our boys revel, yet this undoubted testimony to the healthfulness of Australian lads should spur the authorities on to do everything possible to induce these one hundred thousand healthy boys to seek outdoor occupations by which they may be enabled to develop into healthy, manly men.

VEGETARIANS are frequently asked how they manage to find anything to live upon seeing that they eschew the use of flesh foods. Those who wish to have a satisfactory answer to this question would do well to visit one of the cafés of the Sanitarium Health Food Company, where they will be given a practical demonstration of the variety of foods which form a vegetarian menu. Hundreds of business men and large numbers of ladies and gentlemen in professional and private life visit these cafés daily. Six of these cafés are now running, one in each of the following cities,—Sydney, Melbourne, Adelaide, Wellington, Auckland, and Brisbane. Of these the first five are already well known but the one in Brisbane has just been opened at 186 Edward St.

Object Lessons to Those Desiring Health and Efficiency

AMERICAN papers make it quite evident that the citizens of the United States, by necessity, are learning a lesson that they can live cheaply and well on a non-flesh diet. The accompanying advertisement was clipped from the *Philadelphia Evening News*.

Throughout America there has been a ferment about high prices of beef and other meats. The Labour Unions and their friends regard the high prices as a part of the general conspiracy of the rich against the poor, and as one method of protest the Anti-Food Trust League was formed, and has grown by leaps and bounds. Cleveland numbered 25,000 signers; in and near Pittsburgh there were 75,000 signers. In Baltimore 50,000 buttons were sold, bearing the words, "I don't eat meat;

do you?" Boston, 50,000 signers. New York City had 200,000 applicants to the Anti-Food Trust League.

The four to six weeks' absence from flesh, to which thousands pledged themselves, afforded an opportunity not only for individual abstainers, but for physicians and economists to make a study of the effects of a non-flesh dietary on health and efficiency. Professor Irving Fisher was appointed by the U.S.A. Government to make a study of "Waste and Conservation of Life." In some experiments to test relative endurance of flesh-eaters and flesh-abstainers, he took for his flesh-eaters several undergraduates and instruc-

tors of Yale University. For his flesh-abstainers several doctors and nurses from the Vegetarian Hospital, known as the Battle Creek Sanitarium. Having once been connected with that institution, I can say that Professor Fisher could find there subjects who have abstained from meats any length of time he might wish, even those who

have never tasted flesh. Including patients and staff, there is usually present a community averaging 1,500 persons. For more than forty years this institution has discarded flesh foods.

Among the many thousands of employees who have come in contact with the hospital in the forty years, and who have adhered to the diet, cancer and appendicitis have occurred but rarely, if at all. Endurance tests have

shown wonderful results in favour of non-flesh regime.

The result of one of Professor Fisher's many tests is as follows: Holding arm extended (flesh-abstainers 32, flesh-eaters 15). Flesh-abstainers, average minutes 49; flesh-eaters, average minutes 10; flesh-abstainers, maximum minutes 200; flesh-eaters, maximum minutes 22; number of flesh-abstainers who exceeded 15 minutes, 22; flesh-eaters who exceeded 15 minutes, 2; flesh-abstainers who exceeded 30 minutes, 15; flesh-eaters who exceeded 30 minutes, 0; flesh-abstainers who exceeded 60 minutes, 9; flesh-abstainers who exceeded 180 minutes, 1.

Attention! Housekeepers!

MENUS WITHOUT MEAT

Here is your chance to show how meat may be eliminated from the daily menu. Send in attractive meatless menus for one day, including breakfast, luncheon, and dinner. The *Evening Times* will do its share by awarding prizes to senders of the best menus. FIVE DOLLARS will be given for the best menu, THREE DOLLARS for the second, and TWO DOLLARS for the third. FIVE ONE DOLLAR BILLS will be given to the five women whose menus are considered next in merit. Menus may be sent in at once. They must be written on one side of the paper only.

The Contest will remain open until February 16, and the announcement of prize winners and the winning menus will be published Sunday, February 20, and Monday, February 21. More than one menu may be contributed by a reader.

Total minutes' work done by 15 flesh-abstainers, 1,336; total minutes' work done by 15 flesh-eaters, 150.

In England we have Eustace H. Miles winning the amateur tennis championship of the world for the ninth time, thus demonstrating once more the advantages of the non-flesh diet for the promotion of stamina and athletic skill. It is interesting to note that his competitor in the

Counties Cycling Union the two scratch men were both flesh-abstainers. Both, however, had the misfortune to puncture, so did not finish.

Subsequently, in the Shaftesbury C.C. open fifty miles' race when seventy-six picked champions from thirty-three clubs competed, the only two men on the mark of honour were the same two flesh-abstainers, viz., F. H. Grubb and C. F.



Forcing Vegetables under Cheesecloth.

final (Hon. Neville Lytton) is also a flesh-abstainer.

On May 31, 1910, Fred Welsh (a flesh-abstainer), the British light weight boxing champion, fought twenty hard rounds for a record stake, at the National Sporting Club with Packy McFarland, the unbeaten American champion, the result being a "draw" on points. Although Welsh was worsted in the opening rounds, his superior stamina enabled him to retrieve his position in the final rounds.

It is significant that out of 119 competitors representing the picked champions of thirty-eight clubs in the late fifty miles road-race promoted by the Southern

Davey. Grubb luckily escaped puncturing in this event, and, consequently, accomplished the fastest time of 2 hours 21 minutes 39½ seconds. This, so far, is the fastest fifty mile time of the year, and breaks J. H. Bishop's Essex Roads record by three minutes, and the record for that particular course (which is harder) by seven minutes.

The first Englishman to successfully fly from Great Britain to France and back, the late Hon. C. S. Rolls, was also an advocate of the non-flesh diet.

The following notice of a pedestrian feat which appeared in the *Daily News* is worthy of being placed on record:—

Mr. Weston's Walk

"The walk which the veteran Mr. Weston projected more than a year ago has been brought to a more than successful conclusion. The task he set himself was to cover the distance between San Francisco and New York in one hundred consecutive days, omitting Sundays. It is announced that he has completed the 3,500 miles in seventy-seven days. It is undoubtedly a fine performance for a man of seventy-two. We suppose that he walked for thirteen consecutive weeks at an average rate of two hundred and seventy miles a week, or forty-five miles each walking day. It is not equal, so far as the rate of going is concerned, to the "scorching" of George Allen, who walked in 1904 from Land's End to John o'Groats, nearly 1,000 miles, in seventeen days, Sundays and all. Allen's best day accounted for eighty-two and a half miles, and his average for the whole journey was fifty-eight miles a day.

"But Allen is about half the age of Weston, who, by the way, was walking before admiring crowds in England before Allen was born. They join hands on the fact that *they are both vegetarians*. This does seem to be a pedestrian advantage. We remember, for example, that Allen beat Dr. Deighton, who boasted himself a meat-eater, by a full week in the Land's End to John o'Groats walk. At any rate, this ought to put the flesh-eaters on their mettle."

Facts are stubborn things, and success of flesh-abstainers in these severe tests of endurance should cause those to think who desire health and efficiency.

P. M. K.

THE German Emperor not long ago began a crusade against excessive beer-drinking among his people. The latest reports show that, as a result of his talks, the consumption of beer in the navy has steadily fallen during the past four years. The decrease last year was as much as one-third.

The Divine Plan for Man's Sustenance

SEVERAL well known comparative analysts most emphatically declare that "man was originally formed a frugivorous animal." This statement is in perfect harmony with the records in the first chapters of Genesis. Man was created perfect, in the image and likeness of his Creator, and the food divinely allotted to him was "every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat."

The evolutionist, however, does not believe that man was created perfect, but that his perfection will be gradually brought about by the slow processes of Nature aided by man's "sensitive organisation of highly developed brain." These qualities have caused man to "depart largely from the habits of his remote ancestors. These animals lived on vegetable matter, crude and uncooked, while civilised man has adopted a mixed and carefully selected diet which he prepares for easy digestion by methods of cooking." The evolutionist, however, finds fault even with Nature. She is altogether too slow to respond to the highly developed brain of the modern man. "Man," according to Metchnikoff, "has been badly made by Nature. His development has been utterly one-sided, his nervous system having become strengthened and specialised; while his physical system and, above all, his digestive apparatus, have remained almost unimproved." "While he has unfortunately retained the digestive apparatus little altered, of his Simian ancestors, he has ceased to need some of it." The "mixed and carefully selected diet," according to this author, has quite a battle in the long alimentary canal. "In man with his unbulky diet, with its admixture of animal food, this reservoir is hardly better than a constant source of danger. It might be described as a factory for poisons which are absorbed abundantly, in proportion to the length of time they tarry uselessly in this unfor-

tunate organ, too slow in becoming obsolete. Here we all are, then, with this standing source of discomfort, pain, and disease ever at work."

Metchnikoff thus acknowledges that the long alimentary canal serves a definite purpose in animals who have not sufficient brain power and ability to carefully select and cook a mixed diet. "To the apes a large and complicated intestine, with its dilated blind end, is necessary. In it rough elements of vegetable food can be retained to undergo a kind of secondary digestion." Carnivorous animals, such as the lion and the tiger, all have short alimentary canals, and this is their salvation; for the flesh food on which they live rapidly decomposes under the action of bacteria, and the sooner it is passed out of the system the better.

Wise man has evidently selected a diet that is contrary to Nature, that renders the secondary digestion of the large bowel absolutely dangerous. Dr. Jamieson in an able review of Metchnikoff's *Outlook* deals with the two remedies suggested by Metchnikoff as follows:—

"In particular he (Metchnikoff) makes application of a comparatively old piece of knowledge, that all bacteria are not injurious; that among them we have unseen friends as well as enemies; and that there is a constant state of war among them, both in and outside of the human body. Not so much as might have been hoped for has yet been gained by strengthening the number and power of the friendly organisms. But Metchnikoff takes the ground that we can introduce into the digestive canal large numbers of organisms, which prove beneficial in either or both of two ways. They may possibly kill off the agents of putrefaction directly, or they may change the constitution of the intestinal contents to such a degree that they can no longer grow and flourish. And the one which he has chosen is the lactic, or milk-souring bacillus which is itself harmless, and which serves the second of these purposes with considerable effectiveness. Probably it never occurred to Metchnikoff that he had opened the gates for a tremendous flood of quackery and imposition. Milk soured with due scientific precautions, may, doubtless, be both pleasant and useful as a food beverage; but to suppose that it can serve all the ends claimed for it, or any considerable proportion of them, is too absurd. Like many other food crazes, it will doubtless go its way, as did the vogue of Koumiss, which people bought at an extravagant price a few years ago, hoping to get, if not complete rejuvenescence, at least a safe and easy cure for human ailments innumerable. That the lactacid milk is useful in some gastric ailments need not be denied, but its field of application is limited.

"Radical cure of the evil is altogether a different matter. We cannot, to any appreciable extent,

hurry on evolutionary processes, and compel our digestive organs to adapt themselves to our altered habits. The only way seems to be to remove the organ which is at fault, on the ground that it is at best useless, and an ever-threatening, if not actual, source of danger. But this is a very large demand, quite different from the proposal to extirpate the appendix systematically as a precaution, just as people are vaccinated against the remote chance of acquiring small-pox. Even, when the appendix is diseased, it can be removed at comparatively small risk, and the removal of the sound organ would be attended with but trifling danger. But the removal of the large intestine is a very serious operation, having been attended by a mortality of about twenty-five per cent., even in the most skilled hands. There is no likelihood, then, that this radical cure can or will be tried in the ordinary person, and as a precautionary measure only, or at all indeed, unless under urgent pressure of serious symptoms."

There is an old saying that "Prevention is better than cure." The two remedies for the undoubted dangers of a meat diet are both acknowledged to be unsatisfactory; and, consequently, we would suggest that we live in harmony with the construction of our beings. Our jaws and teeth are formed for thorough grinding mastication of our food, and not like those of the carnivorous animals for the tearing apart of fibres of tough meat: the mastication of food ensures a free flow of saliva, which digests the starchy constituents of vegetable food but has no effect on animal food, the food thus unsalivated acts as a natural stimulant to the gastric juices. The stomach, in turn, prepares the food for digestion and absorption all along the very long intestinal tract, and this transmission of food will be carried on in perfect safety as long as man gives up his "carefully cooked and mixed diet." Animal food, and in fact all foods cooked simply to please the appetite and without regard to the laws of our being, quickly swarm with germ life. The human alimentary canal is not constructed for such food, and if man is wise he will follow the directions of Nature—"the command" that Scripture speaks of as being "ordained to life;" this will ensure perfect digestion, good health for the body, clearness and activity of the mind, and a happy life. When the digestion is not carried on in accord with Nature's decrees imperfect and poisonous products are being constantly absorbed into the

blood, which would quickly cause death but for the action of the excretory organs—the liver, kidneys, lungs, and skin. These organs most certainly can do a wonderful amount of work, but overwork brings disease and man becomes a sufferer. The evolutionist finds fault with Nature because she will not respond to man's unnatural desires, and shorten his alimentary canal so that he can live as he pleases. Nature's laws are perfect, and our best plan is to find out what those laws are, and not to be continually breaking them by following plans of our own devising; else, like Paul, we shall find "The commandment which was ordained to life, . . . to be unto death."

W. H. J.

How to Have a Change Without Leaving Home

AT times people of both sexes feel that they have been gradually running down in health, and fear that if they do not take themselves away from home they will soon break down altogether. And they are often correct in their conclusions. The body, like an engine or piece of machinery, has been kept running constantly at full speed, until bone and muscle and brain and nerve have all been subject to a tension far beyond their power to endure without snapping, and it now requires a constant effort of the will to keep the sluggish machinery in motion. This has caused a continual drain upon their reserve energy, and unless this strain is relieved forthwith, and the system given an opportunity to recuperate, something must give way, and the poor overworked body will refuse any longer to obey the will. The sufferer will then, in spite of himself, be prostrated upon a bed of pain for perhaps weeks, from which if he rises at all, it is with a weakened constitution and with nerves unstrung, as the result of the enormous strain to which his system, muscular and nervous alike, has been obliged to submit.

The immediate forerunner of such illness had been perhaps a gradually in-

creasing tension upon some part of the nervous system, and the paroxysm that followed may be compared to an electrical storm, by which this condition was dispersed and an equilibrium restored for the time being. But while calm followed the storm, the wreckage left and the damage done by the hurricane remained, and the individual who has passed through such an ordeal is never quite the same person again.

Remove the Tension.

However, if this disastrous storm can be avoided, if the tension can be removed from the system and an equilibrium re-established without the occurrence of this internal tornado, it would be infinitely better; the ailing one would not only be spared a serious, perhaps dangerous illness, but would also know nothing of the weakened or ruined constitution that is sometimes left as the result and reminder of the storm.

It is for this reason that physicians so often recommend patients whose health is running down, to go away for a complete change,—change of scenery, home surroundings, and ordinary employment—and it would be well for every such person who might have to face an emergency of this character to leave his home, and throw off all care for a time. While this course is desirable, and should be urged upon the patient, it is not always possible to follow the advice. To those in need of just such a change, but unable for sufficient reasons to leave home, the following suggestions are offered:—

The Rest Cure

Go to bed for a few days by way of change.

If possible choose a different room to the one that has been usually occupied at night; or, if the weather is favourable, have a bed put out on the verandah. If it is a busy mother who is taking the change, first of all be sure that some reliable person is secured to take charge of the children and the housework. A relative or friend who has a personal

interest in the family will usually inspire the resting one with more confidence than might be the case with a hired girl.

Have everything arranged as would be done on going away from home for a time. Then go to bed and rest. The room should be secluded, and far enough away from the rest of the house to prevent the sounds of the domestic work and the noise of the children from reach-

work that is done easily, and not straining to the eyes, may be taken up; or the books, papers, and magazines that have not been read for want of time in the past may now be examined with pleasure and profit to mind and body; but exciting stories and trashy reading should be set aside as soon as their flimsy or exciting character is discovered.

Probably nothing better could be ad-



A Crowd of Boys Watching a Game of Football instead of Playing One.

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(See p. 90)

ing it; although a short visit from the children in the morning and at night would be a comfort to the mother and a pleasure to the little ones. For the first few days, do not try to do anything—not even hard thinking. Do not worry—take things easy. If the weather permits, throw the windows and doors wide open; or if the bed is on the verandah, so much the better. Enjoy the sunshine and fresh air to your heart's content. Have the meals brought on a dainty tray with flowers, and revel in relaxation and rest.

After a few days, or, perhaps, a week of this complete idleness, some fancy

vised for the tired, nervous man or woman who cannot leave home for a holiday than a week or two spent in bed; and it would perhaps save a compulsory retreat later on, with a daily visit from the doctor.

To the jaded indoor worker the greatest amount of good can be obtained from having the bed placed on the verandah, or under the trees, and protected by mosquito netting from insects, and supplied with blinds or screens for privacy and as a protection against wind and rain.

The full benefit of such a rest will be felt on returning again to ordinary employment.

A. S.

Satellites of Alcohol

DR. FERNET, a French physician, writing in the *Semaine Médicale*, calls tea and coffee "satellites of alcoholism." According to the dictionary, a satellite is "a servile follower; one who is in the pay or dependence of another to execute his violent orders or to subserve his despotism." Truly, then, to so style these much-used beverages is to give them a very bad name. Do they deserve it?

Dr. Fernet is of the opinion that they do. He states that men, and more especially women, may very easily become intoxicated through the free use of coffee and tea. In France it is common for working women to drink as much as a quart or more of one of these intoxicating infusions in twenty-four hours. As a result, laundresses, seamstresses, portresses, and cooks come in crowds to the hospitals suffering with diseases solely due to this cause. While in Edinburgh the writer was acquainted by medical men, whose duties took them much amongst the working classes, that laundresses made drunk by tea was by no means an uncommon sight. In these cases of acute intoxication the tea leaves were generally chewed, as this was found the method of stimulation most convenient to these women while engaged in their arduous labours.

Dr. Fernet describes two states of intoxication produced by tea and coffee. The first may be compared to acute alcoholism—that form of drunkenness, so familiar to most city dwellers, which sends men reeling down the street. This he calls "acute caffeism." The repeated and habitual use of tea and coffee leads to "chronic caffeism," a condition similar to chronic alcoholism. The symptoms of acute caffeism are: General irritability and nervous excitement, hyper-sensitiveness, muscular agitation, tremors and twitchings, palpitation, sleeplessness, giddiness, and depression. Chronic caffeism is also attended by nervousness, palpitation, loss

of sleep, and other evidences of nerve irritation, though its more common manifestations point rather to disordered digestion. Thus loss of appetite, dry tongue, distended stomach and bowels, eructations of gas, morning vomiting, pains in the abdomen, constipation, and occasionally diarrhoea are common symptoms. Finally, atonic dyspepsia is established, and the body becomes impoverished through a gradual failure of nutrition. Other symptoms similar to those produced by alcohol, which have been noted in some cases, are tremor of the tongue, lips, or entire face, extending later to the limbs; cramps in the legs particularly at night; and itching, pricking, tickling, or creepy sensations. Instead of being a help to the intellectual worker, the temporary excitement produced by a cup of tea or coffee is quickly followed by depression of mental power, so that those addicted to its use often become emotional, timid, and embarrassed. Finally, they become neurasthenics—nervous bankrupts.

Tea at first stimulates the heart, but in chronic intoxication the heart's contractions become slow and feeble, and the blood pressure falls. This feeble state of the circulation is usually accompanied by sudden flushings and profuse sweats. The kidneys are also affected; the urine is pale and abundant, and finally nephritis may develop. Impotence and sterility have been found to follow the free use of tea and coffee; while the children of users of these drugs are ill-formed, ill-nourished, abnormally excitable, and often under-developed. "All fathers and mothers," says another French physician, "should strictly forbid this beverage to their children if they do not wish to have them dried up, stunted little machines, old men and women at twenty." Finally, in the state of malnutrition, which follows the habitual use of coffee, the face takes on a pale or greyish tint, becomes wrinkled and unduly aged, while the body is reduced to skin and bones, the eyes alone remaining brilliant. A person in this condition becomes the easy prey of any

disease, and especially of any infectious disease.

In the opinion of Dr. Fernet, the quantity of coffee sufficient to produce serious symptoms is not large. Three or four small cups daily may be enough to cause chronic intoxication. Tea is said to be even worse, its ill-effects being due not only to the caffeine (or theine) which it contains, but to its essential oil as well. This has a specially poisonous action. Three or four cups of tea daily are by no means free from danger, and a single cup may cause nervous excitement and insomnia, while a stronger dose in a person unaccustomed to its use rarely fails to produce acute intoxication characterised by excitement, hyper-sensitiveness, palpitation, sweats, and kidney irritation.

Chronic intoxication due to tea-drinking is a condition familiar to physicians. It is manifested by loss of appetite, dyspepsia, distention of the stomach and bowels, abdominal pain, and obstinate constipation, accompanied by nervousness and malnutrition. Amongst the nervous symptoms experienced are trembling, itching, irritation, and excessive sensibility of the skin. The temper often becomes irritable and violent, and the patient talkative and noisy when large quantities are drunk. Cramps and neuralgias appear, and finally nervous exhaustion, with incapacity for work, muscular weakness, partial loss of sensation, dulness, and even loss of vision and hearing. This loss is generally temporary, the vision and hearing improving when the use of tea is discontinued. Cases are on record, however, and at least one is personally known to the writer, in which the loss of vision became permanent, and was attributed by all the eye specialists and others who examined this patient to the free use which had been made of tea. Chronic tea intoxication finally leads to a cachexia in which the face becomes pale and earthy, the body emaciated, the appetite lost, digestion difficult, the faculties of the brain diminished, movements painful and fatiguing, and the action of the heart feeble and slow, with attacks of palpita-

tion; in fact, all the signs of premature decay.

In explanation of those cases of apparent disease of the heart which are known to follow tea-drinking, it may be said that the distended stomach interferes with the action of the heart, so causing palpitation. Not only so, but the tea exerts a direct effect upon the heart, in some subjects causing painful cardiac excitement. The pulse may be feeble, irregular, and intermittent, and some difficulty in breathing may be experienced. In the case of a patient observed by the writer, severe attacks of pain in the heart, left shoulder, and arm were experienced. These attacks, which were thought to be due to grave disease of the heart, ceased completely when tea was given up; and in addition the digestion and general health were greatly improved. Nor is this case an isolated one, as scores of others have come within the writer's circle of patients who have been entirely relieved of palpitation, dyspepsia, nervousness, headaches, and other distressing symptoms, through the absolute cessation of tea-drinking.

In a little book recently published on "Diseases of the Digestive System," a distinguished member of the medical profession is quoted as saying; "*Tea spoiled the twenty best years of my life before I found it out.*"

Reader, have you found tea out? Would it not be well worth your while, even though you may not yet suffer from any of the serious symptoms enumerated above, to try leaving it off for a fortnight? We venture to predict that all who do so will find it to their best advantage to forever part company with tea, this servile follower of alcohol. F. C. R.

SERVICE and sacrifice are the common lot of those in the noble calling of nurses; but it was a little out of the ordinary when six nurses in a New Jersey hospital promptly contributed sections of their own skin the other day to save a patient for whom skin-grafting was necessary.

VENOMOUS INSECTS

BY
RENÉ BACHE



RECENT investigations appear to show that it has been a mistake to suppose that the venom of the cobra was the most deadly animal-poison known. It now seems that there are multitudes of existing creatures much more toxic in proportion to their size. It is fortunate, indeed, that they are so small; for certain species of the warrior-ants of the tropics, for example, if greatly magnified in size, would be among the most dangerous of living things, because of their extreme ferocity, the severity of their bite, and the extraordinary intensity of the poison with which they are armed.

It is only of late that the poisons carried by insects have been studied, and thus it happens that all existing knowledge on the subject is extremely new. But, when the matter is investigated, it is surprising to find how extensively venom is utilised by animals of this class all over the world. Naturally, it is the large and conspicuous forms whose possession of this weapon chiefly attracts attention; and its formidable character may well excite notice when observation is directed, for instance, to such a creature as the tarantula-killer (a species well known all over the southwestern part of the United States), which by its sting is able to paralyse the largest spider as quickly and completely as though an electric shock were administered.

In speaking of the "largest spider," one should realise that these arachnids—commonly called tarantulas in Australia, when referring to the great "trap-door" species—occasionally attain a weight of three-quarters of a pound. A

specimen of such size would easily cover the largest dinner-plate without stretching its legs unduly. There is at least one species in the tropics that catches and devours small birds. And yet the tarantula—which spins no web, but occupies a house built of mud, with a door set on a



A Bird-catching Spider of the Tropics.

spring in such a way as to close automatically, showing no sign of the opening—has comparatively little venom.

Generally speaking, poisonous insects, like snakes, attain much greater size in tropical latitudes, and secrete venom in larger quantities. Thus, whereas most centipedes—a naturalist would say that a centipede is a myriapod, properly speaking, and not an insect strictly; but let that

pass—are quite harmless, a few tropical species are exceedingly venomous. In addition, they emit an unpleasant acid-vapour from pores along the sides of their bodies, which, if it finds its way into a wound, is very irritating. But the notion, so widely entertained, that their legs are poisonous, leaving a trail as of fire when the creature runs over one's bare skin, is utter nonsense.

There is at least one species of tropical centipede, found in Africa, that is a foot in length—a truly formidable creature—and specimens fully two-thirds that size are frequently met with in South



A Nine-inch African Centipede.

America. These animals, which are predaceous by habit, devouring snails and small crustaceans, are most commonly to be found beneath dead leaves or other such débris in the woods. In the poisonous members of the tribe the venom-gland is at the base of the jaws, which are capable of inflicting a nasty bite. It is suspected by the way, that some sort of poison-apparatus is possessed by the common household myriapod (related to the true centipede), which, if caught between bed-sheets or otherwise cornered, will bite, severe swelling and pain following the injury.

Fatal results have in many recorded instances followed encounters with scorpions, which in warm latitudes sometimes attain extraordinary size—seven or eight inches in length, with powerful claws resembling those of a crab. Recent study of the subject has revealed the fact that the venom of these arachnids is contained in a small gland at the end of the tail, which terminates in a horny and exceedingly sharp point, called the "sting." The animal carries its tail curled over its back, and when it wishes to fight snaps

with it over its head, and seldom misses what it aims at. When the sting penetrates the skin of the victim the poison is emitted through it by a contraction of the above-mentioned gland.—*Homes and Gardens.*

Flies a Pest

By A. B. Olsen, M.D., D.P.H.

WE feel warranted in looking upon flies as a veritable pest. That they are the cause of an enormous amount of disease is a well-established fact, and when the whole truth is known, we believe it will be found that flies are the most important means of transmitting many contagious and infectious diseases. Flies are truly a product of filth, and if we could do away with dirt and filth we should be able to get rid of them.

Nothing less than complete extermination will render mankind safe from their depredations. But how to get rid of them is a difficult problem to solve. The chief means undoubtedly consists of absolute and rigid cleanliness. We should endeavour to do away with their breeding-places, that is, the manure pile, the garbage heap, stagnant water of any description, filthy dustbins, and all accumulations of garbage and dirt of any kind. It is a wise plan to burn as much garbage as possible, and to have the garbage emptied daily, or at least twice weekly. The garbage receptacle should always be kept tightly covered, and at as great a distance from the house as possible.

There are numerous fly papers and fly solutions for getting rid of flies, all of them more or less useful. An excellent fly poison consists of a dilute solution of formaldehyde which is slightly sweetened with sugar. This can be placed in shallow dishes in the various rooms. But formaldehyde and any other similar poisons are practically useless unless all other means of obtaining liquid are excluded. The access of flies to food and drink of any kind in the house should be provided against if one expects to exterminate them by the use of fly poisons.

Danger of Racial Deterioration

THAT this danger is far from being an imaginary one is the fear of an editorial writer in the *Medical Record* (New York). Conservation of material resources, he points out, will be useless unless we conserve also the better qualities of the race. Now our cities, congested with people, are producing, he asserts, a physically and mentally inferior stock at so rapid a rate that the average ability and capability of the whole community are being lowered. He writes:—

In Europe the situation has reached the acute stage, but it is only in England that the question has been seriously considered from the standpoint of eugenics. Emigration used to afford a safety-valve to some extent, but now neither the United States, nor Canada, nor Australia will admit those termed undesirables, the people that Europe is most anxious to get rid of, so that the problem of how best to deal with this class must be faced at home.

"The problem is intricate. In Europe, and especially in Great Britain, the state of affairs is this: In the large cities, and in the poor parts of these in particular, the population is increasing by leaps and bounds. That is to say, the most prolific urban inhabitants are, generally speaking, wretchedly poor, and not infrequently vicious and criminal. The point is, what is to be done to stay this form of propagation of the human species; or, perhaps, rather what steps shall be taken to uplift the masses? The decision to be arrived at is whether the next generation of city dwellers are to be recruited from the cheap show, the music-hall, the skating-rink, the unsanitary dwelling and factory, or from a healthier, purer, and more elevated environment and class. In brief, it is a question of breeding and environment.

"Galton says that the possibility of improving the race of a nation depends on the power of increasing the productivity of the best stock. This, he believes, is far more desirable than that of repres-

sing the production of the worst. Civilisation has done away with the elimination of the unfit to a great extent. The days when an individual who could not earn his living, or get his living, had to die have gone, and man is no longer subject to the unrestrained laws of natural selection."

Are schemes for improving the human stock feasible or desirable? Are plans for limiting the reproductivity of degenerates and diseased persons practicable or commendable? Up to the present time they do not, the writer thinks, come within the sphere of practical politics; or, at any rate, people are not educated up to them. He concludes:—

"After all, man is more dependent upon brains than upon muscle. The mental powers of a Pasteur, a Koch, or a Lister are worth more to the world in every way than the muscles of a Jeffries, a Johnson, a Grace, or a Hanlan. The puny, sickly, or deformed child, which in primitive circumstances would have succumbed to the law of nature known as the survival of the fittest, may possess, often, indeed, has possessed, the brain of a great discoverer. As a matter of fact, such a child in civilised life is as fit to survive as the primitive splendid *animal*. Both are creatures of their environment. Physical excellence is to desired, and every legitimate means should be taken to attain it for a race, but this does not prove that it would be wise, if possible, to try to improve the species by select mating and by methods to prevent the breeding of the unfit. Manifestly, there are congenital animals and persons suffering from certain physical and mental diseases who should not marry, and it would be to the benefit of all if such were not permitted to propagate their species; but to lay the ban upon those wishing to marry because some scientists might say they were unfit will not, in existing circumstances, meet with the assent of the laity. *The most potent remedy for the present condition of things is to render it possible for people to live under healthier conditions, in the*

country for choice, but if in the city in as healthy a manner as can be attained therein. If little or nothing can be done now to improve the breed by the methods discussed above, much can be effected as regards environment in country as well as in town."

A Destroyer of Nerve Force

LUTHER BURBANK, the Californian plant hybridist, says that he employs about twenty men on his horticultural experiment station, and he has made the discovery that he cannot employ men who are drinkers or smokers in budding and other delicate work. They can do



Luther Burbank.

the coarser work, but this they call "puttering," and they cannot concentrate their nerve force to it. Even those who smoke one cigar a day cannot be trusted to do the most delicate work

steadily. If tobacco destroys the nerve force of horticulturists, is it safe for anyone who desires to be healthy and strong to indulge in the use of this pernicious narcotic?

As the result of investigations on the danger to young people of the use of tobacco, the Japanese Government has prohibited smoking to all young persons under the age of twenty.

The Proper Time for Sleep

"IF it be good," said the late Dr. Richardson, "to make all possible use of sunlight, it is equally good to make as little use as possible of artificial light." Artificial lights, so far, have been sources of waste, not only of the material out of which they are made, but of the air on

which they burn. In the air of the closed room the present commonly used lamps, candles, and gaslights rob the air of a part of its vital constituent, and supply in return products which are really injurious to life. Gaslight is in this respect most hurtful; but the others are bad when they are long kept burning in one confined place. The fewer hours after dark that are spent in artificial light, the better; and this suggests of itself that, within reasonable limits, the sooner we go to rest after dark, the better.—*Selected.*

Cancer

SIXTY years ago, says an exchange, the death-rate from cancer was nine out of every thousand persons; at the present time the rate is just five times as great. Dr. Gaylord, who is at the head of the New York State cancer laboratory, says one woman in every eight, past the age of forty-five, dies of cancer.

Scientists are earnestly endeavouring to find the cause of cancer, and the means of man's infection. It is believed that it is a germ disease; and since fishes are so often found to be infected with it, the cancer study is being directed largely to the study of fishes. The United States Congress has been asked by President Taft to devote ten thousand pounds to this research study.

The chief reasons for directing the study to fishes are given by the *Washington Post*, as follows:—

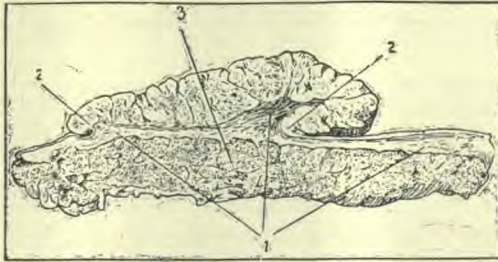
"In the first place, certain forms of cancer in fishes so closely resemble cancer in human beings that there is no discernible difference. Even an expert cannot distinguish one from the other under the microscope.

"Secondly, it is the domesticated, that is, the artificially reared and captive, fish that develops cancer. Only very rarely does the disease occur in wild fishes. This seems to point to the conclusion that the malady in fishes is attributable to infection by some kind of germ.

"Thirdly, there is, says Dr. Gaylord, a marked geographical relation between

cancer in human beings and cancer in fishes—more especially the trout. Both are most prevalent in wooded, well-watered, and mountainous districts.

“Fourthly, just as cancer in man is increasing at an alarming rate, so in like



Cancer of the Skin, completely localised.

(1) Shows the folds of skin which go over into the cancer; (2) subcutaneous tissue; (3) fat under the skin (both 2 and 3 are perfectly free of cancer).

manner cancer in fishes (particularly trout) has spread amazingly within the past few years; so much so, indeed, as to threaten very seriously the future existence of trout hatcheries. At the present time there is not a single government, State, or private trout hatchery plant that is not infected with cancer.

“Cancer in fishes begins with a swelling of the thyroid gland in the throat—that is to say, with a goiter. This tumor later on becomes cancerous. The character of the malady is not open to question. A piece of the tumor, examined under the microscope, is indistinguishable from the tissue of a common and malignant type of cancer in man.”

Taking Cold

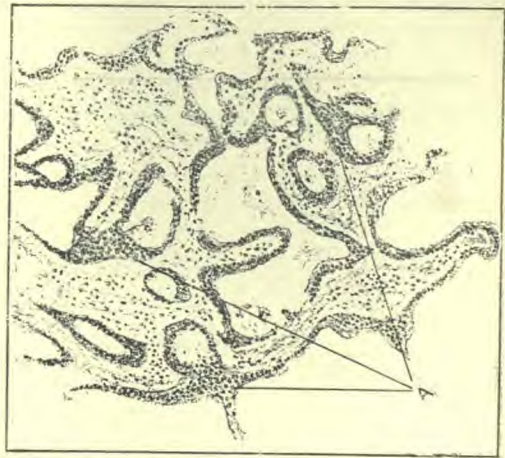
THE old adage, “Stuff a cold and starve a fever,” is simply nonsense; for a cold is a fever. If it is necessary to starve a fever, it is necessary to starve a cold. Most people who have taken cold keep right on eating beefsteak, mutton-chops, and roast pork. This is like adding fuel to the flame, or pouring gasoline, kerosene, or some other inflammable stuff on the fire. Such food stimulates the morbid processes at work in the body, thus making worse the very condition

that must be remedied; for colds are the result of an accumulation of poisons in the body.

Drinking cold water is one of the best remedies for a cold coming on. The cold water stimulates the system, and helps to wash out the poisons. Drink all the water you can. Another excellent remedy is to live on fruit for two or three days, fruit exclusively, drinking hot or cold water freely, and perhaps buttermilk for nourishment. This course will cure an ordinary cold, if taken in time.—*Good Health.*

Our Attempt at Self-Domestication

“CIVILIZATION,” we are told by President Stanley Hall, of Clark University, Worcester, Mass., U. S. A. “is man’s attempt to domesticate himself.” It must, therefore, be judged by the same standards as other attempts at domestication, and so judged it is not altogether



Adenocarcinoma of Stomach.

Points indicated by lines A show places where the cancer cells grew from the walls of the stomach glands into the surrounding tissue.

satisfactory. Says President Hall in his leading article in the first number of *The Journal of Race Development* issued at Clark University:—

“The general lesson which civilised white men need to learn is a very hard one in this day of mechanical invention, wholesale productivity, and commercial

expansion; yet, glorious as these things are, they do not begin to represent all the possibilities of the race. We are not the *beati possedentes*. It is possible that already certain tendencies toward decay are manifest. The world has lately been rather startled to realise that, without a



Stanley Hall.

single exception, the great nations of Europe and this country show a marked decline in the rate of fertility. There could be no better evidence than this that something is wrong. The test of domestication in animals is whether captivity can be so constituted that they will breed well under its con-

ditions. Civilization is man's attempt to domesticate himself; and failure in this involves failure in all. The demoralisation that has begun with the rapid urbanisation of the world, the intense and strenuous life of competition the fact that with all our hygienic endeavours, we have not yet been able to lower by a single point the mortality of infants during the first year of life, make problems which demand a larger statesmanship than the world has yet evolved to deal with it adequately.

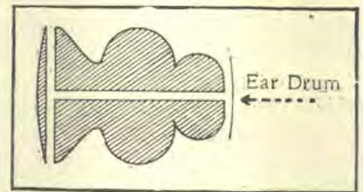
Marvels of Surgery

ONE of the latest marvels of surgery is the successful transference of part of an eye from one living person to another. In New York recently the cornea of a woman's eye which she was forced to lose by an accident, was grafted onto the eyeball of a Chinaman. Later it was found necessary to reshape the pupil. In a Philadelphia hospital, the cornea of a young man's eye who was made blind by

a flying piece of steel, was transferred to the eye of a woman who had been blind from infancy. After twenty days it was found that the woman could see for the first time in her life.

Ear-Protectors for Gunners

THE person who stopped his (or more usually her) ears when a gun was fired, used to be an object of derision. This feeling is no longer in order, now that we have ordnance capable of breaking or straining the ear-drum by a single discharge. Military and naval officers put cotton in their ears, or otherwise protect them, without fear of ridicule, during target practice with great guns, when full service charges are used. The trouble with such protection is that when it is effective it also prevents ordinary sounds from reaching the ear; in other words, it temporarily deafens the wearer. Now, however, a protector has been devised by an Italian named Mariotti, which does not interfere with the ordinary use of the ear,



To Protect the Gunner's Ear.

while it gives complete immunity from the violent shock of a near-by explosion, such as the discharge of a great gun.—*The Literary Digest*.

SUCCESS in farming, as in every other business, depends more on the man than on the business, according to Mr. Foster D. Coburn of the Kansas department of agriculture. "There are people," he says, "who might be dropped down into the Garden of Eden with everything at hand, and within five years they would be ousted by the sheriff. There are others, who could drop naked into the heart of the Sahara, and in five years would have the desert producing every luxury, and themselves surrounded by all modern conveniences.

A Sedentary Race

By M. E. Olsen

OUT-OF-DOORS, under the blue dome of heaven, where the sun shines and the fresh breezes blow, where the grass springs up under the foot, and the silent stars look down by night—here amid life's great "primal sanities," with energy, gladness and health teeming on every side,

consequence, its growing lack of robust manhood and womanhood!

To be sure the outdoor spirit has not entirely left us. We are by instinct and tradition fond of outdoor pursuits. The blood of the brave pioneers who cleared away huge forests, and laid out farms, and built cities where was a trackless wilderness, flows in the veins of thousands of our foremost citizens. We also have on our



Church Island, Lough Gill, Sligo.

man had his ancient home. Here he toiled, and here also he enjoyed the fruits of his labours, his wants being few and easily satisfied, his pleasures natural and wholesome.

How different is the pent-up life of our great cities to-day with its multiplication of artificial wants, its increasing indoor attractions, its machine methods, and, we may be permitted to add, as a natural

farms to-day a fine type of men and women; and in the smaller cities and villages there is a fair opportunity for open-air and wholesome contact with the soil.

But this notwithstanding, when the nation is viewed as a whole, it must be admitted that outdoor activities do not occupy so large a place in the life of people as they once did. There is a

large and rapidly growing class of young men and young women whose daily life alternates between close, confining work in shop or factory, and indoor amusements of a more or less debilitating kind. These people work indoors, sleep indoors, and for the most part take their recreation indoors; and they are paying the penalty in loss of physical stamina.

Modern life tends to create a sedentary race. A highly wrought and artificial civilisation has led far away from the rugged, yet more wholesome, conditions of earlier times. Huge smoke-producing factories have taken the place of farm and village work-shop; while troops of ugly tenement houses, stealthily advancing, row upon row, are occupying the green fields and smiling valleys that surround our large cities.

In the course of a rapid industrial development, there has been a great demand for factory hands, shop assistants, accountants, and other indoor workers. Farming has been crowded to the rear as a comparatively unremunerative employment; and the ambitious young men have crowded into the large commercial and manufacturing centres. As a consequence, the proportion of our country's population gaining a living on the land is steadily decreasing, while the cities grow by leaps and bounds; and year by year a large number of persons are cut off from wholesome contact with nature, and forced to spend their lives in an artificial and health-destroying environment.

Under such conditions physical and mental development must be one-sided. The man who works in a large factory, running a piece of machinery which turns out one thing day after day, tends to become, in spite of himself, a machine-server—a kind of human attachment to the machine which does certain things it cannot do itself. And one who sits at a desk or stands behind a counter in some large commercial house all the day, and spends his nights in a small, ill-ventilated bedroom, is hardly in a better position, judged from the view-point of what is natural and wholesome.

Not only are the labour conditions unfortunate in themselves, but they also influence the recreation hours. Young people in such an artificial environment are likely to lose their natural, God-given instincts, and fail to employ such spare time as they have in making good by active outdoor exercise of some kind the enforced confinement of their work hours. Too often the need of wholesome recreation is made to yield to a morbid love of excitement; and the bodily energies already severely taxed by the work of the day, are further depleted by the dissipations of the night. The theatres, music-halls, and other popular resorts of our large cities, attract thousands of youths who have spent the whole day indoors, and would profit far more by a brisk walk in the open air or an hour's practice in a gymnasium. It is to be feared that the vast majority of our young men engage in athletics by proxy only; they watch a game of football when they ought to be playing one, and the only exercise they get is in cheering themselves hoarse for the victors.

The sedentary tendencies of the age are, without doubt, a chief cause of the physical deterioration which is so much discussed in these days. Diseases multiply among us because men's bodies are too feeble to resist them. They have no vitality, no strength of constitution, no downright physical vigour.

“ 'Tis life whereof our nerves are scant,
More life and fuller that we want.”

And to get more life we must go where it is dispensed, out under the open heavens. Pills and drafts avail nothing, because they do not get at the root of the matter. Life must be lived on a higher plane, the constitutional vitality must be increased, if a condition of radiant life is to be maintained.

House plants are subject to a number of disease conditions from which plants growing in the open air are exempt. So also indoor and sedentary life brings on an unnaturally delicate state of the body, thus making it an easy prey of the omnipresent microbe. And then if definite

diseases are not contracted, there is a general feeling of malaise, a disinclination for work, a sense of physical unfitness, all of which follow naturally from sedentary living. The body needs an abundant supply of oxygen to enable it to do its work, clear away all wastes, and keep in proper running order; and the natural way to take in oxygen is while engaging in brisk exercise in the open air.

There is a dark side to our much boasted civilisation. To the extent that it has developed the brain at the expense of the body, it has been a curse not a blessing. Even on its philanthropic side, it has erred fundamentally. There has been plenty of attempted cure, but very little wise prevention. "We are proud of our hospitals," as Lady Henry Somerset once put it, "but we have forgotten to be ashamed of our diseases." We are so often arriving on the scene too late to give the help most needed. The honest working man who is struggling to keep independent and do his share of the world's work, is given comparatively little encouragement. He often lives in a most unwholesome and depressing environment. But let him once become industrially useless or a criminal, and he will be well housed and well fed, at government expense.

Innocent babies grow up in the slums under conditions which we do not think of tolerating in our charitable institutions or prisons. Is it at all remarkable that these babies do not long remain healthy? Their lives are often wrecked physically within the first year, and then their mothers carry them back and forth to the hospitals where the professional attention of our foremost medical experts is freely granted them. Are we not by such methods continually putting a premium on disease and pauperism? The healthy child is allowed to grow up in squalor and filth; the diseased child is taken to the hospital, and receives every attention. The homes of the working classes, both in town and in country, are overcrowded and unsanitary. Our insane asylums are palatial affairs. No wonder they keep well filled.

Our unfortunate labour conditions, coupled with wrong habits of living, make for insanity and for all-round race degeneration.

We ought to do something in a national way for *health*; surely it is not enough to make provision for *disease*. There is a larger field for our hard-working medical men than they now occupy. We can ill afford to let their knowledge and skill be spent almost entirely in efforts to bring into a tolerable state of



Oxygenators of the Air.

repair bodies broken down by their wrong habits, bad working conditions, and disease-producing home environment. Why should their services not be brought into play in wise teaching of hygienic laws, and in creating wholesome labour conditions and a health-making environment, as well as in healing the sick?

GIVE us good motherhood and good parentage conditions, and I have no despair of the future of this or any other country.—*John Burns*.

Diathesis

THE word diathesis in medicine means "a constitutional predisposition." Certain individuals, or often certain entire families, says the *Youth's Companion*, may be confidently expected to react physically in one way, while other individuals, or groups of individuals, will react in another way. This is why doctors are interested in the family history of their patients. By finding out what sort of material people's tissues are made of, the doctors are able to judge what sort of physical strain the patients will prove most susceptible to.

Some people are physically "all wool and a yard wide;" others should be marked "handle with care—this end up." It is when the stress of life comes that these differences in the texture of people, so to speak, become most apparent, and it is the common, simple, every-day ailments to which all are subject that try people out, and grade them according to their physical class.

One schoolboy will stub his toe, grumble a minute, and that is the end of it. The next boy will meet with the same accident, and must stay at home for a week and have his toe poulticed. The first boy has inherited sound tissues. He can afford risks that the second boy must avoid if possible. Nature has insured him for a higher sum.

The so-called strumous diathesis, or tuberculous tendency, is always bad soil for all ailments, even though tuberculosis may never actually develop in it. Its subjects will show a susceptibility to various ailments, such as pleurisy, repeated attacks of influenza, or bronchial weakness—they are constantly reminded that a foe waits at the gates of life.

It would be hard to enumerate the many ills that are now traced to the gouty diathesis. Among them may be mentioned tonsillitis, asthma, and many forms of skin trouble, such as outbreaks of *herpes*, or eczema. Many people who are of the gouty or arthritic type will suffer from repeated attacks of tonsillitis, or

herpes, or hay-fever while young, and become the victims of genuine gout in middle life.

Another constitutional predisposition is the neurotic or nervous type, in which, as its name implies, the nervous system is at fault, and will be selected as the point of attack. These are, in fact, the three great types into which all imperfect physical material may be divided—the strumous, the arthritic, and the neurotic. In many persons two different types may be found blended and exercising a modifying influence upon each other—an influence which may be either favourable or unfavourable.

The Nation's Pipe

IT brings into the Imperial exchequer a sum of £12,861,000, not far short of half the amount received from the customs.

Each smoker annually contributes a sum of about £1 1s. 6d. to the nation's upkeep (customs).

The devotee of the pipe turns gold into smoke.

It would require a case measuring 472 feet in each dimension to hold the world's annual supply of tobacco.

Smoking increased from 16 oz. per head in 1801 to 26 $\frac{3}{4}$ ozs. in 1901.

The national cigarette, which amounts to an allowance of two and one-fifth cigarettes a day for each smoker, if placed end to end would reach the extraordinary length of 410,000 miles—which is equivalent to almost seventeen times the circumference of the earth at the equator.

John Bull smokes a cigarette, that measures 1,119 miles, in twenty-four hours.

Very few men smoke their cigarettes to the very last whiff; and the majority throw away at least one-twelfth of the smoke, it follows that John Bull throws in the gutter £1,000,000 a year on this item alone.

John Bull's annual expenditure on cigars at three-pence each amounts to £6,250,000; and if to this sum were added £12,000,000, on account of the national cigarette, and £10,000,000 in

respect to the national pipe, the gold that all this requires, to pay the expense, if melted down and cast into one coin, the said coin, would contain 452 cubic feet of the precious metal, and would, if it were twelve inches in diameter stand four times the height of a man possessing more than his fair share of inches.

Old-Time Dentistry

MR. SEPTIMUS ISAACS, dentist of Sydney, has sent us the following interesting items concerning old-time dentistry, which we believe will interest our readers:

In the year 1780, in *Rivington's Royal Gazette*, Dr. Dackage advertises at 276 Broad St., that he has studied in schools of Paris, and that he operates on the teeth and constructs artificial ones, etc. In the same paper, August 1782, a party at 28 Maiden Lane advertises for "front teeth" at four guineas each, as follows:—

"TEETH.—Any person that is willing to dispose of his front teeth may hear of a purchaser by applying to No. 28 Maiden Lane, for which a generous price will be given.

"N. B.—Four guineas will be given for every tooth."

This liberal offer appears to have had an effect of producing an over-supply, with a consequent bearish tendency in the front market, for in the *Independent Journal*, of January, 1784, he reduces his offer to two guineas each tooth. The demand for sound human teeth for the replacement of dental losses seem to have been rather a shady one, for in the *Daily Advertiser* of Nov. 23, 1787, in an advertisement which commences with the words, "Live teeth wanted," one guinea apiece is offered. What a difference there is to-day in dentistry!

A Sure Cure

SMITH was not only an optimist; he was also a very lazy man. One day, says a writer in *Wasp*, his friend Jones, a confirmed pessimist, hailed him.

"How is it, Smith," he said, "that you look so well and happy?"

"Every time I sit down to worry" replied the other, "I fall asleep."

Why We Don't Live Longer

MR. ERNEST THOMPSON SETON, in the *Girls' Own Paper*, after showing the length of life of various animals, draws attention to the comparatively short lives of human beings. Is it possible, he asks, for a man or woman to live relatively as long as an animal? A man is twenty years growing; he is old and near the end at seventy or eighty. That is, at the best, a man lives three or four times the length of time he needs to attain maturity. In other words, it takes him one hour to wind the clock and three or four hours to run it down. The animals have a tremendous advantage here; it takes them one hour to wind their clock, or grow to maturity, and then they go right on and live ten, fifteen, and twenty times their period of growth. "Man's clock," evidently, "is either a very badly constructed clock, or it is very badly used." Mr. Thompson Seton thinks the clock is all right, but "horribly misused."

Of one fact Mr. Thompson Seton has little doubt, and that is that few men live their full term. It is evident that the great ages of the Biblical patriarchs were not, as the so-called higher critics hold, the continuation of dynasties that bore one name, but were the actual ages of veritable individuals, the men who lived nearer the truth than do we. And there is no reason why we also might not at least greatly extend our days by paying heed to our way of life. We must not expect to keep the clock going by simply giving it a shake. We must establish a thorough system of cleansing, oiling, and protection. Then we shall have a right to expect that the human clock, like those clocks of our brethren of the air and woods, many run twenty times the time of winding. If mankind to-day would walk the wiser way, it could, this writer asserts, live a life just as long as that ascribed to certain patriarchs of old.

NIGHT air is the only air at night. Why shut out the clean air, and breathe the night air of the house?

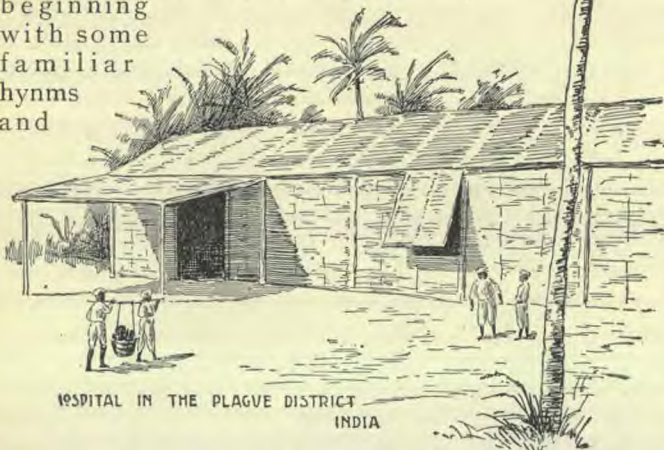
Good and Bad Nights

IN many households in many lands is heard every morning the pathetic question, "Did you have a good night?" Has sleeplessness increased with advancing civilisation, or have we simply become intolerant of it?

In modern speech, "Have you had a good night?" means always, "Have you slept well?" Is the sleeping night the only "good night"? Most of those whom bad nights make sad are not the victims of over-work, but of disease. To such sufferers let the good news come that there are other ways of passing a "good night" than the gracious old one of sleeping.

Most of these ways have to be acquired by painful effort, but once gained they are precious possessions. "Last night," said a little woman who has scarce an hour free from pain, "I had such a good time! My memory was wide-awake, and I went over every day of a beautiful journey I made in the White Mountains thirty years ago. I must look up on the map the name of one place where we took dinner."

Then there are the "good nights" of converse with the poets. How much verse do you know "by heart"? More than you think, as you may prove by beginning with some familiar hymns and



HOSPITAL IN THE PLAGUE DISTRICT
INDIA

poems. There are "good nights" for the fortunate folk who learned Bible verses as children. One may have "a

good night" by recalling the beautiful pictures one has seen, the mountains one has climbed, and the good men and women and children one has loved.

In short, one's "good nights" are limited only by one's command over imaginative memory. As one lies quiet, and retraces, step by step, the joys of even the simplest life, one may learn to answer this modern question with a cheerful, confident, "I never had a bad night!"—*Youth's Companion*.

Experiences of a Medical Missionary

By Louisa M. Scholz

I AM out in the bungalow with Miss Burroway at Karmatar, India, and enjoying my work very much. It is a little different from that at Mussoorie, where I had the patients come to the dispensary. Here I have to go out, sometimes at night, to see them. It is more difficult. As there are many things to look after, we ladies have to do things that are often more appropriate for a man to do.

One night I had a rather inconvenient experience while out driving with two ponies in a cart. We had to cross a little lake, and at first one of the ponies would not go through the water. Just as he got in he fell. Our man who goes with us cannot hear or speak. So I got out into the water and unharnessed both horses. We succeeded in getting through, but it is needless to say I was wet, and covered with dirt.

As soon as I have completed this letter we are going on a large cart to see an old Mohammedan woman, whom we have treated several times for lumbago. The people

had burned her back with a hot iron to cure it. As we arrived there the first time, the room was filled with natives. I suppose nearly the whole village was present while we treated the woman. How thankful these people are! I only wish I could impress upon them that it is not I who helps them, but God, through

this place I must do, many times, what a doctor has to do, as there is no one else to do it.

Too Much Soft Food

IN spite of tooth powders, pastes, dentifrices, and dentists, teeth are constantly



A Medical Mission in the East Indies.

me. I can see how He gives His healing power, as I am called many times to severe cases, and without a doctor.

Only the other day a man came who had fallen and cut his leg almost half-way through. We had to put him under chloroform. And as he was a very strong man, and we did not have enough chloroform, I tied him on the table, and two men and three girls held him. He had had enough of the anesthetic so he did not realise pain. I had to put in about twenty stitches. The man is getting along well, and the wound is healing. In

decaying. In my opinion, the greatest single cause is the lack of necessity to use the teeth. Foods are for the most part so prepared that much cutting or grinding seems to be unnecessary in so far as being able to swallow them is concerned. In the lower animals it has been found that where the foods partaken of have required a considerable effort upon the part of the teeth before they are swallowed, the teeth are found in good condition even after years of constant use.—*Dr. St. John.*

GET plenty of fresh air, day and night.

ROUST HIM OUT

By A. Stuttaford M.D.

In going down the street one day,
Now what do you suppose?
A man approached me on the way
Who had a blood-red nose.
One hand a long clay pipe sustained,
The other held a bowl;
Just then a friendly voice exclaimed,
"Beware, that's old King Cole!"

One day again, please me tell,
He ventured to our door,
And said he'd known our family well
A hundred years or more.
"Just let me in, and you will see,
Before the day is done,
How merry one can always be
Who loves a little fun."

He pushed us back, this merry soul,
And found himself a seat;
He lit his pipe, brought out the bowl,
And gave himself a treat.
Out came the dice and pack of cards—
His pockets were quite full;
He shook the dice, blew smoke in yards,
Until our heads were dull.

And then he said, "My good young
lad,
And you, sweet maiden, too,
A right good time your father had,—
I'll do as much for you.
Come, play a game, or take a puff,
Or quaff the sparkling bowl,
And dance, until you've danced enough,
With merry old King Cole!"

We stared into his brazen face,
My sister Maud and I,
To hear such bold untruthfulness,
Such daring infamy.
The rum-buds on his blood-red nose,
And brandy-blossoms near,
The blood-shot eyes, too well disclose
The vice that brought them there.

We bade the fellow take his leave:
"I've come to town to stay;
Your laws' protection I receive,
Regard me as you may."
We called for help—Blue Ribbon men
Came in and lent a hand.
We threw him out, and there and then
We dumped him in the sand.

We watched him very carefully,
To see how others fared—
He wasted every family,
Unless the doors were barr'd
He took away the children's bread,
The bank account he stole;
Homes, lands, and farms could not evade
The grip of old King Cole.

And little infants pined and died
Where'er his shadow fell;
And budding youth, the nation's pride,
Were hurried down to hell;
And manhood brave, and woman fair,
And men of high degree,
Were left in darkness and despair,
To meet eternity.

We saw him board a railway train,
A ship that went to sea,
And soon a crash most deafening came,
And cries of agony.
"Though limbs be crushed, and lives
be lost,
What matters that?" said he;
"I'll dance and laugh and drink a toast,
And that right merrily!"

Now old King Cole's a mean old soul,
And cruel as he can be;
We'll smash his frothy, bubbling bowl,
Dismiss his fiddlers three,
We'll drive him from our sunny shore,
With all his hateful crew;
Should he present that nose once more,
He'll see what we can do!



A Lesson in Temperature Taking



TWO important articles which should have a place in every home remedy-chest are the bath thermometer and the fever thermometer.

It is still more important, however, that the home nurse should know how to use these.

The bath thermometer is necessary in determining the exact temperature of water which is to be used for baths, enemas, douches, and various other treatments. To the inexperienced nurse it may seem that it is not necessary to be exact in the matter of temperatures; in fact, it is to be feared that too many nurses follow the plan of Bridget who, when asked at what temperature she prepared baby's bath, replied: "Why, I puts the baby into the bath, mum, and if he turns blue, I knows the bath is too cold; and if he turns red, I knows it is too hot."

This method of determining bath temperatures is not only unpleasant for the patient, but it may be decidedly harmful. One illustration may be given: If either an aged person or a person whose heart is organically weak is placed in a bath which is either too hot or too cold, there may be a sudden attack of heart failure.

In any case, the intended result may not be obtained from a given treatment if the water employed be of an improper temperature.

In using the bath thermometer it is necessary to immerse the bulb containing the mercury in the water, letting it remain for a moment before noting the temperature. The height of the column of mercury should then be observed while the bulb is still in the water. Some remove the thermometer from the water before noting the temperature; but this is a mistake, as the column of mercury begins at once to either rise or sink according to the temperature of the room. If either hot or cold water has just been added to the bath, it is well to move the thermometer about for a few moments to ensure thorough mixture of the water before testing its temperature. The following table of temperatures will doubtless be a guide to the home nurse:—

Very hot	104° F., and above
Hot	98° to 104° F.
Warm	92° to 98° F.
Neutral	94° to 97° F.
Tepid	80° to 92° F.
Cool	65° to 80° F.
Cold	55° to 65° F.
Very cold	32° to 55° F.

The bath for the new-born babe is prepared at 100° F., not hotter.

An aged or weak person should never be placed in a hot bath, the temperature of which is above 104° F. It is always safer to begin the bath at 100° F., and then gradually increase the temperature until 103° or 104° is reached. The patient's head and neck should be cooled both before and during the bath.

The neutral bath, given at about the temperature of the skin (94° to 97° F.) is a most soothing procedure, and is suited to patients who are nervous and sleepless. But in order to be soothing, the temperature must be just right, for if even a few degrees too hot or too cold, the bath is stimulating rather than soothing. The duration of the bath is from twenty minutes to an hour. It is seldom necessary to use water below 70° F. for bathing purposes, but it is sometimes desirable to employ very cold water for compresses, in which case spring or deep well water may be used; or,

if obtainable, ice may be employed to lower the temperature of the water.

The temperatures employed in rectal injections vary but little from those mentioned in connection with baths. 112° F. is the highest temperature of water ordinarily used for the enema. Water varying from 108° to 112° F. may be advantageously employed in the relief of local pain and inflammation, also for the relief of shock following a surgical operation or serious injury to the person. Water of a higher temperature (from 115° to 120° F.) may be used for the internal douche. It

is well to remember that water above 120° F. cannot be employed for this purpose without causing the patient great pain.

The fever thermometer is a most useful instrument. As a rule, nearly all serious illnesses are accompanied by some alteration in the body temperature. The thermometer then, if properly used, tells us whether or not a person is really ill. There are, of course, certain exceptions and limitations to this rule. The following may be taken as a safe guide:—

1. If a person's temperature remains above 101° F. for more than twenty-four hours, not yielding to such simple measures as an enema, a cathartic, a sweating procedure, and a day's fast, it may be safely concluded that something is wrong. If there is pain and other symptoms of illness, it is best to consult a physician.

2. A chill followed by a considerable rise of temperature usually heralds some infectious fever, as pneumonia, scarlatina, or erysipelas. In a malarial district, such recurrent attacks may indicate malarial fever.

3. A considerable rise of temperature in an infant or young child, if but temporary and not accompanied by serious symptoms, need cause no great alarm. Young children are much more susceptible to changes in body temperature than adults. Thus only a slight indiscretion in diet may cause a considerable rise of temperature which, however, yields speedily to suitable treatment.

4. A sudden fall in temperature to normal or below normal in a person who is suffering from typhoid fever usually indicates a serious complication. The physician should be notified at once.

5. A temperature which is normal or slightly below normal in the early morning hours, and runs up to 99°, 100°, or perhaps 101° F. in the afternoon or evening, is, together with wasting, weakness, and cough, one of the earliest and most reliable signs of consumption or tuberculosis of the lungs.



The fever thermometer differs in several respects from the bath thermometer, and it is necessary for the home nurse to understand these differences. The fever thermometer only registers temperatures varying from 95° to 110° F., as the temperature of the body seldom, if ever, exceeds these limits. 98.4° F. is regarded as the normal temperature of the body, though this may vary a few tenths of a degree in the course of the day. By glancing at the fever thermometer it will be seen that the normal point (98.4°) is indicated by an arrow head, and that each degree is divided by short lines into five narrow spaces, each of which represents .2 (two-tenths) of a degree. The directions for using the fever thermometer may be given briefly as follows:—

1. Be sure that the thermometer is clean, not only clean in the ordinary sense, but free from disease germs. If not certain that the thermometer is clean, wash it thoroughly with tepid water and strong soap, or dip it for a moment or two in alcohol, lysol, or some other disinfecting solution. Rinse it in clear water.

2. Be sure that the column of mercury is standing well below the normal mark, in the neighbourhood of 95° or 96° F. The mercury in the fever thermometer does not fall of itself, but must be shaken down. Hence, if the thermometer was last used for a person whose temperature was at 103° F., the mercury remains at that point until the instrument is vigorously shaken, bulb downwards.

3. Now place the bulb of the thermometer under the patient's tongue, directing him to close the lips over it, but not to bite it.

4. Leave the thermometer in the patient's mouth about three minutes. Some thermometers are supposed to register the patient's temperature in one-half minute or a minute, but in order to make certain of obtaining the correct temperature, it is better to let it remain in the mouth from three to five minutes.

5. Remove the thermometer from the patient's mouth; observe carefully the temperature as indicated by the height of

the column of mercury; make a note of the temperature upon paper, stating the hour of day; and then cleanse the instrument and shake down the mercury so that it will be ready for use the next time.

6. If not quite certain how to read the thermometer, leave it without shaking down until the doctor's visit, when he will read it.

7. If the thermometer indicates that the patient has a high fever, do not inform the patient, as a rule, as the knowledge may cause him alarm.

There are two other methods of taking the temperature. In case of infants, unconscious persons, or those who are obliged to breathe through the mouth, the thermometer may be placed in the armpit, after first drying the part with a towel. The arm should be held closely to the side. The thermometer should be held thus in place for at least five minutes. One degree should be added to that indicated by the mercury, as the temperature of the skin is about one degree lower than the temperature of the mouth or rectum, the latter being the true temperature of the body.

The third method consists of inserting the bulb of the thermometer into the rectum after having given a cleansing enema. The instrument should be held in the anus for at least three minutes. It seems needless to say that the thermometer should be cleansed and disinfected with extreme care after having been used in the bowel.

8. Do not use hot water in cleaning the thermometer, as it is certain to be broken if placed in water, the temperature of which is above 110° F.

In closing, we may say that while the fever thermometer is a valuable instrument, it may be too frequently used. Some people who are over-anxious about themselves produce a fever thermometer with every slight indisposition, and seem to be really disappointed when it registers a perfectly normal temperature; in fact, these persons derive some comfort from the thought that the thermometer may

be wrong, or that it may have been improperly used. But it is wonderful what a spur to activity the thermometer may be to a person who accepts its testimony. A man wakens in the morning feeling depressed and altogether out of sorts. He slips his thermometer into his mouth on the sly, and finding his temperature to be normal, he concludes that he can't be ill, so forgets his ill-feelings, and goes about his work scattering brightness instead of gloom.

E. S. R.

Infantile Scurvy

THERE is a form of scurvy, or scorbutus, to which has been given the name of "infantile scorbutus," and which is the consequence of error in the diet, just as is scurvy in the adult, although it is not yet quite clear what the error, or perhaps it is better to say, the lack, is. It is more apt to occur in children fed on artificial foods, and is therefore found among the rich rather than the poor, although there are cases in all classes and with all forms of feeding, even breast-fed children not being wholly exempt.

Over-sterilised cow's milk is thought by many physicians to be answerable for a large percentage of the victims, and it is believed that actual and long-continued boiling—not simple Pasteurisation—of the milk deprives it of some essential element of nutrition.

A child may have so mild a case of scurvy that it escapes notice. It may cry when it is bathed, but so do many infants. It may be observed to hold one limb rigid or to scream when it is handled, and a thin blue line may be found along the border of the gums.

In the severe cases the symptoms will be more marked. The child screams if it is touched, the thighs and ankles are swollen and bruised-looking; if there are any teeth, the gums will be swollen up round them like cushions, and if there are as yet no teeth, the gums will be spongy and of a bluish discolouration.

One of the distinctive symptoms of this disease is hemorrhage, sometimes in the form of nosebleed, but oftener in bleeding from the bowels or the kidneys. Most of these symptoms, especially the loss of blood, are characteristic of this disorder, and the diagnosis of a case should, therefore, be easy.

When the diagnosis has once been made, the cure should also be easy, because the treatment is so simple. It consists almost entirely in an immediate change in the food. It has been proved that properly modified raw, fresh cow's milk contains the antiscorbutic element needed, whatever that may be. In addition to this the child should take a teaspoonful of orange juice or lemonade every hour or two through the day. After a couple of weeks, less fruit juice should be given, but a small quantity of orange juice may be given daily for a time.—*Youth's Companion*.

Happiness and Health

HEALTH and happiness are terms that are often closely linked in our speech and in our literature. One is almost a synonym for the other. Perhaps the true significance existing between the two would be more correctly stated were we to reverse the form in which they are usually set forth, and say "happiness and health" instead. All observers of human nature and its many complex attributes are convinced that happiness is the fountain-spring of health. One of the keenest students of life tells us that "small annoyances are the seeds of disease." We cannot afford to entertain them. They are the bacteria, the germs that make serious disturbance in the system, and prepare the way for all derangements. They furnish the mental conditions which are manifested later in the blood, the tissues, and the organs, under various pathological names. We must kill our resentment and regret, our impatience and anxiety. Health will surely follow.—*Selected*.



Mothers' Problems

THE young mother is brought face to face with many knotty problems, the solution of which sometimes taxes her wits to the utmost. One of the most perplexing problems of all is this, Whose advice shall she follow? For the inexperienced mother is often beset behind and before by relatives and friends whose age and extensive experience certainly entitle them to receive deferential attention. If the new baby is troubled with colic, its mother is likely to be showered with suggestions of all sorts. "Give baby a little dill-water," says one. "I always found anise-seed tea the best," says another. "A few drops of peppermint water will soon put him right," urges a third. Now what is the perplexed young mother to do? She certainly cannot follow the advice of all her friends, and if she shows partiality she may give offence.

We would suggest that she follow the advice of none except those whose advice coincides with her own judgment, but that she should be guided by her physician.

When Baby Has Colic

For the benefit of isolated mothers we will pass on the advice which we have just given to a troubled mother whose baby is now five weeks old. This baby, though well developed and quite healthy at birth, suffers considerably with colic or gas in the stomach and bowels. He is

breast-fed regularly, at intervals of three hours. The motions are rather constipated in character, and sometimes contain curds. Our advice to this mother was as follows:—

Continue nursing the child regularly every three hours, but just prior to each feeding give the baby several spoonfuls of warm boiled water. The water will dilute the milk, and so render it more easily digested. The presence of curds in the motions show that the mother's milk is too rich in curd or the proteine element.

The mother's diet should consist of milk, well cooked cereals, eggs, nuts, the fine vegetables, sweet fruits, and cream or butter. All coarse vegetables, such as onion, cabbage, and parsnips, should be avoided.

While the mother should take a moderate amount of outdoor exercise she must avoid fatigue as well as worry and undue excitement. If the mother worries or gives way to anger her milk may become so altered as to disagree with the infant.

During an attack of colic, the baby may be given a few spoonfuls of hot water. If constipated, he should also be given a small injection of water at about 104° F. If the little feet are cold they should be warmed at an open fire, or by being placed in hot water. A hot-water bottle is also of great service. Half-fill it with hot water and apply to the baby's

stomach. Or, better still, lay the child on your lap face downward with the hot bottle under the stomach. Of course care should be taken not to burn the little one.

As a help in overcoming the constipation give the baby once each day a few spoonfuls of the strained juice of some fresh, ripe sweet fruit, as oranges, mandarins, or grapes. The fruit juice may be given to even young infants if given according to this rule: *The freshly strained juice of ripe, sound, sweet fruit given an hour before one of the regular milk feedings.*

Another mother seeks advice because her month-old daughter is not gaining in weight and cries a great deal. The little one is breast-fed every three hours, and there seems to be an abundant supply of milk. Wherein lies the trouble? It is this—the mother has allowed the baby to nurse only twenty minutes at each feeding, for she has read in some book that a baby should derive sufficient nourishment in twenty minutes' nursing. This is usually true, but not always, during the early weeks of life. The baby in question began to thrive as soon as it was allowed to remain at the breast until satisfied. However, it is possible for the mother to err on the other side, permitting the baby to remain at the breast for long periods. The practice of allowing the child to sleep at the breast at night is harmful to both mother and child. The mother's sleep and the infant's digestion are both less disturbed when this practice is discontinued.

A third mother is disturbed by the fact that her baby, though apparently thriving on the bottle, returns a considerable quantity of food shortly after each feeding. This baby, no doubt, takes his food too rapidly and in excessive quantity. The vomiting, then, merely indicates the over-filling of a healthy stomach. This difficulty can usually be overcome by making the food a little richer, so that a smaller quantity is required, and in regulating the flow of milk so that it cannot be taken so rapidly. Often the little hole

in the rubber nipple is too large, in which case a new nipple with a smaller hole must be obtained. The hole should be of such size as will allow the milk to flow slowly drop by drop, but not in a continuous stream.

Still another mother asks what she can do for her baby's eyes. They have been inflamed since birth (two months ago), and each morning there is a little whitish matter in them. This is evidently a case of simple catarrhal inflammation of the eyes. Nevertheless it is a condition which should receive treatment, as it may otherwise become somewhat obstinate. Each morning when baby has his bath the eyes should receive special attention. The eyelids should be gently cleansed with boiled water, a small piece of fresh cotton wool being used for each eye. After this preliminary cleansing a drop or two of boracic acid solution, as strong as it can be made should be dropped into each eye, the eyelids being held apart meantime by the mother's thumb and forefinger. If this is not sufficient to dislodge the matter, a little more solution should be dropped in the eye. A medicine dropper may be used for this purpose, or the solution may be dropped from a tiny bit of cotton wool over which a little of the solution has been poured. The solution should be kept in a corked bottle, so that it will not be exposed to dust or other contamination. Several times each day, or as often as matter collects in the eyes, the boracic solution should be used as described above. A simple catarrhal inflammation usually yields promptly to this treatment. However, it should be borne in mind that there is an inflammation of the eyes which occurs all too commonly in babies, which may produce most serious results, even permanent blindness. This disease is characterised by intense redness and swelling of the eyelids and by a profuse yellow discharge. This discharge is highly infectious, and may be the means of conveying the disease to others. If in any case of inflammation of the eyes there is the slightest doubt as to the nature of the affection, it

is best to consult a physician without delay, as only prompt and vigorous treatment may save the patient from blindness in case of the serious inflammation mentioned above.

E. S. R.

A Caravan of Health

WE learn with pleasure from our esteemed contemporary, *Good Health*, London, that the Women's Imperial Health Association of Great Britain, under the presidency of Muriel, Viscountess Helmsley, has recently started a crusade of health among the villages and country hamlets, which we believe is bound to accomplish a great deal of good. A caravan carrying health lecturers, fitted with magic lantern and biograph apparatus, and distributing popular literature, will go from village to village and give practical instruction to the people on the prevention of disease, the nutritional value of foods, the importance of rigid cleanliness, wholesome cookery, etc.

The following are the ten commandments of health which the crusaders will preach:—

- "1. Keep windows open day and night.
- "2. Do not spit.
- "3. Breathe through the nose by keeping the mouth shut.
- "4. Drink pure water.
- "5. Eat slowly, take well cooked meals, and cultivate regular habits.

"6. Wear loose clothing of seasonable material.

"7. Take regular, open-air exercise, in sunshine if possible.

"8. Wash whole body at least once a week.

"9. Work, but do not worry.

"10. Get house drains certified by sanitary authority."

The movement is an excellent one, and we trust that it will not be long before a similar movement will be started in Australia.

Winning Homes and Hearts

A REMARK of a native of India shows the quiet power of medical missions. He said: "We are not afraid of your books, for we need not read them; we are not afraid of your schools, for we need not send our children to them; we are not afraid of your preaching, for we need not listen; but your zenana workers get at our homes, and your doctors get at our hearts, and when you have got our homes and our hearts, you have all.—*Christian Endeavour World*."

THERE is one investment which the fluctuations of the exchanges do not affect—a house to live in and a garden to cultivate—these give a pleasure and a security that certificates and script cannot afford.—*Every Man His Own Landlord*.





Cause and Cure of Constipation

THAT constipation is a malady which is rife in the land needs only a glance at the advertisements of patent medicines which appear in the daily newspapers.

To many people of to-day it is as necessary to have a box of pills in the house as it is to have the daily food. The following incident was related to the writer: A lady had been invited to dinner, and to her amazement after the repast was ended the hostess handed her a pill. The visitor in surprise said, "What is this for?" "Oh," replied the lady, "it is only a pill. I always take one after dinner." The homes may be few where such a procedure is practised, but there are few households where not a single member has to resort to the laxative pill.

Constipation is not a trifling matter. If allowed to pursue its course, in time it becomes a formidable malady, which in the majority of cases resists all ordinary methods of treatment. As a result of

this condition the following are a few of the minor evils: Foul breath, offensive perspiration, muddy complexion, headache, mental cloudiness, sleeplessness, irritability, nervousness, depression of spirits, indecision of mind, loss of appetite, lack of appetite.

The more serious complaints which can be traced to constipation are piles, rectal abscesses, rectal fistula, and even cancer of the rectum. Appendicitis must also be added to the list. Every reader will admit that the latter disease is on the increase. A few years ago appendicitis was unknown to the laity, but now it is a common disease. It is the direct consequence of chronic constipation.

One cannot intelligently remedy the evil until the cause is known. It is useless to treat the symptoms to cure the trouble, and yet how many sufferers are doing this. Headache wafers to relieve the throbbing head; fancy mouth-washes to disguise the foul breath; face powders

and lotions to improve the complexion; backache pills for the kidneys and liver. Such measures do not strike at the root, and their relief is but temporary.

What Are the Causes of Constipation?

There will be mentioned here only those causes with which the average individual can deal by simple methods. These can be considered under—

(a) ERRORS IN DIET.

(b) HABIT CAUSES.

Let us consider what are errors in diet.

1. IRREGULAR EATING.—By this is meant eating between meals, and it is understood that there are three regular meals a day. We are largely creatures of education and habit, and the habit of having a cup of tea and bread and butter, cake, etc., between meals, and then a meal before retiring, is a pernicious one which will in time manifest its harmfulness. By such a course the digestive organs do not get sufficient rest, and the little glands lining the digestive tract become overworked and fail to manufacture the necessary fluids which digest the food. The muscles of the organs become relaxed and cannot force the food along, and so there is a fermenting mass remaining.

There is a certain routine in digestion, and ample time must be allowed for food to digest before a new supply is taken in. No housewife would think of putting raw potatoes into a vessel which contained potatoes already partly cooked. If such were dished up the uncooked articles would be left untouched, and before being utilised would have to spend more time in the saucepan, and more fuel must be consumed. When food is taken into the stomach which already contains partially digested food the stomach has to work overtime, and it cannot be wondered at that it becomes rebellious and the rhythm of the bowels becomes interrupted.

2. EATING TOO SMALL AN AMOUNT OF FOOD.—Some individuals eat so little that there is not sufficient bulk to cause the bowels to be mechanically stimulated.

3. EATING FOOD DEFICIENT IN RESIDUE, such as the husk of the grain and vegetable fibre. Belonging to this class is white bread, sago, rice, macaroni, potatoes. These, however, are good foods if combined with those of laxative qualities. Some authorities do not classify potatoes in this list. Milk as a prominent article of diet is to be avoided above all things since it is almost entirely assimilated and leaves no residue. If a meat diet is largely used so little residue is left after digestion that constipation ensues, but if vegetables are eaten the reverse is the case.

4. DEFICIENT FRUIT DIET.—In this land where fruit is plentiful there is no reason why it should not be used liberally. The fruit acids serve many purposes. They are antiseptic. They stimulate the intestines to activity and they purify the blood. Some kind of fresh fruit should be eaten every day. Less money spent in meat and condiments and more in fruit would save pill money.

5. DRINKING TOO LITTLE WATER.—This may appear a simple thing, yet it is a cause which must not be overlooked. It is very essential that fluid be taken into the system, at least three pints a day being requisite. If the blood is water-poor it is unable to manufacture intestinal secretions. The average Australian may use the quantity of fluid necessary, but it is taken in the form of hot tea at meal-time. This is a hindrance to digestion, and is a cause of constipation. The following is quoted from good authority: "Immoderate and continued dosage of caffeine or the excessive use of tea and coffee profoundly disturbs the digestive functions, resulting in gastric catarrh, indigestion, congestion of the liver, constipation, and piles." Tea, by reason of the high percentage of tannin contained, frequently causes constipation.

Habit Causes

1. HABITUAL NEGLECT OF NATURE'S CALL.—This is one of the commonest causes. Persons in all walks of life are guilty. The busy housewife must attend

to this and that before she will obey nature. The office man, the shop girl, cannot leave just at the time when nature calls. The child in school is not permitted to leave the room when it so



Incorrect Sitting Position.

desires. The careless boy and girl become so intent on their pleasure that no notice is taken. Someone will say, How can this be remedied in the case of busy people in the commercial world? It can be remedied. A habit can be formed of relieving one's self regularly after meals, particularly after breakfast, and one should attend to this whether there is a desire to do so or not. Gradually the bowel will be trained to have a movement at this time.

2. **SEDENTARY HABITS AND THE SITTING POSTURE.**—The individual whose avocation necessitates his being indoors sitting at his work is the one who is most liable to be troubled with constipation. The bowels become congested and their walls become relaxed, so losing their tone, thereby allowing excreta to accumulate. This condition is inevitably followed by the usual results—poisons are absorbed into the system with the resulting headaches and other disagreeable symptoms.

3. **SUPERFICIAL BREATHING.**—The sedentary person is a superficial breather. He usually sits in a stooped position.

The blood which should be circulating freely through the lungs to be purified is stagnating in the abdomen, creating poisons in the digestive canal resulting in a host of evils. The liver is a very important organ in digestion. It holds one-fourth of the blood of the body, and it has to pay the penalty if the lungs are not exercised. The woman who tight-laces suffers with constipation. When there is constriction around the waist the abdominal muscles lose their tension, and so fail to keep the digestive organs in place and the circulation through them is impeded.

Treatment for Constipation

Having learned the causes of constipation much can be done to remedy the difficulty if a determined effort is put forth to do so. The sufferer must remember that chronic constipation cannot be cured in a day, but it means a persistent effort in a dietetic and habit reform.

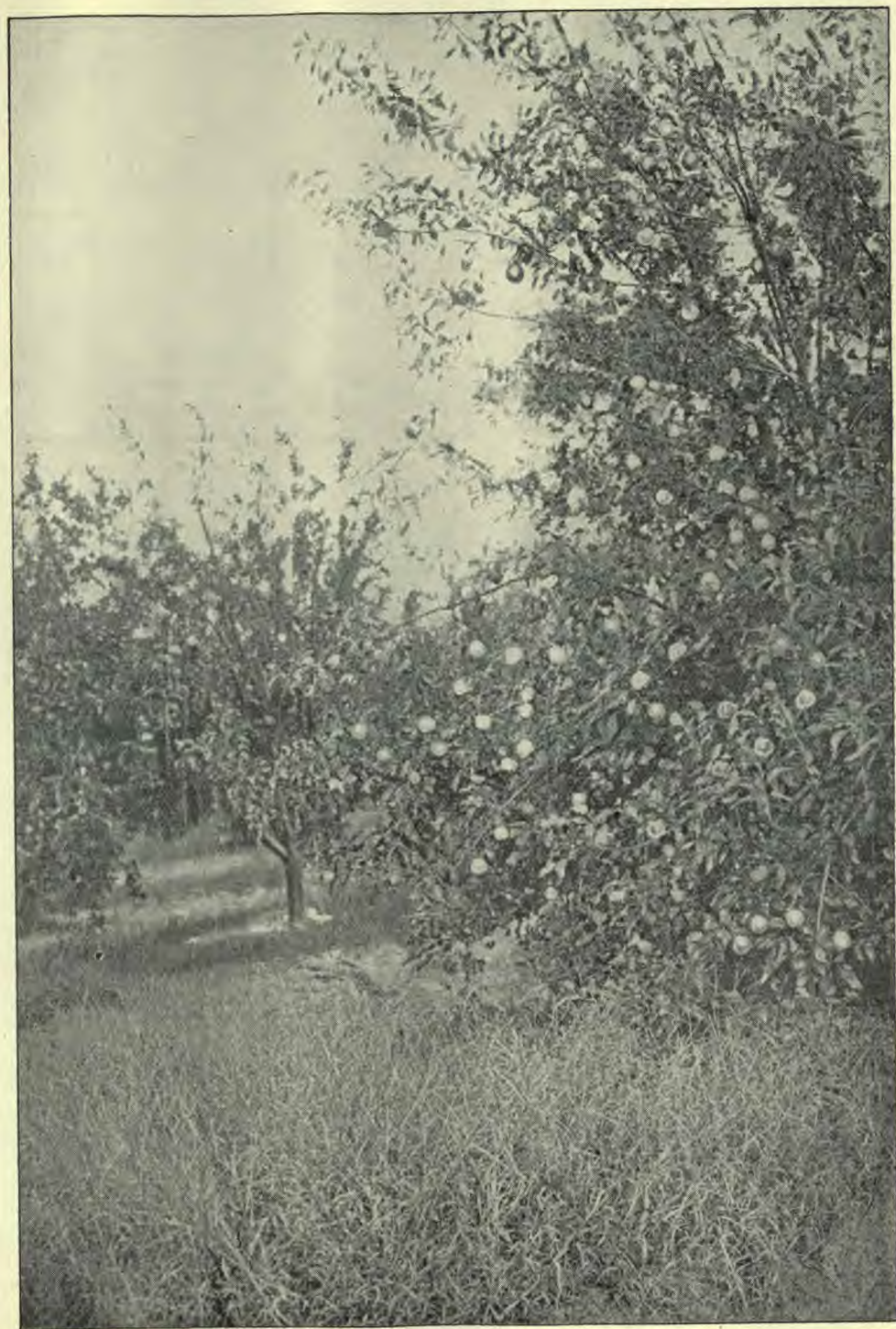
The following are a few suggestions which should give relief if persevered with:—

1. Thorough mastication.
2. Regularity in meals.



Correct Sitting Position.

3. Regular use of proper amount of fat, as butter, cream, olive oil (2 to 3 ozs. daily).
 4. Liberal use of fruit and fruit juices.
- It must be remembered, however, that



"The tree of the field is man's life." Deut. 20:19.

strawberries, raspberries, and blackberries are generally constipating rather than purgative. Some fresh fruit should be taken every day.

5. Use of whole grain preparations, such as brown bread, granose biscuit and flakes, or cornflakes.

6. Use of the coarse sweet fruits, such as figs, prunes, dates, raisins. Figs, by reason of their many small seeds which scrape the lining of the bowel, causing stimulation of the organ, are useful.

7. Use of honey, wheat honey (melsitos, or malt honey).

8. Liberal use of cold water. At least two glasses before breakfast, a couple of glasses an hour before dinner, and one or two more on retiring at night. It is better to sip the water instead of taking it at one draught. Buttermilk being laxative and of value may be used freely.

9. Take a teaspoonful of olive oil raw, or emulsified in lemon juice, after each meal, and also at night.

10. Exercise, such as horseback riding, for those who are able. Walking and running are excellent. A simple exercise is that of bending the body forward, backward, and laterally with the fists pressed into the abdomen, repeating each movement a dozen times each morning. Deep breathing after meals promotes digestion. One has no appreciation of the benefit of this until it has been tried. Take several deep breaths after a meal.

11. For immediate relief take a hot enema (about one to two quarts), retain as much as possible for a few minutes. After movement of the bowels about a cupful or two of cold water should be injected.

E. M. H.

Mischievous Mealtime Mistakes

No doubt a great many people are made miserable by mistakes made at mealtime.

Too Much Meat

The first common error in eating which is noticeable in Australia is the taking of far too much meat. Into the average

diet, beef, mutton, fish, fowl, or some other form of flesh food, enters at every meal. These are all what are termed "high proteid foods," and recent researches have proven that the body is a sparing proteid-user. The effects of this free use of meat are plainly to be seen all about us in fatigue and diminished endurance, sick headaches and nervous disorders, diseases of the arteries and kidneys, gout, rheumatism, high blood pressure, obesity, malnutrition, and many other meat-eaters' ailments.

Snacks

Snacks, eating between meals, too many meals, are all mistakes. Three meals a day are quite enough to supply the actual needs of the body. A substantial, well-balanced meal fully satisfies hunger, and more food will not be desired until digestion is completed. The digestion of a moderate meal takes four or five hours, and the stomach will have an hour's rest before the next meal is eaten. Of course, persons who take liquid foods or very small quantities of food may require more frequent feeding. For the average person, however, three meals a day are quite enough, and the evening meal should be light. Some persons do better on two meals.

The Hurry Habit

Take time to get hungry before you eat, and then take time to masticate and thoroughly relish your food. Hasty eating leads to copious drinking during meals, and these are both common errors which result in diseases of the stomach, liver, kidneys, and bowels. Crisp, tasty, toasted cereal flakes, dextrinised biscuits and breads, encourage thorough mastication, which results in good digestion and good health.

Over-Eating

The hurry habit leads to over-eating, and all excess of foods involves a waste of energy in its digestion. Not only so, but the body becomes overloaded and the system clogged with unused food. Economy in nutrition results in increased efficiency of brain and body; and the one

who eats to live will live twice as long and twice as well as he who simply lives to eat.

Unnatural Sweetens

The free use of artificial sweets is a very injurious practice, causing catarrh of the stomach and bowels, acid dyspepsia, diabetes, and diseases of the kidneys. Those who prize good digestion should avoid the manufactured sugars which enter so freely into our modern dietary. This is especially true of all those who suffer from diabetes, dyspepsia, high blood pressure, Bright's disease, or gastrointestinal catarrh. Eminent authorities have recently called attention to the evils which result from the free use of cane sugar. These evils are pleasantly avoided by the use of natural sugars as found in sweet fruits, honey, malt extract, and malted foods.

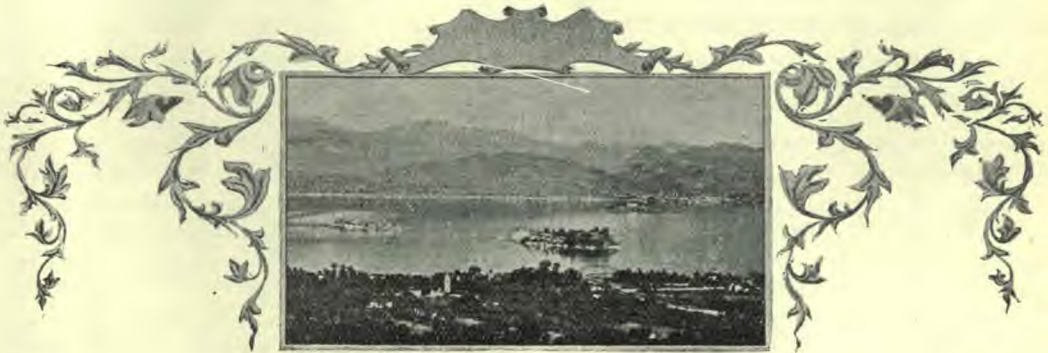
A new sweet called Melsitos, or wheat honey, is an excellent and most wholesome substitute for jams, jellies, treacle, and syrups. It may with advantage be employed in place of these sweets for table use. Its flavour combines well with grains and also with fruits of all kinds.

Irritation—Stimulation

One of the greatest mistakes that any person can make is to habitually irritate and stimulate the organs of digestion. Coarse-flavoured, irritating spices, like mustard, pepper, vinegar, and chilli, cause congestion and inflammation, and later a catarrhal condition of the alimentary canal. Gastritis, enteritis, appendicitis, colitis, hepatitis, and nephritis, are some of the inflammatory troubles induced by the use of these harmful substances; and no doubt later in life the continued irritation may result in the production of cancer of the stomach. With the irritants already mentioned may be included alcoholic drinks, such as whisky, brandy, porter, beer, and ale.

F. C. R.

RIGHT thinking will produce right living; clean thinking a clean life, and a prosperous, generous thought followed up by corresponding intelligent endeavour to make your thoughts and your ideals real will produce corresponding results. —O. S. Marden.



Is the Stomach an Unnecessary Organ?

THE idea seems to be quite common that the stomach is a superfluous organ. Cases are reported in which this organ has been entirely removed without causing death, persons afterwards existing for a year or two without a stomach. Not only so, but favourable results have been noted in other cases in which portions of the stomach have been removed. The tendency of these operations has been to lead some, even amongst scientific men, to under-estimate the value of the stomach as an organ of digestion and absorption. It has, indeed, too often been regarded as merely a reservoir for food; but this is far from the truth.

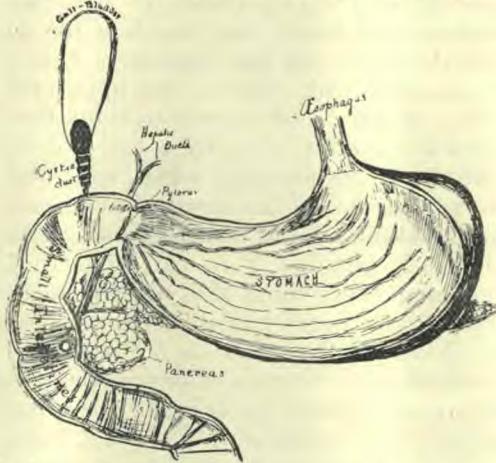
By means of the X-rays the complicated movements of the stomach during digestion have been studied by Professor Cannon and others. According to these observers, the elementary physiologists are wrong in stating that the food is intermingled in a homogeneous mass. One experimenter gave variously coloured foods to animals, and after digestion had proceeded for a time, cut frozen sections of the stomach. These sections showed the coloured food in layers, the outer of which contained acid gastric juice, and were undergoing stomach digestion. The inner layers, however, were still being acted upon by the saliva which was mingled with the food during mastication. From these experiments and others, we now know that the muscular movements of the stomach occur in such a manner that only the dissolved substances are passed out from the stomach, while the undissolved portions are retained. In Professor Cannon's observations, a hard lump of food was seen to be repeatedly refused passage through the pylorus. Each time it neared this discriminating gate-keeper it was challenged, stopped, and thrust back to undergo further digestion. These experiments help us to

appreciate the importance of thorough mastication. Instead of a mouthful of food being swallowed in a bolus, or lump, as physiologists used to describe the process, the food should be crushed between the teeth and pressed and turned about the mouth until it is reduced to a creamy mass. When the digestive work of the mouth is in this way faithfully performed, there are no boluses of food to be swallowed, and later on thrust back into the stomach by discriminating pyloric muscles. When it is remembered that pyloric ulcer and cancer are often the result of long-continued irritation in this region, the importance of keeping lumps of food out of the stomach will be realised.

It will thus be seen that the exit of food from the stomach is regulated in part by the presence or absence of hard and un-masticated bits of food. It is further regulated by digestion in the duodenum—the first eight inches of the intestine. The liquified food is propelled through the pyloric sphincter in little squirts until the duodenum is filled. The discharge then ceases, to begin again when the acid reaction of the food has been changed by the bile and pancreatic juice to an alkaline reaction. This, on an average, may take say from five to fifteen minutes. When filled with an average mixed meal, the healthy stomach should completely empty itself in about four or five hours, *provided conditions are normal.*

The italics in the preceding sentence convey a world of meaning to the mind of one who has observed the movements and behaviour of the stomach and intestines during digestion. Professor Cannon observed, in his experiments on cats, that what might appear a slight alteration in the state of mind of these creatures, was quite sufficient to induce a complete cessation of the movements of

the stomach and bowels. For example, the unpleasant thoughts which were caused to pass through the cats' minds by the sudden appearance of a dog, entirely suspended digestion. If the cats were worried or harassed in any way, there was always a similar result; and even after removal of the sources of mind irritation, a period of tranquility elapsed



before digestive movements were resumed.

We may fairly conclude from these results that a tranquil mind aids digestion more than it is aided by pepsin, hydrochloric acid, bitters, tonics, and other artificial agents. Truly one may "laugh and grow fat," for a merry heart makes the work of the digestive organs easy.

As to the proportion of digestion accomplished by the stomach itself, Toblet reports that in a dog to which he fed 100 grams of meat, 80% was digested by, and 20% absorbed from, the said-to-be superfluous stomach. F. C. R.

A Flesh Abstainer's Victory

A NOTE to an editor from Karl Mann, the noted German pedestrian, announces another vindication of the low proteine theory of diet, in the victory of Herr Emerich Rath, who has been for ten years a flesh abstainer, as well as an abstainer from alcohol. The test consisted of a forced march of thirty miles, in which each pedestrian was required to

carry fifty pounds of baggage, the German Department of War offering a prize to the winner. One hundred and sixty persons entered the contest, many of whom were soldiers who had had much training in forced marching. Rath, by occupation a merchant, was a victor in the severe test of endurance, as he had been in seven previous international tests of the same sort.

Such a succession of victories in which a merchant not a trained athlete or a pedestrian by profession always comes out ahead of flesh-eaters, cannot be looked upon as accidental or as the result of enthusiasm in defence of a theory.

There is a good physiologic reason why a flesh-abstainer should win in tests of endurance. Dr. Frederick S. Lee, professor of physiology in Columbia University, New York, has shown by experiments upon animals that skatol, indol, and other of the products of putrefaction which are produced in great quantities in the intestines of flesh-eating men and animals, produce fatigue when introduced into the body of a healthy and vigorous animal. It is evident, then, that the man or the animal whose tissues contain the least of these poisons is likely, other things being equal, to possess greater endurance than one whose blood and tissues are flooded with these poisons absorbed from an intestine filled with putrefying remnants of undigested flesh.—*Selected.*

Not a Vegetarian

THE Denton family are vegetarians, but they do not expect their maid to be one, also, and had taken pains to assure themselves that Delia should find no cause for dissatisfaction with her food. When at the end of two months she gave notice, Mrs. Denton was surprised and dismayed.

"But, Delia, I thought you were satisfied, and certainly we are," she protested, "Tell me what is wrong, and if it's anything that I can set right, I will. We don't want to let you go."

"And I don't want to go, ma'am," declared Delia, regretfully, except for one thing; and that ye can niver undo. Once said is said, worse luck."

"Said?" echoed Mrs. Denton. "Oh, then, I'm sure there must be just a misunderstanding—"

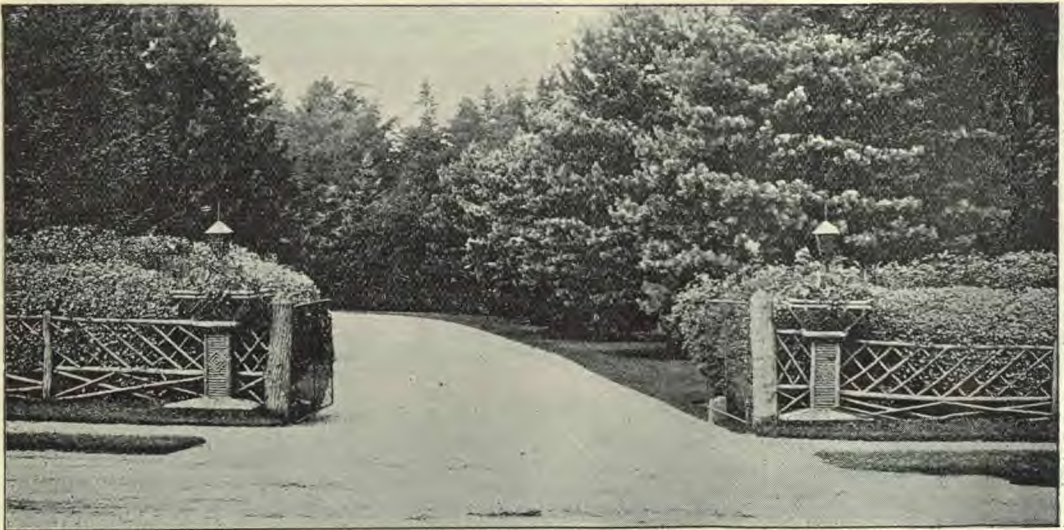
"There's none, ma'am," asserted Delia. "'Twas yourself made the remark, and I've not made a dacent meal since I heard ye say it to Mr. Denton, and him agree wid ye. Ye said that thim as wasn't vegetablians ate 'dead craythurs.'"

"I'd have expressed myself differently if I'd known you overheard," admitted Mrs. Denton, "but, after all—really—cows and sheep are certainly creatures, and when they—when you—well, beef-steak isn't alive, is it?"

"It is not," agreed Delia, "and I don't want to remimber iver it was. Beef is beef and mutton's mutton in the other families I've lived with. Nobody calls it craythurs, which is bad, and nobody says it's dead, which is worse. I be lavin' the week, ma'am, for a place where fresh mate is mate to iverybody."—*Selected.*

Object of Eating

IN a recent address to the workers of Pitman's well-known Health Food Company at Birmingham, Dr. George Black said in part: "Now the object of our eating is to give us health and strength for the discharge of the various duties that devolve upon us. And it is because I recognise the importance of the food question, and know how much it has to do with our health and happiness, that I am engaged with you in this important work. Some people appear to think that it doesn't matter what they eat, and so instead of considering what will best nourish them and fit them for their work and maintain them in health and strength, their only concern is to eat what they fancy and never mind the consequences. This is indeed very foolish, for the person who lives on liver and bacon, tripe and cow-heel, pigs' trotters, kidneys, and the like, is very differently nourished and has very different qualities in his blood, however it may look, from the person who is living on cereals, nuts, fruits, and vegetables."



The Perfect Way in Diet

- "ONE day through the primeval wood
A calf walked home, as good calves should,
But made a trail all bent askew,
A crooked trail, as all calves do.
- "The trail was taken up next day
By a lone dog that passed that way;
And then a wise bellwether sheep
Persued the trail o'er vale and steep.
- "And drew the flock behind him too,
As good bellwethers always do,
And from that day a path was made
Through those old woods, o'er hill and glade.
- "And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath,
Because 'twas such a crooked path.
- "The forest path became a lane,
And bent and turned and turned again,
This crooked lane became a road,
Where many a horse bore heavy load,
- "The years passed on in swiftness fleet,
That road became a village street,
And this, before men were aware,
A city's crowded thoroughfare.
- "And soon the central street was this
Of a renowned metropolis,
And men two centuries and a half,
Trode in the footsteps of that calf."

The above poem is but an illustration of much that happens in our lives. Custom and the fact that our forefathers followed out certain habits of life are our only excuses for doing the same.

With the earliest impressions of childhood, we have imbued the fallacious idea that the most important article of diet is animal flesh. To the most casual observer it is quite evident that since the decree went forth from our Maker, "The day thou eatest thereof thou shalt surely die," we have contained the generating ingredients of disease and death; we live to die is ever true. The process of life means death, but as long as we live faster than we die all is well.

Let the black hand of death get sway then waste accumulates, the tissues become choked, the life currents find it difficult to effect passage through the fine arteries and veins which carry off death and bring health to life's mechanism.

A true and full realisation of the importance of natural, clean, and suitable table foods is lacking the world over.

Among rich and poor, educated and simple, until the kitchen and its work are elevated to their proper place, all will continue to go wrong.

What railway company would instal in their despatching office an ignorant, mis-trained or untrained man or woman to send forth its messages that mean either life or death to its freight of humanity? No, we can see they would obtain the best and most trustworthy.

Look into the homes of the land and what do we find there? Incompetent domestics everywhere; very often the housewife is lacking in the essential knowledge. Domestic economy is a science that all women should know, and it should be taught in a way to benefit all classes. To make food appetising and at the same time simple and nourishing requires skill. It can be done. Cooks should know how to prepare plain food in a simple and beautiful manner, so that it will be found more palatable as well as more wholesome because of its simplicity.

In many places cooking schools are opened for instruction, and one of the first things taught is how to prepare flesh foods in its various ways. Let us look at this portion of the menu and see what it contains. The processes of life were going on when the animal was killed, the blood was on its way to the kidneys, lungs, and skin to have the poisons eliminated. The animal was excited and fatigued. As a result these poisons were much increased, for it has been found by experiment that the normal secretions under great excitement or fear are rendered more poisonous. As an illustration a child which has been given the breast-milk just after the mother has gone through a storm of anger has become convulsed.

It is apparent that flesh food is rendered bad and dangerous to the eater for the following reasons:—

1. By poisons ingested and created by the animal during life.
2. By the existence in flesh food of parasitic disease.

3. By other diseases having affected the animal during its life—50% of the cattle killed are said to be tubercular.

4. By decomposition of the flesh after death.

Thoughtful or humane persons cannot fail to admit but that the testimony of science and experience is in favour of a non-flesh diet.

The more natural diet for man is that which excludes all flesh and includes cereals, nuts, fruits, legumes, and vegetables. The non-flesh diet is free from germs of disease, and also any additional waste products, therefore tending rather to eliminate uric acid instead of introducing it.

Moreover this diet contains all the body-building elements found in flesh foods, and in greater abundance, and it promotes health and efficiency, and cures and prevents intemperance. Then, too, it is in accordance with divine will, for our Creator made man not a flesh-eater, a fact which must be admitted by anatomists. The first command (Gen. 1:29) given in the Bible to mankind is conclusive enough.

F. K.

A Few Choice Recipes

Baked Beans.—Soak in cold water over night a quart of haricot beans. Cook in fresh water. Simmer gently until they are tender and quite juicy. Add salt to taste and a teaspoonful of treacle. Remove from the saucepan, and place in an earthenware baking-dish in a slow oven. Cover them, and bake for two or three hours, or until they become a reddish brown colour. Keep them moist by adding boiling water occasionally. Remove cover, and allow the top to brown nicely before sending to the table. May be served with Vegetarian Chilli Sauce.

Vegetarian Chilli Sauce.—One cup of strained tomatoes, one stalk of celery, three slices of onion chopped fine, juice of one lemon, one teaspoonful of sugar, salt to taste. Put over the fire and boil up once. Serve cold. This is excellent with baked beans and other meat substitutes.

Macaroni with Egg.—One cup of macaroni, three hard-boiled egg yolks, one and one-half cups of milk, two tablespoonfuls of flour, one tablespoonful of toasted breadcrumbs, one-third teaspoonful of salt. Cook macaroni until tender, drain, and pour over it a dash of cold water. Place a layer in an oiled baking dish. Then make alternate layers of the egg yolk and macaroni, having macaroni for the top layer. Make a thickening of the flour and milk, and pour it

over the macaroni and egg. Sprinkle the top with the toasted breadcrumbs. Bake until a nice brown.

Silver Beet Souffle.—One cup of silver beet cooked and put through a colander or a mincer, three eggs beaten separately, two-thirds of a cup of milk or cream, two level tablespoonfuls of butter, one-quarter cup of flour, one-half teaspoonful of salt. Rub the flour, butter, and salt together. Heat the milk and add slowly to the above, stirring to keep it smooth. Then add the silver beet, then the beaten egg yolks, then the stiffly beaten whites. Bake twenty minutes in a slow oven. Cabbage or French beans may be substituted for the silver beet.

Scalloped Potatoes.—Pare the potatoes and slice them. Put them in layers in a baking-dish, sprinkle each layer with flour and salt, and pour over all enough rich milk to cover well. Cover, and bake rather slowly till tender, removing the cover just long enough before the potatoes are done to brown nicely.

Salad Dressing No. 1.—Hard-boiled yolks of two eggs, juice of two large or three small lemons, two tablespoonfuls of sugar, one-half teaspoonful of salt, one tablespoonful of cream or olive oil, one tablespoonful of water. Rub the sugar and salt with the hard-boiled yolks until it is a cream, then add cream or oil, and lastly lemon.

Salad Dressing No. 2.—Four lemons, three tablespoonfuls of sugar, one-half teaspoonful of salt, one and one-half tablespoonfuls of nut butter mixed to a cream with water. Take one and one-half tablespoonfuls of nut butter, add sufficient water to make a thick cream, then add sugar and salt, and stir well till the sugar is dissolved, then add lemon juice.

Salad Dressing No. 3.—Three lemons, two tablespoonfuls of sugar, one-quarter teaspoonful of salt, one and one-half tablespoonfuls of water. To the juice of the lemon add the sugar and salt, and stir well till dissolved, add water.

Tomato and Beet-Root Salad.—Take six to eight large tomatoes, pour boiling water over them, let stand about ten minutes and then remove the skins. Let cool. Have cooked two or three young beet-root. Cut both tomatoes and beet-root into slices, and cover with No. 2 or 3 Dressing. A little sliced cucumber may be added if preferred.

Beet-Root Mayonnaise.—Take three to four young beet-root, cook till tender, then chop very fine. Add to this some chopped nuttose, one teaspoonful of onion juice, and pour over the whole No. 2 Dressing. Serve on a lettuce leaf.

Lettuce Salad.—Take two young lettuce, wash thoroughly, and cut very fine a few spring onions and radish, or mustard and cress can be added. Place in a salad bowl, and cover with No. 1 Dressing. The dressing can be kept in a separate bowl, and served at table when ready to dish.

'Phone 664 B.

H. R. REUBEN

Dental Surgeon

Railway Parade and
Burwood Road, Burwood

THE CHILDREN'S HOUR



NIGHTY TIME

By Nancy Byrd Turner

Brother in his trouser-kind,
Sister in her gown,
Baby in its muslin slip—
A little ball of down
Frolic just about to start,
Waiting, still as mice:
"One, two, three, now you
catch me."
Nighty time's so nice!

Brother being growly bear;
Sister at the bars;
Baby watching fearfully,
Eyes as big as stars:
Mother sitting very near
In the fire's shine;
Laugh and crow and make
believe;
Nighty time is fine!

Brother snug in one soft bed,
Sister snug in one;
Baby fallen fast asleep
Before the game was done;
Shadows drifting up the
wall,
Fall of sandman's feet,
Gray dreams sifting over all—
Nighty time's so sweet!



How to Remember

THERE are things that people must know, and there are things that they should know, if possible. The number of these things is a million times greater than could be remembered by the wisest and most learned man that ever lived. Though education cannot improve the natural memory, yet there are certain things which education, in the widest sense of the word, can do or fail to do. Whatever the brain is meant to be by nature, and whatever is in its power to become, yet the building and the health of its cells and nerves, and therefore the success of their duties, depend upon the supply of blood they receive, and upon their never being subjected to over-use.

What we call education, which is sometimes just the opposite of real education, very often means that we injure the brain and spoil the memory at the very time when we think we are training it. School hours are often too long; no child should attend to one thing for so long as an hour, or anything like it. Light, and especially air, may be defective. Foul air means foul blood, everywhere and always; and foul blood means that the brain also is being fouled and poisoned.

A Healthy Out-Door Life is the Best Aid to Memory

Our great business, therefore, in taking care of our memories when we are young, is to lead healthy lives as much in the open air as possible; and no doubt we shall find that, in after years, for every one thing we remember that happened indoors when we were children, we shall remember two things that happened out-of-doors.

Now, we must study the laws of the mind as far as possible, in order to see whether there are any laws which will help us to get

the most into the mind with the least trouble. We know that the memory is at its best in youth, so that on this account, if for no other reason, youth is the time to learn.

Many grown-up people of to-day are grateful to those who taught them, at this age, such things as parts of the Bible and good poetry, which are precious possessions of their minds for the rest of their lives.

Next we have to consider the various special methods of impressing the memory. The first of these is the method of repetition. We all know that repetition helps us to remember, and, indeed, this method of going over a thing again and again is the one which has been most believed in since teaching began. This applies equally to our learning-memory and our doing-memory, as we recognise when we say that practice makes perfect. Now, so long as we clearly understand that repetition and learning by heart do no good to the memory itself, but merely help to impress it, we are quite right to use this method, and there are certain things well worth noticing.

The Best Way of Remembering What We Have Heard

One of the great methods of learning is to listen to something spoken and take notes of it. Now, in such cases we notice that the two processes of listening and writing down, and of reading over, result in much better remembering if they are close together. If we read our notes the same day as we take them down, we shall remember more a month hence than if we go over them a few days later. When the repetition comes close on the first impression, it is as if the iron were made hot by the first impression, and the second impression is more effective than if

we wait for the first to cool. Another most important fact is that one kind of repetition is very different from another, and this is one of the mistakes that almost all of us make. We may hear without "taking a thing in;" we may read or write a thing, or we may repeat it out loud, while our attention is somewhere else. In such cases all our labour is wasted, as certainly wasted for remembering the thing as it is wasted for "training the memory." It is no use trying to learn when we are tired because the lesson has gone on too long, or when we are feeling cold or thirsty or hungry.

Why Reading Helps Us to Remember Better than Writing

When we are really ill, it is not possible to attend or, as we say, take a thing in. One thing is certain, and it has been proved in every possible way a million times—that repetition without attention is useless. It is very probably worse than useless, for it makes the brain less able to attend on other occasions, even apart from the waste of time.

It is worth noting that intelligent, careful, attentive reading of anything is a more effective kind of repetition than copying it out, though we should not suppose so. In copying out, as a rule, too much of our attention is devoted to the mechanical part of what we are doing, and so we are not really attending so well, though we seem to be working harder.

The secret of mere remembering lies, on the whole, more in attention than in anything else. It is most difficult to find out exactly what attention is, and exactly what happens when we attend. The difference between attending and not attending is probably that, when we are not attending, the disturbances that reach the brain from the outside world are scattered in all sorts of directions throughout the brain. The effects of them are almost wasted, because they scarcely go anywhere in particular; and it may be also that perhaps the most important parts of the brain, when we are not attending, are really not in action at all, so that the results of what is going on never reach them.

The Bad Effect upon the Memory of Constantly Repeating a Thing

But when we attend it is probable not only that the highest parts of the brain are in action, but also that everything is carefully arranged and ordered, so that what comes

into the brain shall take a definite path, reach a definite place, and do definite things there. It is worth noticing that repetition tends to take the edge off attention, and that is one of the objections to it. As a rule, the more we repeat, the less we attend, and therefore the less result do we get.

If attention is the secret of memory, we must find out, if possible, what is the secret of attention. Repetition, we know, is certainly not the secret. The real secret of attention is *interest*, and so *interest is the real key to successful remembering*. When we are interested and attend, the eye is sensitive, the ear strains to hear, and the rest of the body is kept perfectly still, so that nothing shall interfere with our hearing or seeing, and thus the impression is more vivid. We all know that this is the case by our own experience, for when we have been listening to an interesting lecture, our whole mind has been alert, and we have remembered what we have heard.

Why Old People Remember Best the Things of Long Ago

Now, we often find that old people, instead of remembering the latest things best, remember them very badly; but, though they are doubtful about recent events, they remember quite clearly something that happened perhaps many years before. The explanation is that the newer impression was made on a brain that was losing its power of being impressed, but the older one was made on a young and very impressionable brain; and the passage of time has not destroyed the deep impressions made in youth.

When we compare different people, we find that there are differences between them in this quality of memory. It is supposed by nearly everybody that education accounts for these differences, and makes them. So one of the great objects of education is to "train the memory." But, if by training the memory we mean making the brain more impressionable than it is by nature, nothing can be more certain than that this was never yet done by any kind of education, and never will be.

To begin with, these differences between people are natural. The amount that a man remembers will, of course, depend upon the amount that he has tried to remember, and so his education is immensely important, because it largely means giving us opportunities for remembering.—*The Children's Encyclopædia*.

The Young Artist

SIT still, tabby kitten, be quiet, I say;
I never can draw you so;
When you're having your likeness, you foolish
young thing,
You should sit very quiet, you know.

This picture is very partic'lar, you see;
For grandma has asked me to make it;
And so it is highly important to me,
That you should sit still while I take it:

For when I am big, I'm intending to be
A wonderful artist, 'tis true,
Like Gustave Dore; and I don't want to blush
When I look at this picture of you.

For all that I do, I have heard mamma say,
I must do just the best that I can;
Then when I grow up, I am sure I will be
Just the very best kind of a man.

L. D. Avery-Stuttle.

My Cats



AN old proverb says, "Every man's crow is the blackest," which is only another way of saying that we are all very apt to stick to our own opinion. My cats are the prettiest, most playful, affectionate, knowing cats that ever do pretty much as they

please, command everybody to open and shut doors for them, and occupy everybody's favourite chairs as soon as chances offer. Having said this, I will stick to it.

Their parents, with many times great before parents, came from far-off Persia. Persian cats have long, fine, silky hair. Handsome ruffs of it grow around the necks, and their tails are bushy, like those of a fox. The Angora cat, which comes from Angora, in Turkey, is very much like the Persian cat. A common short-haired cat, though there are many very fine ones, and I mean them no disrespect, looks very ordinary alongside of these Persian aristocrats.

They purr—did you ever try to find out how a cat purrs? Place a cat on a table alongside of you, stroke it gently, scratch its head with one hand while the other rests on its chest and feels its breathing. If it is a good-natured cat, it will begin to purr. You will hear it, and the hand that is resting upon the cat will feel the regular tremble of it. You will notice that this purr goes on all the while, whether the cat is breathing in or out. You will notice, too, that the cat has its mouth shut, and is breathing entirely through

its nose. The cat, of its own accord, started its vocal cords (the apparatus that it uses when it mews) to vibrating (shaking). These cords lie along and near the sound-making parts of the cat's throat, and make the purring noise. It can start and stop this vibrating whenever it feels like doing so. With it, it expresses love, comfort, happiness, content. The cat that purrs does not have to say one word; we know what it means. Purrs and snores are not made in the same way.

Lions, tigers, jaguars, leopards, panthers, cougars, lynxes, and others are big members of the cat family. This family, under the larger name of *felidae*, is called the feline race.

It may make you feel a little bad to be told that the cat family in its make-up of muscles, bones, and everything which goes to make an animal strong, active, flexible, stands at the very top of all animal life, and very far ahead of us who have a pretty good opinion of ourselves.

The foot of the cat is a wonder in structure. Take pussy's paw in your hand, stroke it gently. Pleased with your attentions, it will spread its toes quite wide apart. You will feel that the bottoms of them are padded, so that it can walk without making any noise. You will not feel its claws. My cats have tufts of hair standing downward between their toes to make their tread still softer. Take a piece of thin white lawn or mosquito-netting, or anything you can see through, dangle it before your cat. It will throw its very sharp claws out of the sheaths of skin which hold them in walking (that they may not catch on the grass or carpet) and will hook them into whatever you hold. Look close, through the cloth, and you will see how beautifully the claws are thrown out and downward, how the sheaths stretch; see how the claws are drawn upward and backward when they let go. This claw, which is possessed by the cat family only (civets have claws which are half retractile), is called a retractile claw, because it retracts, or draws back. The cat steals softly onto its prey with its padded feet, springs onto it, throws out and down its sharp claws, and holds on. We all know how a cat scratches.

It makes but little difference where a cat falls from or how short the fall, it will light on its feet. How it does this is too long to tell here.

A cat's whiskers are of great use to it. In the wild state all cats hunt their food, usually at night. To steal upon mice, rabbits,

or birds, a cat has to move quietly. As it moves, head first and often in the dark, its whiskers, which, when the cat pleases, stick out farther than its body, on each side, strike grass, bushes, twigs, and tell the cat how to avoid shaking them and making noise.

The tongue of a cat is covered with small, horny hooks, turned backward. Licking long in one place will wear the skin of the hand through. A lion's tongue would tear the flesh. These horny hooks are to use in

to understand them? Do they not learn to understand us?

Montaigne, a great French writer, more than three hundred years ago wrote: "When I play with my cat, how do I know whether she does not make a pastime of me, just as I do of her?"

It is not wise for us to think we are the only animals that think and reason. My cats think in the cat language, reason cat-wise in cat language, speak in cat



tearing all the flesh clear of the bones. Nature allows no waste.

When a cat is in a dim light, the pupils of its eyes are large and round, so that they will admit all the light possible. When it is in the light, the pupils are narrowed to a slit; all the light is not needed.

My cats talk cat talk to each other and to me. I understand very much that they say, and they understand very much that I say. Your cats are quite as accomplished. Why not? If we live with French, German, or Italian people, who speak a different language from our English, do we not learn

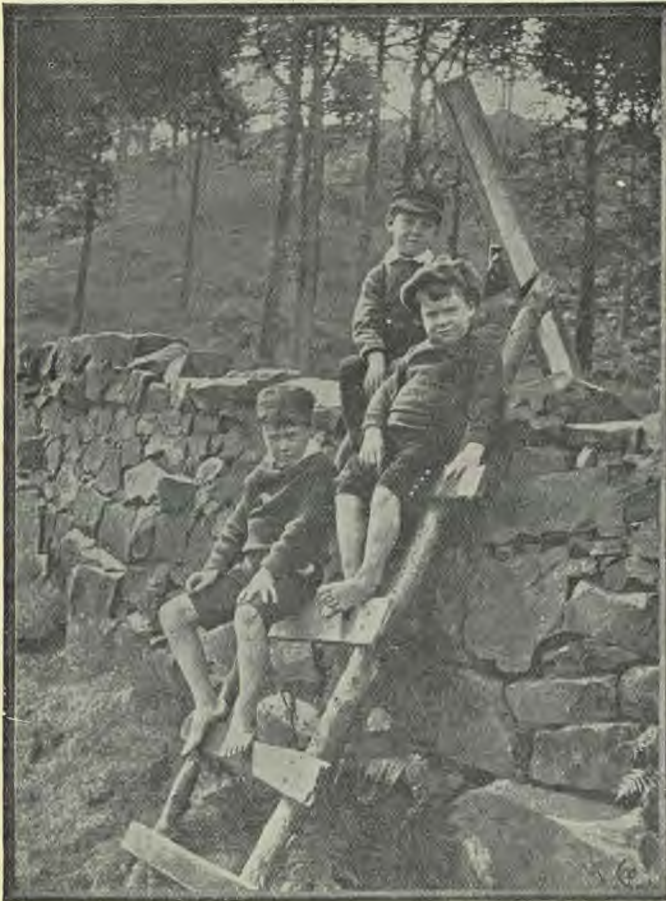
language. We should not expect them to reason in our language, nor reason to suit our methods. They reason to suit a cat.

Two of my cats, Ursa and Leo, are devoted sisters. They had kittens, three each, on the same day. Ursa made a cradle of my waste-paper basket. Leo chose a pretty, but old, summer hat in the third story. Ursa gave me no peace until I brought Leo's kittens to my library. Leo went out for a walk. Ursa was taking care of her own little ones when she heard Leo's kittens cry. She ran to them, purred over them, took each one tenderly in her mouth, and carried

the three to her basket. Then she curled up, contented, with the six babies. When Leo returned, Ursa told her plainly that she was taking care of them. Both cats were happy; they cuddled in the basket together. After that Ursa and Leo took turns in caring for them. We call them the co-operative mothers.—*Charles McIlvaine.*

Barefoot Boys

WHEN I look at such pictures as the one here shown, it brings to my mind the time



when I looked about like that. I can well remember how anxiously I awaited the day in spring when mother would think it warm enough to allow me to go barefoot. My shoes generally began to hurt my feet, and my stockings to get too warm, quite a while before I was allowed to lay them aside.

How light and nimble I would feel when the long-looked-for day would come. Of course to tender feet just turned out for a spring airing, the chips and gravel, and an occasional sharp stone or splinter, gave many a smart pang at first, but these were always borne without complaint. The joy of going barefoot, and wading in the brook, well paid for such trifles.

There are many little children who never enjoy the pleasure of throwing off their shoes when the warm weather comes. Most mammas, especially in cities, are afraid to let them do so. But many doctors say it is a good way to make little fellows strong. Professor Fowler used to tell people to let their little ones run barefoot in spring.

May be this picture will cause some little ones to tease their mammas to let them go barefoot. I hope you will let mamma be the judge, and not give her trouble about it. If you have never been used to such exposure, and should risk too much, you might take cold, and make trouble and expense for others.

But there are some little boys and girls who have to go without shoes when it is very cold, because they are too poor to buy any. It would please our Saviour very much if we could in some way help such little folks to get shoes and stockings and other clothing to keep them comfortable. "He that hath pity upon the poor lendeth unto the Lord, and that which he hath given will He pay him again."—*W. N. Glenn.*

A BAVARIAN immigrant, suffering from what was apparently "lumpy spine," applied for admission to the port of New York. The inspector told him he must submit to further examination, that it might be determined whether the lumps were caused by a contagious disease. "Ah!" exclaimed the immigrant, "it is not sickness. Those swellings is moneys." And he exhibited about £2,200. He was admitted without further question.

Chats with the Doctor

[Send questions for this department to the Medical Superintendent, Sydney Sanitarium, Wahroonga, N. S. W.]

7. High Blood Pressure, Apoplexy.—"I am told that my blood pressure is too high. My physician says it is 200, and that I am threatened with a stroke. Just what does this mean? and how am I to diet myself to prevent an attack of apoplexy?"

Ans.—Your physician is quite right in saying that a blood pressure of 200 millimeters of mercury is dangerously high. In the case of a patient of my own whose blood pressure reached 240, a stroke had already occurred before he came under my care. Under treatment his blood pressure fell to 170 mm. Another patient whose pressure was 195 at the commencement of treatment soon showed a decrease of 55 mm. These figures should be compared with the blood pressure of a healthy man of thirty, which may be set down as 120 millimeters of mercury.

By way of explanation, it may be stated that pressure in the blood tubes of the body corresponds to steam pressure in the pipes attached to a boiler. This pressure in the case of the boiler is indicated by a gauge to be, say, 70 lbs. The steam pipes will bear this much pressure without the slightest danger of bursting. Should the pressure rise to double this amount, a pipe is likely to burst at its weakest point. So in the case of blood pressure. The arteries easily stand a pressure of, say, 150 mm.; but when this increases to 200 or more, there is danger of an artery bursting. As the arteries in the brain are usually most delicate in structure, it is here that rupture generally occurs, and apoplexy results, followed by paralysis of an arm, a leg, or one side of the body. Sometimes the artery which bursts is in an eye instead of in the brain.

Just as the temperature is taken with an instrument called the thermometer (heat measure), so blood pressure is taken by an instrument known as the sphygmometer (pulse measure). This consists of a pneumatic band which is strapped round the arm and connected by rubber tubing with a column of mercury, alongside of which is a scale. By means of a rubber bulb, air is pumped into the armlet until the radial pulse can be no longer detected by the fingers placed upon the wrist. The air exerts equal pressure on

the artery and mercurial column; hence, the pressure shown on the scale represents the pressure required to stop the flow of the blood. Pressure is now decreased by allowing air to escape until the blood can force its way through the artery beneath the pneumatic armlet. At this point a reading is made which indicates systolic blood pressure,—that is, blood pressure during contraction of the heart. To those who have followed this description, it will be seen that the sphygmometer is a valuable indicator of the condition of the heart and bloodvessels. The instrument is never abandoned by those who have used it for a time in a careful and systematic way.

Blood pressure is dependent on the force of the heart beat, the volume of the circulating blood, the elasticity of the arterial wall, and the size of its lumen. In health, increased force of the heart's action is neutralised by an increase in the calibre of the tubes through which the blood is being forced. Then, too, the blood tubes are very elastic, so that at each contraction of the heart there is a momentary stretching of the arteries. In conditions of disease this is not the case, the arteries becoming, in varying degrees, rigid inelastic tubes. Anything, therefore, such as excitement or physical exertion, which increases the force of the heart's action, puts increased pressure upon the arteries, and they, because of their diminished power to accommodate themselves to altered conditions by stretching and dilating, quite naturally tend to give way at some weak point; hence, rupture and hemorrhage occur, generally in the brain, with resulting paralysis.

What are the every-day things that increase or diminish blood pressure? This is a question of the greatest practical importance. Blood pressure is quickly increased by strenuous physical exertion, by excitement, and emotions, such as anger. Such increase is, however, temporary. A common cause of permanent increase in blood pressure is chronic inflammation of the kidneys—Bright's disease. A considerable increase in blood pressure tends to react upon the heart, making its action somewhat feeble. This sometimes leads to the mistake of administering heart stimulants and tonics; thus digitalis, strychnine, or alcohol may be given. Nothing could be more unfortunate, for the

heart is in no wise at fault. An eminent clinician protests "against the accusation of these striving hearts of complicity in the arterial disease. They are stout and faithful to the end even in defeat." Reason teaches that the better way is not to stimulate the heart, but to decrease the blood pressure. This may be easily done by the avoidance of tea, coffee, alcohol, and tobacco, all of which raise the blood pressure.

The treatment of high blood pressure may be physiological or medicinal. Physiological treatment is the most important, for it alone produces a permanent beneficial effect. Excellent depressory results are produced by dieting alone. In the two cases already mentioned, the falls of 70 mm. in the one and 55 mm. in the other were brought about chiefly by diet. The greater of these drops occurred in a fortnight. Flesh foods, including soups and gravies, should be entirely discarded. Meat extracts are nothing less than dangerous in cases of high blood pressure. Fruits, green vegetables, cereal foods, and milk, especially in the form of sour Bulgarian milk, may all be given very freely. Eggs should not be too freely used. Over-clothing and over-exertion should be avoided, but moderate exercise in the open air is beneficial.

Neutral and tepid baths are valuable depressory agents. The most effective baths are—

(1) A warm immersion bath daily, on rising, for twenty minutes; temperature 95° at the commencement, gradually reduced to 85°

(2) The electric light bath, provided cold compresses are kept constantly around the neck and over the heart. The electric light bath should be followed by the salt glow and massage.

(3) The artificial Nauheim bath. This or the oxygen bath may be taken two or three times a week.

(4) The hydro-electric bath.

Very cold baths should be avoided.

8. Plaster-of-Paris for Old Ulcers.—"Kindly give a satisfactory method of treating old sores and ulcers which have failed to heal under ointments and other applications."

Ans.—A method of successfully treating chronic ulcers which have failed to improve under other lines of treatment is by means of dry plaster-of-Paris. The ulcer and the skin which surrounds it is first scrubbed with rectified spirit applied on a clean piece

of gauze. The ulcer is then covered with three or four thicknesses of sterile gauze, over which is spread a thick layer of dry, powdered plaster-of-Paris. On the plaster-of-Paris is laid clean cotton wool, the whole dressing being finally covered with oil silk or gutta percha, and firmly bandaged in position. As the dry plaster rapidly absorbs all unhealthy discharges, it should be changed every few hours for the first day or two, the gauze underneath the plaster being left adhering to the flesh. On the second day the sore will look clean and healthy, and the plaster need not be changed so frequently. Within from five to ten days old ulcers which have withstood all ordinary methods of treatment will be found to have completely healed.

While the plaster-of-Paris method is particularly well suited to the treatment of old varicose ulcers of the legs, it will be found to have a wide range of application. Infected wounds of all sorts quickly become clean under dry plaster-of-Paris. It is destructive to germs, is an efficient deodorant, and because of its porous nature, allows all gaseous products of decomposition to be carried off. In particularly obstinate cases the plaster-of-Paris may be left off at the end of five or ten days, and the following ointment applied:—

Vaseline	...	...	2 ounces
Balsam of Peru	...	...	2 drams
Zinc Oxide	...	...	1 dram
Silver Nitrate	...	...	10 grains

No water should be applied to old sores which are undergoing this treatment. The ulcer and its surroundings may be cleansed once or twice daily with rectified spirit of wine.

9. Spirit and Iodine for Wounds.—"What method of keeping wounds clean is considered best by physicians? Do you advocate the use of disinfectants?"

Ans.—By far the most satisfactory way of keeping cuts, wounds, and bruises clean is the spirit and iodine method. This method is now widely used by surgeons both before and after operations as well as in the treatment of wounds made accidentally. The method consists in painting the wound and its surroundings with a solution of iodine in spirit. This solution must be freshly prepared, and is made as follows:—

Two grams of solid iodine are dissolved in 100 cubic centimeters of rectified spirit of wine. Only small quantities should be pre-

pared as the solution loses its activity to a greater or less extent in a week or two.

My personal experience of this method is satisfactory beyond expectation. I have used it for both operation wounds and wounds accidentally inflicted, and in every case these wounds have healed very quickly without a sign of inflammation or infection. Sterile dressings should of course be applied; and in the case of accidental wounds, these dressings should be changed every day for the first few days, the skin surrounding the wound and the wound itself being painted at each dressing with the spirit and iodine mixture.

10. How to Sterilise the Hands.—A nurse asks about the best method of disinfecting the hands before dressing wounds or assisting at surgical operations.

Ans.—A new method of disinfecting the hands which bids fair to be most successful is the spirit method. When alcohol is brought in contact with microscopic animals or plants, it very quickly destroys them. Thus microbes embedded in the skin as well as those on its surface are rendered incapable of growth by thorough scrubbing with spirit. Strong methylated spirit is as useful as rectified spirit for the purpose, and of course is very much cheaper. The success of the method depends on the absolute dryness of the skin at the time the spirit is applied. For an hour before, the hands must not be washed in water, nothing but the spirit being used, and this applied with brisk rubbing by means of a piece of sterile gauze. About 7 ozs. of spirit will satisfactorily sterilise one pair of hands. The patient's skin as well as the nurse's hands may be sterilised by this method, which is being used with great success in European military hospitals.

As to personal experience again, for several years past it has been my practice after operations to avoid the use of water and to use spirit only to cleanse wounds, and good results have fully warranted the practice.

11. New Treatment for Syphilis.—“Is there any cure for syphilis? For many months I have been unable to eat solid food because of ulcers in the mouth and throat which I have reason to believe are syphilitic. What would you advise me to do?”

Ans.—Syphilis is a dreadful disease which innocent persons sometimes get, for it is caused by a germ which may be conveyed

from one person to another through the medium of table utensils, dental and surgical instruments, pencils, money, whistles, and other things which are put into people's mouths. The germs of this disease may also be distributed to the innocent on handkerchiefs, towels, and bed linen, and in a variety of ways. Fortunately, the germs are so short-lived, being killed by a few hours' drying, that infections in the above-mentioned ways are not very common. Syphilis may be inherited, and nothing is perhaps more dangerous to its surroundings than the syphilitic baby. It requires close personal care and handling in feeding and bathing, so the opportunities for contracting the disease from it are numerous and frequent. Nothing really new in the treatment of syphilis has been discovered for centuries until within the last few years. During this time an eminent scientist has devoted himself to the study of chemical substances which are fatal to the germ of syphilis. This germ is a spiral germ, a *spirillus*, and he has at last succeeded in finding a substance with a very long name which possesses power to kill spirilla in so weak a dilution as one part in six million. This chemical substance is known as dioxydiamido-arseno-benzol. The treatment by means of this substance consists in the injection of a proper dose into the large muscles of the back, or buttock. In suitable cases this drug has proven very successful, or at least has been apparently successful, for no one can definitely say that it absolutely cures the disease as too short a time has elapsed to make such a statement worth the utterance. After the injection, the patient must keep as quiet as possible for at least four days, otherwise a large painful lump will form. Some striking cases of relief, and possible cure, have been quite recently reported in a number of scientific papers. The sufferer from this disease should of course consult a physician, leaving it with him to decide whether or not this new treatment is appropriate to his case.

12. Colds and Weak Chest.—“My wife, aged 23, comes of healthy stock, but had inflammation of the lungs when twelve years old. Doctors say she has a weak chest. She has a troublesome cough at times, and frequent colds, with discharge from the nose, a little phlegm, and occasionally a little blood. She has been advised to use cod liver oil and malt

extract. I would like to know the value of these, also if it is wise to have the window up at night as long as the bed is not in a direct draught, and if flannel underclothing has anything to do with the perspiring which troubles her. Please advise as to diet, deep breathing, and bathing."

Ans.—I fear your wife's weak chest, cough, expectoration, perspiration, etc., indicate tuberculosis. You should have the sputum examined at once by a bacteriologist. You may have this done locally, or, if you prefer, a specimen could be sent to the Sanitarium. The morning sputum should be collected in a small bottle with a wide mouth. About a teaspoonful or two of the expectorated matter is sufficient, and this should be mixed with twice its bulk of five per cent. carbolic acid solution. This is easily prepared by adding one part of pure carbolic to twenty parts of water. After tightly corking and sealing the bottle, wash it all over with the carbolic acid solution, thoroughly washing the hands in the solution as well. Then pack the bottle in clean cotton in such a manner that it will not be broken in transit. I would further advise that until you have a definite report from the bacteriologist you take every precaution to prevent the infection of others should the case prove to be one of consumption. The chief danger is from the sputum. This should be collected in bits of paper which are burned. Your wife would also do well to provide herself with separate dishes which are thoroughly washed after using in hot soap suds. She should occupy a room by herself. As to draughts being avoided, it is not draughts that cause consumption, but rather the avoidance of them. In other words, an ample supply of pure air both day and night is indispensable to both the cure and prevention of consumption. The out-door life is best. With a life in the open air should be mentioned clothing. A patient having tuberculosis should be kept just comfortably warm. Flannel next the skin is of no importance; indeed, loosely-woven garments of cotton or linen are far better as they absorb perspiration more readily, and dry more quickly than wool. Over these loose garments should be worn as many as may be required for warmth and comfort. The clothing should be evenly distributed, except that the extremities may be more warmly clothed than the rest of the body. Several pairs of woollen stockings

and large loose boots should be worn if required for warmth. Warm, tepid, and cool sponging, depending on the patient's temperature and other conditions, are both comforting and beneficial in the treatment of tuberculosis. Diet is very important. Eggs, milk, cream, butter, and other fats and oils should be as freely eaten as desired. All dairy products should be sterilised. Sterilised butter and cream are far superior to cod liver oil. Ripe olives and olive oil are also valuable foods in tuberculosis. The balance of the diet should consist of toasted or otherwise well cooked cereal preparations, fresh ripe fruits, and easily-digested fresh vegetables. Of the Sanitarium health foods, the most valuable in this disease are gluten, malted nuts, bromose, melsitos, and the dextrinised cereal foods, such as granose, grainut, and corn flakes. Breathing exercises are beneficial, but must be carefully employed. Gentle deep breathing in the open air is the most helpful breathing exercise. In the way of a simple hydropathic treatment, the most effective procedure is fomentations once or twice daily to the chest, both front and back. At the back the fomentations should extend from the nape of the neck to the small of the back. The fomentations should be followed by brisk rubbing of the skin with cool water, and with olive oil after drying.

13. As Good as Radium.—"I have had for the last six months a growth between the thumb and finger,—a rough, hard, horny substance, not raw, but slightly painful when jarred. How may it be removed?"

Ans.—By means of solid carbon dioxide such growths as that described may be quickly, easily, and painlessly removed. Solid carbon dioxide may be prepared from liquid carbonic acid gas. The solid gas is very much colder than ice,—72 degrees centigrade. When applied to a wart or other growth it quickly freezes and destroys it. After the freezing a blister forms, to be soon followed by a crust which must on no account be removed. When this crust separates of itself, soft new pink skin appears beneath, and the growth is gone never to return. The application must of course be made by one who thoroughly understands the method of preparing and applying the solid carbon dioxide. This substance is also useful in the destruction of cancers of the skin, lupus, and other skin diseases.

14. Hernia, or Rupture.—"What is the cause and nature of a rupture? The one in question is a lump which alters in size from day to day. 2. What is the best course of action for the sufferer to take? The lump sometimes gets almost, if not quite, as big as a pigeon's egg. 3. Is such a rupture a very serious affair?"

Ans.—A hernia or a rupture of the kind described consists of a projection of some portion of the abdominal contents through an opening in the muscles which form the abdominal wall. This protrusion may consist of a knuckle of bowel or of a portion of the greater omentum. The separation of the muscles is most often caused by a lift or strain.

2. In the case of a young man who has had a rupture of several years' standing, the wisest course of action is to undergo a surgical operation, which consists in sewing up the opening through which the bowel, or omentum, forces its way. The next best line of treatment is the wearing of a properly-fitted truss, and in any case this should be done until the operation has been performed.

3. Yes, a hernia is a serious affair, though not generally regarded as such. Lives have been lost through strangulation of the loop of bowel which projects through the abdominal wall into a hernial sack. The constant wearing of a properly-fitted truss generally prevents the occurrence of such an accident. If the truss, however, does not fit, which is only too often the case, the bowel may be forced out by lifting or some other muscular action, and strangulation may result.

15. Borax Banishes Cockroaches.—Though not a strictly medical question, a "cure for cockroaches" may not be amiss in this department. My attention has recently been called by a reader of "Chats with the Doctor" to the fact that so simple and harmless a substance as powdered borax will drive these kitchen pests away. Simply sprinkle the borax freely in their runaways and the roaches disappear almost at once.

16. Pine-Tar for Eczema.—"I am suffering from eczema. Skin is very rough, scaly, and itches cruelly. What treatment do you advise?"

Ans.—I have found Stockholm tar very helpful in the treatment of intractable cases of eczema. It is applied in the form of an ointment once or twice daily, the part being afterward covered with sterile gauze held in

place by a bandage. The ointment is prepared by thoroughly mixing one part of Stockholm tar with four parts of white vaseline. This gives a twenty per cent. tar ointment. In the case of those who can conveniently use the tar ointment at night only, the skin may be cleansed in the morning with a little rectified spirit, afterward rubbed with a little vaseline and dusted with talcum powder. F. C. R.

[We have received other questions which for lack of space we must defer answering until next issue.—Ed.]


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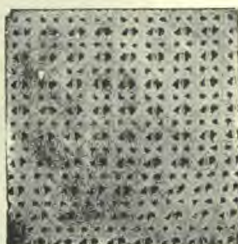
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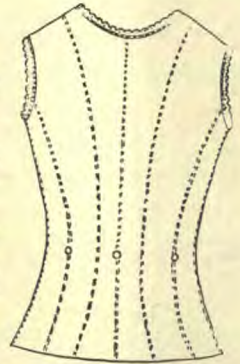
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