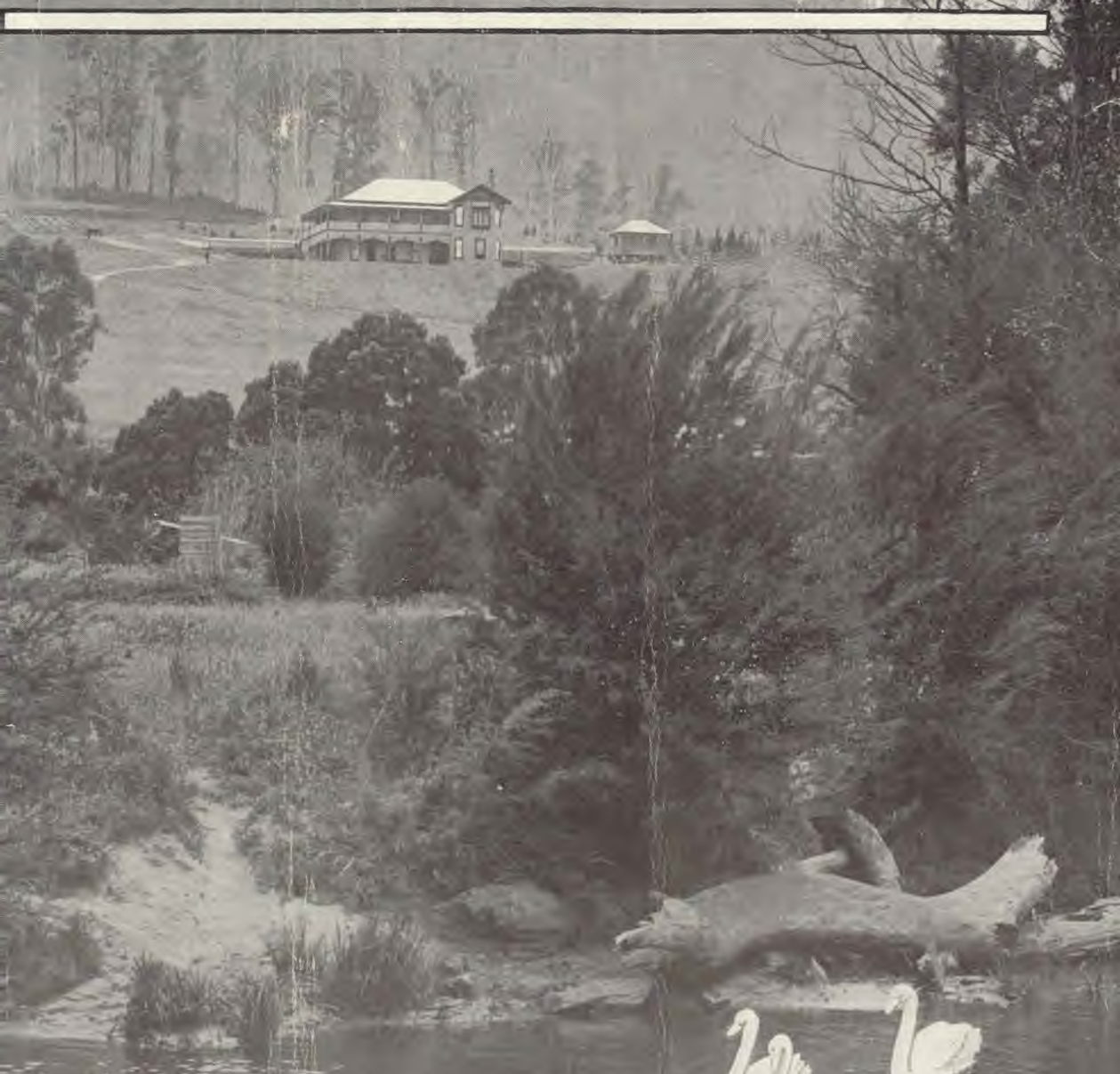


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THE TALK OF THE OFFICE



"In proportion as society refines, new books must ever become more necessary."

THIS Magazine is designed and issued for the benefit of the health and the betterment of the people. Our whole aim lies in this direction, and we are pleased to be able to state that many are reading it to the benefit and up-building of that wonderful piece of machinery—the human body. There lie between these covers many practical helps toward the improvement of the people physically, which, if practised, will bring help and blessing to many a home. We bespeak for it a careful perusal.

We would especially recommend the "Chats With the Doctor" department, which is always brim-full of practical knowledge, and which, if put into practice when the conditions are such as call for advice, will save much sickness and suffering. In order for a person to be happy, he must be in good health; for health is indispensable to happiness; and what will a man take in exchange for his health? As soon as that is forfeited, all things else pertaining to this world sink into utter insignificance, and are not to be compared to that priceless boon—good health.

It is the aim, then, of the publishers of this Magazine to put forth good instruction through the pages of this messenger which will prove a FRIEND IN NEED; for a friend in need is a friend indeed; and that is what this Magazine is—a true friend in the time of need.

Prevention is better than cure every time; but as most people are more careless of their health than they are of any other treasure which they may possess, there will ever be the need of that which will tell them how to recover the precious possession when once they have awakened to the fact that it has departed. As we send forth this messenger, therefore, which will in its every issue carry good tidings of how to get well to those who are in need of such instruction as this Magazine can give, we would bespeak for it a reception into every home. As prevention is better than cure, there will also be found much practical advice in these pages which will enable one to keep in health, and which, if followed, will be the means of warding off much sickness which the human frame, through ignorance as to the laws of health, is so prone to. Therefore we send this Magazine on its way with the assurance that it will always be a FRIEND INDEED.

LIFE AND HEALTH is so much appreciated by advertisers that we have been obliged to encroach a little upon our space in this issue; but we intend to increase the size of the Magazine by eight pages, beginning with next issue.



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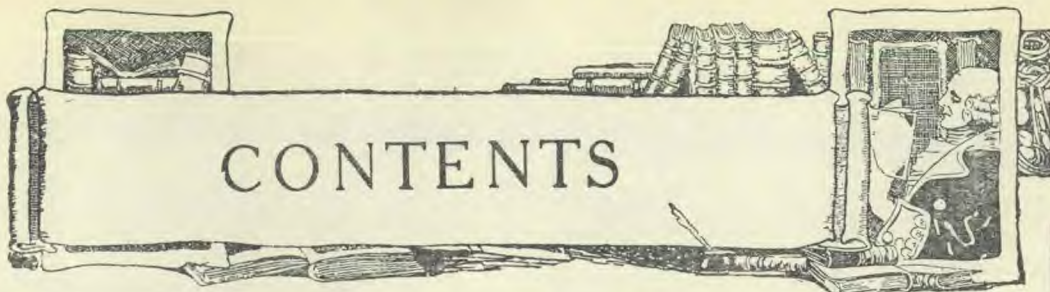
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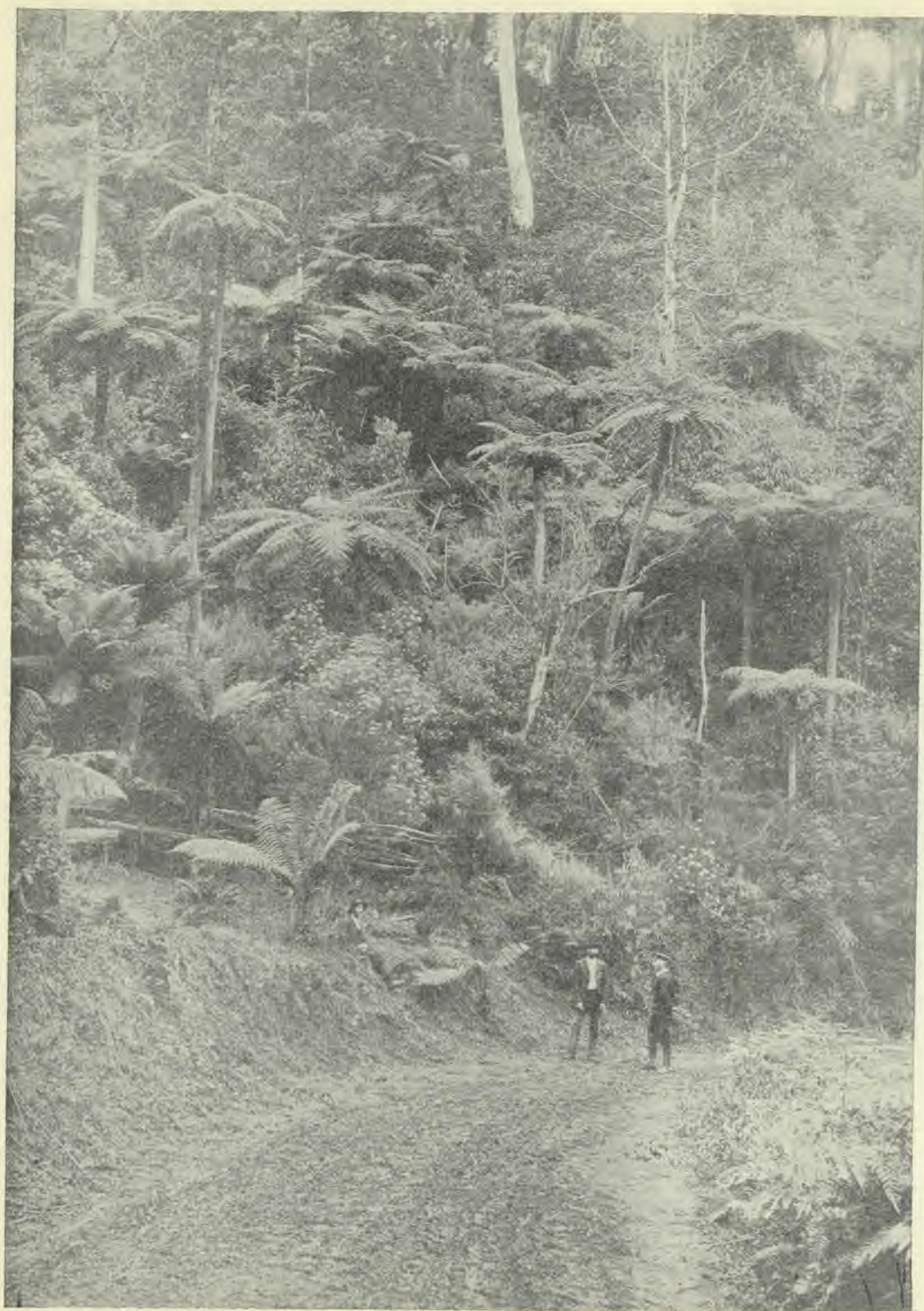
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Our cover design is a reproduction of a photograph of a distant view of the Warburton Sanitarium taken from the opposite side of the River Yarra by Mr. Sears of Melbourne.



N. J. Caire, Photo, Melb.

FAIRY BEND, WOOD'S POINT ROAD, WARBURTON, VICTORIA



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Vol. 2, No. 3

Melbourne, Victoria, Australia

June-July, 1912

The Importance of Cleanliness

NATURE abhors dirt, and will, if left to herself and given time, set in operation laws which will either remove dirt or cause it to become harmless. The word "dirt" has lost something of its original meaning, for it is said to be derived from the old Saxon word *drit*, meaning excrement. But in the course of centuries, the word "dirt," or *drit*, has lost a considerable portion of its terror, and now it has a far less definite meaning, for it is applied to many things which are not in the least dangerous. For instance, that which the stoker or the navy regards as dirt is, in the eyes of science, clean dirt, and quite harmless. Labouring men who at the close of the day's work are begrimed with coal dust, or clay, or mortar, are usually very scrupulous in removing every vestige of dirt from their faces and hands before they make their appearance in social gatherings. Yet the mud and soil and coal dust and ashes and paint and varnish are practically harmless. This kind of dirt, however, is sure to be removed because of its unsightly appearance, while

that which is real dirt, and a positive menace to human life, may escape unnoticed and unsuspected. One of the most serious crimes of this age is uncleanness, for it is productive of death and disease in every portion of the globe. The remedy for much preventable disease is the organisation of a campaign against dirty hands. In every city there should be made available public lavatories where the citizens may wash their hands. In every home there should be ample facilities for washing hands. Especially should cooks and those who have anything to do with the preparation or serving of food, be instructed to keep their hands thoroughly clean, not by an occasional wash when convenient, nor merely by the usual washing upon rising in the morning, but by repeated washing of the hands whenever they have come into contact with any possible form of pollution.

It is said that bacteriologists have experimentally shown that after a dozen or so of average men and women have dipped their hands, successively, into a small basin of water that that water swarms

with colon bacilli. "As the full force of this nasty revelation presses home upon us," says Dr. R. G. Eccles, "we are constrained to cry out to the passing crowd: 'Wash your hands!'"

Professor Sedgwick, in his great work on "Principles of Sanitary Science and the Public Health," says:—

"The experience of the race has shown that one of the most effective vehicles of disease is dirt. . . . Dirt is dangerous, not because it is 'of the earth, earthy,' but because it is too often 'drit,' or excrement, and the love of cleanliness or the abhorrence of dirt, which is gradually becoming established in all highly civilised peoples, is doubtless a resultant of the deadly bought experience of the race, which has shown that dirt is dangerous, and therefore to be dreaded. Cleanliness, or the absence of dirt, is not merely an æsthetic adornment—though doubtless an acquired taste; it is above all a sanitary safeguard, the importance of which has been learned by hard experience. In other words, to be clean is, in a measure, to be safe from infectious disease; and cleanliness applies not only to the person, but extends also to the personal environment, and especially to the food supply, the water supply, the milk supply, etc."

There are many ignorant persons in all centres of population who are ever ready to cry out against every attempt to make them live clean lives. They regard all such efforts as an interference with the liberty of the subject, forgetful, as they are, that their filth is a menace to the life and health of the community. One dirty back-yard, or one foul drain, or loathsome cesspool may pollute the air and water supply of a whole neighbourhood. Are the lives and liberties of a whole community of people to be jeopardised because of the uncleanly surroundings of one citizen?—Nay; health laws and municipal regulations which aim at producing private and public cleanliness should have the support of all right-thinking people, and those who, through ignorance of the results to the community and themselves of unclean habits, should be

taught the importance of cleanliness, and if moral suasion is insufficient, civil force should not be lacking. Private interests should always be subordinated to the public good. The public health should be paramount.

In the work we have already quoted from, Professor Sedgwick, while setting forth the supreme importance of personal cleanliness, shows that even after exercising the most scrupulous care in personal habits, yet disease may be contracted through carelessness in public supplies. He continues:—

"It follows as a matter of course that personal cleanliness is more important than public cleanliness. In other words, that the avoidance of personal filth is far more necessary than, for example, is cleanliness of streets, dooryards, alleys, and the like. And yet public supplies are public dangers. If the public water supply, for example, be infected, no matter how scrupulously clean the residents of a city may be in respect to their persons, they will run very serious risks of disease if they drink from it. The same thing may be said of the public milk supply; and nothing is more impressive to the practical sanitarian than to witness an epidemic of typhoid fever in a wealthy and well-cared-for quarter of a city, where the inhabitants are personally clean, the houses are exceptionable, the plumbing perfect, the drains in good condition, the tableware and linen spotless, and yet typhoid fever is present, perhaps, in nearly every family, because of a polluted and infected milk supply or water supply. It must never be forgotten that the sanitary chain is no stronger than its weakest part, and that no matter how clean and wholesome all other conditions may be, if there is one point from which the germs of infectious disease may find admission into the body, danger may be imminent."

The annual loss to every community which results from preventable disease is beyond calculation. The great majority of people have no right to be sick. If they were scrupulously clean in their persons, and formed the hygienic habit of

frequently washing their hands, especially taking care to do so before meals, as well as insisting upon all who prepare their meals keeping their hands clean also, and to all this adding the precaution of securing uncontaminated public supplies, many of our epidemics of contagious diseases would automatically disappear. The remedy is within our reach, but it cannot be made efficacious without the co-operation of all citizens. Each one must do his part, remembering that if he contracts a contagious or infectious disease his life is not only jeopardised, but he is a menace to the whole community. Avoid carrying disease on the hands by frequent washing. Remember the important exhortation:—

WASH YOUR HANDS.

A. W. A.

Dietetic Reform

MAN is a reasoning being, and naturally wants to know the why and the wherefore; this is his divine prerogative, for he was created in the image of his Creator; he originally was formed with a will power, the power of choice was unalienable. Man, however, does not always reason correctly; very frequently his judgments are not true, *i.e.*, they are not in harmony with the laws of the One who formed him. He lives so constantly under the power of distorted law that he actually is deceived as to what is right and what is not right; or, to put it in other words which have exactly the same import, what is best or not best for him. Man does not, however, recognise that what is right is best in regard to his own welfare; he is content with things as they are, and fails to recognise that he might live in a freer and more life-giving atmosphere. A man who has been sleeping in an ill-ventilated bedroom does not recognise that the air is contaminated, and he who lives in the slums of our cities is altogether oblivious of the fact that the air he breathes is saturated with all sorts of impurities. It is mostly experience and not reasoning that brings a man to a

right understanding. The weary sleeper will recognise the poor quality of the air of his bedroom on re-entering after a few inhalations of the purer outside air; and the man of the slums, if he is fortunate enough to get a holiday in the bracing, almost germless air of the mountains, or the health-giving ozonised atmosphere of the seaside, will naturally conclude that the city air could not possibly be as pure as he thought it was.

So it is with our eating and drinking. We have got accustomed to the general routine, and believe it is as good as it needs be. Anything that departs from the meat-eating, tea-drinking, and tobacco-smoking customs is considered as faddy. "My father," one maintains, "enjoyed his pipe and drank his beer and died of old age." "My mother drinks abundance of strong tea, and still maintains good health." "I am sure tea does me no harm, and my pipe does not injuriously affect me." These and similar statements we hear from every quarter. When you come to ask the question, "Are you yourself perfectly healthy?" or "Do you suffer with headache, indigestion, constipation, etc.?" or "Are you always ready for your daily work?" or "Are you free from pain?" the answer is rarely in the affirmative. All suffer to some extent; they are not what they might be, and yet they are not able to give a satisfactory reason why such is the case. Very few enjoy really first-class health, and in the great majority of cases the reason lies in improper food and harmful drinks. Ill-health is much more common at the present day than with our fathers and grandfathers; the dentist undoubtedly is a modern necessity; and the reason is we live differently from what they did.

The drinking of tea and coffee is comparatively of recent date. The first cup of coffee made in France is said to have been drunk by Louis XIV. It was then worth £5 16s. a pound. Two hundred years ago tea taverns were prohibited in England because they threatened the peace and good order of the kingdom. It is only during the last fifty or sixty years

that tea and coffee have been so commonly used among civilised nations; previously the prices of these beverages were prohibitive. Sir William Roberts, M.D., F.R.S., in his "Lectures on Dietetics and Dyspepsia," after proving from careful analysis that tea and coffee have decidedly retarding effects on digestion, both in the mouth and the stomach, asks the question, "Is this retardation wholly, or even at all, evil? Do we healthy people take tea, coffee, wines, or beer, with our meals for some collateral good, and in spite of their untoward retarding effect on the chemistry of digestion, or is there really some good in this retardation itself? and do we unconsciously use these beverages partly for this very purpose of abating the speed of gastric action?" His answer to these queries is somewhat startling, "The preparation of food among civilised races is carried to a high degree." They are made too digestible (!); they pass through the alimentary canal too quickly. "To burn fuel," he continues, "economically, and to utilise the heat to the utmost, the fire must be damped down so as to insure slow as well as complete combustion. So with human digestion. Our highly prepared and highly cooked food requires, in the healthy and vigorous, that the digestive fires should be damped down in order to insure the economical use of food." p.p. 62, 63.

This is an argument he uses for the "healthy and vigorous only." We would ask, is it true that the general experience is that our food is too digestible, that it "passes through the alimentary canal too quickly"? Does the sale of millions upon millions of boxes of pills prove this statement? Metchnikoff, the famous successor of the renowned Pasteur, is certainly not of this opinion. He is a believer in the Darwinian theory, that man has developed through vegetable-eating anthropoid apes. The eating of meat, the flesh of animals, is an upward development, a development that is necessary for this fast-living age; but this deservedly esteemed investigator maintains that the development in man's anatomy does not

correspond to that of his appetite, that he still retains the long alimentary canal of his progenitors, and suggests that nature be aided in her process of evolution by shortening the unnecessary long alimentary canal by the surgeon's knife! According to this theory the lion and the tiger, flesh eating animals, with their decidedly short alimentary canal, are far ahead of the human animal as far as the alimentary canal is concerned.

We would ask the question, Has man improved in his powers of digestion, in his general health, as a result of the changes in his diet during the last century? All thinking people must admit that the cold facts point strongly to the negative. The necessary increase of hospital accommodation, the developments in dentistry and surgery, the enormous sale of patent medicines, the great increase in the army of medical men, all give a decided negative answer to our question. Undoubtedly our food is rendered more easily digested by many of the modern methods of preparation, but most certainly the greatly increased meat consumption, the addition of tea and coffee, and the smoking of tobacco far more than counterbalances these improvements. The "damping down" of the "fires" of digestion have been altogether too pronounced.

The wonder is that man gets on as well as he does, that he is not a more confirmed dyspeptic, and that he enjoys any comfort at all. Nature, however, is very accommodating. If man wishes to live on a lower plane, she will make it as easy for him as possible. If he will not use his muscles, she will provide crutches. A quarter of a drop of some snake poisons will quickly cause death to the human being, but by beginning with very much smaller doses, and increasing their strength gradually, the system can become immune to snake poisoning. Through the repeated injections of small doses of the poison, nature produces an "antibody" which antagonises the poison. Dr. Calmette's "antivenom serum" is prepared from the blood of animals made immune in this manner. Similarly the body may

be rendered unresponsive to such poisons as opium, morphia, strychnine, belladonna, antipyrine, and almost all drugs by beginning with small doses and gradually increasing them. One grain of morphia or twenty grains of antipyrine would be very dangerous first doses, but by habitual use several grains of morphia, or perhaps drams of antipyrine could be taken without apparently any immediate evil. Tea

containing three or four grains of theine would keep a man awake all night, but the regular tea-drinker can take several cups during the day without this effect. The question is, Are we wise in accustoming ourselves to the daily taking of large doses of poisons? The consumption of large doses of opium, morphia, strychnine, etc., might fortify us against poisoning by these drugs, but no one



Sears Photo, Melb.

A HEALTHY HERD OF VICTORIAN CATTLE

and coffee contain powerful poisons—theine and caffeine. These alkaloids are recognised as being almost identical. One-eighth of a grain of this poison will kill a frog; five grains will kill a rabbit; seven and a half grains will kill a cat. In one pound of tea there is more than one ounce of caffeine, enough to kill seventy rabbits or fifty cats. The human body gets accustomed to quite large doses of this poison by repeated tea-drinking. To one unaccustomed to tea-drinking, a cup of

would continue such a course for this purpose, for it would be decidedly detrimental to one's general health and usefulness. We may get used to continued large doses of caffeine and other poisons that tea and coffee contain, but evil effects must and do follow, although they are by no means always recognised as a result of the tea and coffee. No improvements can be made on nature's machinery. We can readily believe it is so perfect that any interference on our part means loss.

We can unite with the psalmist in his statement, "I will praise thee; for I am fearfully and wonderfully made; marvelous are Thy works, and that my soul knoweth right well." Our praise, our regard for our Creator's work can be best shown by living in harmony with His laws, by acting as though His provisions for our good were perfect, as we know they are, and not by a continual interference with His adjustments. W. H. J.

Bovine Tuberculosis

By George H. Heald, M.D.

THE work of the English Royal Commission some time ago completed, emphasizes the importance of care in selecting cow's milk, especially for young children. From the report it seems certain that children do contract tuberculosis of the bovine type from the use of milk, and though this is not pulmonary tuberculosis, or rarely so, yet it often gives rise to grave or even fatal conditions. This, in the light of the careful investigations of the commission, cannot well be denied. However, a recent issue of the "Annals of the Pasteur Institute" contains a statement on the other side, which coming from that source will bear repetition.

Dr. P. Chaussé, veterinary inspector at Versailles, has conducted a series of investigations to determine by what means cattle suffering with pulmonary tuberculosis are infected. The account of his researches is published in the "Annals of the Pasteur Institute," July 25, 1911, from which the following translation of his conclusions was made:—

"The most rapid and most certain method of causing pulmonary tuberculosis in cattle by means of a minimum dose is by inhalation.

"Experimental infection by inhalation alone results in primary thoracic lesions corresponding exactly to the characters of spontaneous bovine tuberculosis.

"Bovine tuberculosis in old animals is of inhalatory origin in at least ninety-eight per cent of the cases.

"Tuberculosis in calves is of inhalatory origin in ninety per cent of the cases, and is congenital in the rest.

"Cow's milk being even in the raw state and in large quantity practically without danger to calves, it is less so for the child who drinks it usually mixed and boiled.

"The hypothesis of Behring is controverted.

"But we do not pretend that for the human race the measures for the prevention of bovine tuberculosis are unnecessary. Our idea is, that without neglecting any possible source, it is important above all to war against human and family contagion.

"The prevention of tuberculosis in cattle should be guided by these same considerations."

That is, in plain language, the easiest way to infect the lungs of animals is to have them inhale the germs, and when they inhale germs in this way the same kind of lung disease takes place as is found in animals who have the natural disease. In at least ninety-eight per cent of the cases of old animals the disease is taken through inhalation. In ninety per cent of calves it is taken in the same way, and in the other ten per cent it is transmitted from the mother before birth. This indicates that the calf practically never takes the disease on its milk. If the calf which lives entirely on milk never takes the disease that way, how much less the human infant which lives only partially on cow's milk, and that often boiled.

We are glad, however, that this writer does not counsel carelessness as regards cow's milk. His anxiety is lest, in looking toward milk as a possible source of danger, we overlook the real danger of house infection from other human beings, which is probably responsible for more than seventy-five per cent of the tuberculosis.

No labour, pains, temperance, poverty, nor exercise must be grudged that can gain health.—*Emerson*.

The Defences of the Body

ASK any Australian youth the reason for the building of Dreadnoughts and compulsory military training, and the answer will be given, "To be prepared to defend our country."

The military authorities for some time have been studying to find the most efficient methods of defence, and it is incumbent upon every person who enjoys the privileges of citizenship to co-operate with the powers that be.

Has it occurred to the reader that just as our country is provided with protectors to resist an invasion, so nature has arranged defences in the body as real as those that surrounded Port Arthur. The



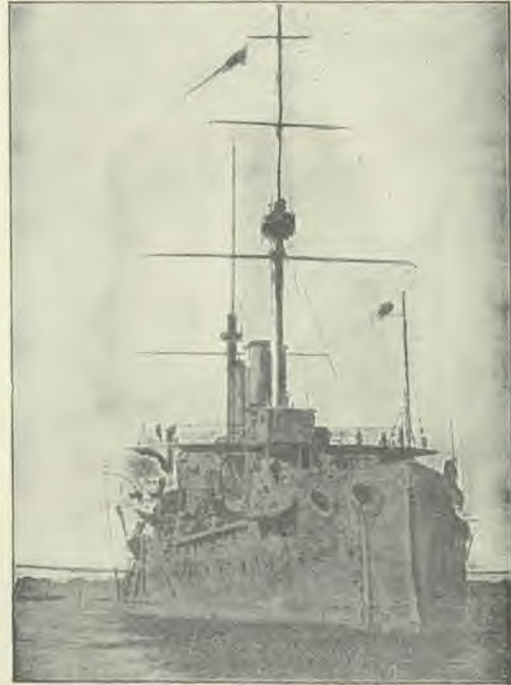
SURRENDER OF THE RUSSIANS AT PORT ARTHUR

constant hammering of the Japanese guns for months battered down those defences, and, in like manner, our persistent violation of nature's laws will ultimately cripple our battle against disease.

When an epidemic comes into town, why can some people run all kinds of

risks while others become ill upon the least exposure? We shall learn the reason if we become acquainted with the defenders of our body.

Of great importance is the blood. To one who has not studied this wonderful nutritive fluid a drop of blood resembles a



A JAPANESE BATTLE SHIP OF THE PORT ARTHUR FLEET

drop of red ink. The picture would present a different aspect if our reader could examine it under the microscope. There would be seen a clear fluid part called the plasma, and innumerable small bodies called corpuscles, or cells. In a drop the size of a pin's head there are about 5,000,000 red cells and 7,500 white cells. The fluid part contains substances which cannot be discerned with the eye, but their action has been demonstrated. The blood has the power of making protective substances when a call comes to fight disease. When a person has typhoid fever the blood begins to make a substance which retards the progress of the typhoid germ. Under the microscope the germs appear

to be having a hard time in moving about, and by degrees they gather in clumps and cease to work.

Other protectives in the plasma dissolve germs and counteract their poisons. Another has the power to render the germs more palatable so that the white cells devour them more eagerly.

A German scientist discovered that the horse has a high resistance against diphtheria, because its blood makes a stronger protective, called antitoxin, than does the human being. He conceived the idea of preparing the blood of the horse in such a manner that it could be introduced into human beings suffering with diphtheria. In this way the patient is given the resist-

Healthy blood is a disinfecting fluid, which destroys germs as rapidly as they enter the body. Another important function of the white cells is to assist in the clotting of the blood. Were it not for this power, we would bleed to death from hæmorrhages of apparently trivial nature.

Nature has put something bitter in the orange rind to discourage parasites from eating up the orange, just as a mother puts aloes on the baby's thumb to prevent the child from sucking it. In the same way nature has put something in the normal mucous of the nose, throat, and lungs that not only repels germs, but actually destroys them, so that influenza, pneumonia, and tuberculosis germs when inhaled have no ill effects.

Among the other body defences are the acts of vomiting to relieve the irritated stomach, the profuse flow of saliva to wash out from the mouth something obnoxious; the gathering of tears to wash out a foreign body in the eye; formation of a corn to protect the nerves from undue pressure, and to warn the wearer to get properly fitting shoes.

A rise of temperature, or what is known as fever, is not one of nature's burdens. It is the means by which she burns up poisons when the system becomes overloaded with such. When we have rubbish in the backyard, the best thing to do with it is to burn it up, but we don't want to burn up the house also. So in fever we call in the doctor to keep the fever in check, in order that the body will not be used up.

The liver is another important defender. It holds one-fourth of the blood of the body. It is the strainer of poisons. A man may eat almost anything he likes if his liver is sound, but when it begins to let poisons through, he must change his habits or put his name on the retired list.

In a future article we will consider the things that hinder the defences of the body and how to assist nature. E. M. H.



Children's Encyclopaedia

RED AND WHITE BLOOD CORPUSCLES, VERY MUCH ENLARGED

The tiniest drop of blood appears like this under the microscope, with more of these cells than there are people in London.

ing power of the horse. Since this wonderful discovery mortality from diphtheria has considerably lessened.

The white cells of the blood are wonderful defenders. When germs invade the body, myriads of these little creatures come to the rescue. Everyone has seen the hard swelling around a boil on the arm for instance. This is simply a wall of defence made by the little white soldiers of the blood. Sometimes the enemy is too strong, and breaks through the barrier, and the patient feels a swelling in the arm pit. This is another fortress to prevent the extension of the trouble. If blood poisoning takes place it is because the blood has not the power to make protectives, and to supply sufficient little white soldiers.

A Delusion and a Snare

THERE is an impression in the minds of many good-meaning people that there is no harm in taking an occasional glass of liquor, and that, if used in moderation, there is a place for the right kind in the home, where it will heighten the pleasure of the festive gathering and be in readiness in the event of sickness. At times there may appear to be some little ground for this impression, true or false.

It must be admitted that under its influence troubles of every sort seem for a while to be entirely forgotten, and all may go along as merrily as a marriage feast, and that the miserable beggar and those struggling against poverty become all at once independent and free of care as though they possessed untold wealth.

But are its benefits real and lasting? There is one view of this subject that is too frequently overlooked by those good-meaning people referred to, who favour the careful use of stimulants in the home—the influence of that liquor upon the future lives of the innocent children under their roof.

The children become familiar with spirits by its presence in the decanter on the sideboard, or in the prettily labelled and sealed bottle on the shelf—most dangerous snares, unwittingly set by their parents for their little feet almost before they leave the nursery, the time when their guardians should have been constantly impressing upon their sensitive minds, by precept and example, to touch not, taste not, nor handle the accursed thing, for “whosoever is deceived thereby is not wise.”

When these precautions are neglected in the home, we are forced to the conclusion, by observation and experience, that where there is one who will grow up to despise and shun intoxicating drink, many will fall under its influence, and ultimately fill the grave of the drunkard.

But the labour of parents who carefully train their children in this respect will not go unrewarded. Memories of the old home with its fragrant associa-

tions will be recalled with feelings of deepest gratitude by those who go out from the shelter of its peaceful roof.

A farmer once took a waggon-load of ore which he had discovered on his property into a city for examination, and waited anxiously to know the result of the test. He was delighted when informed that the ore really contained gold, as he had supposed; but when he learned that the cost of extracting the gold would



“THE OLD HOME”

be far greater than the worth of the gold produced, his countenance changed. The gold was not in it in paying quantities.

Is there not a similarity between the farmer's experience and the disappointment awaiting those who drink in the expectation of deriving real, lasting benefit from its use? The benefit that is supposed to be connected with the use of intoxicating drink is not realised in paying quantities to tempt any sensible person to meddle with it.

There is overwhelming testimony from eminent sources, reliable and convincing,



GRACEBURN WEIR, HEALESVILLE, VICTORIA

Sears Photo, Melbourne

to show that intoxicating liquor in any form is not indispensable in the sick room. Its purpose can be served with safer remedies and agencies that are harmless. However, at very wide intervals in a physician's practice it may perhaps be regarded by some as pardonable to permit a little stimulant in the form of wine or spirits for "mental effect" in a critical case, where the patient and his friends fully believe that death will result if liquor is withheld.



A LIFE ABSTAINER NINETY-
ONE YEARS OLD

As to its saving life in an emergency, I cannot speak with any degree of assurance. The only authentic instance of the kind I know of where drink was the means of saving life was the case of a man who, on returning to the well he had been digging,

found that during his visit to the public-house the well had caved in, and he reasoned that but for the drink he certainly would have lost his life.

On the other hand, in common with members of the medical profession, I can speak positively of cases of maimed bodies, broken limbs, and loss of life directly traceable to the use of intoxicating liquor.

A. S.

Public Smoking Will Have to Go

DR. WILEY, one of the incorporators of the Non-Smokers' Protective League, which sought a charter in New York recently, said not long since:—

"A man has a perfect right to drink, smoke, chew, or dip snuff in his private sanctum, but has not the shadow of a right to inflict unwholesome smoke and his vile breath on the community at large. There should be a law, strictly enforced by the authorities, prohibiting smoking and chewing in public places or on the cars, where other persons are obliged to be."

"What is this new campaign, doctor?"

"It's no campaign. It's a sure enough crusade against the use of tobacco in public," said he, "the abolition of public smoking and chewing, the purification of the air. It is a crusade for the relief of persons who do not use the weed and whose nostrils are outraged by tobacco smoke."

"Neither I nor my compatriots object to a man smoking his head off—if he cares to—provided he does it at home, or in the woods or meadows, but not where other human beings are liable to be. It is not fair."

Keep Going

WHEN one task is finished, jump into another. Don't hesitate. Don't wait. Keep going.

Keep going. Doing something is always better than doing nothing.

For activity breeds ambition, energy, progress, power; and hesitation breeds idleness, laziness.





The Essentials of Health

THERE is hardly anyone who reaches years of discretion without experiencing more or less of an intense desire to attain to a truly healthy and happy life. And whatever differences of opinion there may be as to details in what constitutes perfect health, and however indefinite the conceptions of such happy existence, when viewed from the standpoint of physical science, all are fairly agreed upon the conditions essential to health and happiness.

The essential conditions are :—

Sound organs,
Healthful tissue,
Good circulation of the blood,
Good muscles,
Strong nerves.

Wherever these conditions exist, there is also a feeling of well-being that makes work a pleasure and life a joy. For wherever healthful, clean blood flows through the various tissues, there will also be found absolute health, and, therefore, freedom from pain as well as energy for work and good temper. Many who have been ill, but who have regained health, can bear witness that health and pure joy in living comes to the home where efforts are made to live in harmony with nature's eternal laws.

We can therefore set down the four following rules of health :—

1. Live as much as possible in the light and fresh air.
2. Seek suitable recreation between the hours of work and rest.
3. Select clothing suitable to climatic conditions, and the most healthful location and dwelling.

4. Use foods most conducive to health.

As regards the first point, it is self-evident that men, like plants, thrive best in the light and fresh air. Who can retain a cheerful view of life and experience the joy of living, if shut off from these, Heaven's best gifts? Who can prevent the blood from becoming poor and unwholesome, the complexion pale, the nerves weak, and the system subject to attacks of various ailments, when one is compelled to live without plenty of sunshine and fresh air.

In the same way physical exercise is favourable to health. It compels us to draw the breath deep and full. The circulation of the blood is strengthened, and clean, nourishing blood is carried to every cell. It brings activity instead of stagnation, strength instead of weakness; it increases the ability for work, and makes rest enjoyable and refreshing.

Besides this it is equally evident that we need to be careful to select clothing and dwellings suitable to climatic conditions. The clothing must be clean, and

suitable to our daily occupation, as well as comfortable during rest hours. The dwelling-house should have plenty of light and air, and should be so constructed that it is easily kept clean, for cleanliness in clothing and in the house is one of the most important conditions of health.

In succeeding articles we shall deal especially with the foods which are most conducive to promoting and preserving health. We shall more particularly consider why we eat, and why it should be a pleasure to satisfy the natural craving for food? The more agreeable to the purpose the food is, the more beneficial and satisfactory will be the results of our work as housekeepers, and the greater our pleasure in life. It is therefore self-evident that the careful selection of food is of immense importance in its relation to health, and to the highest development of our physical and mental faculties, enabling us to reach the best and purest joys of existence.

Everyone ought, therefore, to have some practical knowledge as to the suitability and constituents of foods, and in any case the woman who takes upon herself the holy responsibility of motherhood should never enter this high calling without a thorough knowledge and understanding of the art of cooking.

Succeeding articles will, we trust, be the means of furnishing the housekeeper some practical suggestions, and while they will not claim to be in every respect complete, they will assuredly contain something new to most, and that which without question will be a guide and help to those with a limited experience.—*J. Ottosen, in Rationel Ernärning, translated for Life and Health.*

Diet and Skin Diseases

By G. H. Heald, M.D.

In the *Journal of the American Medical Association* of Aug. 26, 1911, Dr. L. Duncan Bulkley, one of the most noted and most successful skin specialists in the country, who has had marked success in

the treatment of certain skin diseases by means of a strictly vegetarian diet, has a paper in which he recounts his experience with psoriasis in an extensive series of cases, extending over a long period of time. In this paper he makes the following remarkable comments:—

"My experience, some of it dating back twenty-five years, shows conclusively that not only does a meat diet increase psoriasis, but that an absolutely vegetarian diet is of the very greatest benefit in this disease, and in certain cases is capable of causing the disappearance of a long-standing eruption, without the use of any internal or external medication whatever."

Regarding vegetarianism as a general health measure, he says:—

"Vegetarian diet for health is no new proposition, and needs no defence nor explanation; the literature is extensive, and its positive value has been frequently demonstrated. All are aware that repeatedly vegetarians have far outstripped meat-eaters in athletic contests, while the reverse is almost unknown. The mass of human kind has always subsisted largely or entirely on the products of the ground, and in animal life all work is done on food from the vegetable kingdom.

"On the other hand, the consumption of much meat is of relatively modern date, with some exceptions, and is particularly common in cities, the mass of workers in rural districts subsisting chiefly on the vegetarian kingdom.

"Nor need we dwell long on the injurious effects of a too highly nitrogenised diet on the human system, which have long been recognised and have had able exponents. All are familiar with the necessity of curtailing a meat diet in many conditions of the system, and writers have repeatedly called attention to its influence in the production of cancer. The relative absence of cancer among the natives in rice-eating countries, which I also observed in the Far East, is striking evidence in this direction."

On the matter of relapses after treatment he has this to say:—

"Time and again patients who have

relapsed into free meat-eating have returned with a fresh outburst of eruption, or great aggravation of any that had remained; and they intelligently recognised the cause, and have willingly taken up the vegetarian diet again, because of the great benefit which they had previously derived from it.

"The question arises as to the length of time it is necessary to continue the vegetarian diet. I am accustomed to tell my patients that this may be indefinite; for if a faulty nitrogenous metabolism and excretion are at the bottom of the eruption, as they seem to be, this may recur whenever the intake of proteids exceeds the power of the system to handle them.

"In some instances a return to a moderate mixed diet has not seemed to increase the tendency to the eruption, but in very many cases it has been recorded that any indulgence in a great amount of nitrogenous food has caused a return to skin lesions. So that we must infer that with a certain small proportion of human beings, the organs are not able properly to assimilate much proteid substance."

He finds also that something besides abstinence from meat is required, for he says:—

"There are some articles from the vegetable kingdom, however, which have to be guarded against. Alcohol in any form, even the lightest beer, is prejudicial, and in some instances I have found better results when I excluded coffee, chocolate, and cocoa."

The Dietary of Queen Alexandra

THE careful diet since girlhood of Her Majesty Queen Alexandra has long been ascribed as one of the causes which have contributed so largely to her youthful figure and beauty of face. Ever since she first came to England as the bride of the Prince of Wales she has carried out the simple dietetic habits of her native Denmark, in spite, it is recorded, of the opposition of her royal mother-in-law, Queen Victoria, who would not believe

that anyone could exist on such Spartan fare.

The Queen Mother never allows herself to eat too heartily at any time. As a rule she prefers a small meal rather than a heavy one. On all occasions of fatigue, such as a drawing-room reception for instance, she fortifies herself beforehand by sipping a glass of milk. This and orangeade, by the way, are her only beverages. Neither tea, coffee, chocolate, nor any kind of alcoholic liquor ever find a way into the Queen Mother's dietary. Other products from the dairy besides milk are favourites with Queen Alexandra. Cream, butter, cheeses, curds, and buttermilk are all partaken of freely by her in turn.

Her Majesty eats very little meat, and then only white meat. Fruit, vegetables, and nuts take the place of more solid dishes. She avoids condiments and even spices if very aromatic.

Breakfast is a light meal, fruit, eggs, and toast. Luncheon is usually a bird or fish dish, and some fresh cheese, or honey, her favourite sweet. Tea in the afternoon is replaced by warm milk, and dinner at night is only a replica of the light mid-day luncheon on a slightly extended scale.

The Queen Mother, however, does not pin her faith only to diet as a restorative of health and beauty. She believes with equal fervency in fresh air and exercise. She understands, moreover, the enormous influence of mind over body, and throughout the many trying experiences which have made up her lot as queen and princess, she has always been careful to preserve an unruffled serenity both of mind and countenance, which has greatly assisted in the preservation of what to loyal English people appears like perennial youth.—*Food and Cookery.*

"A MAN first resorts to wine to stimulate his wits; later, he has to resort to his wits to get his wine. When his wits at last forsake him, he cleans out spittoons in the saloon to get his drinks."

Oatmeal and Sugar as a Diet

By Margaret Macsabre

WHEN the continuous repair of the muscular machinery is fully secured, the production of heat and force is most readily provided for by vegetable aliment, by reason of the large proportion of carbon which it contains. In assigning their physiological functions to the several sorts of food, nearly all the business of begetting active force should apparently be ascribed to the solid hydrocarbons, starch and fat, by their conversion into carbonic acid. It is not necessary to be acquainted with every step of the process, which in the body we confessedly are not, to appreciate the argument. It is clearly important that these elements of diet should be furnished in sufficient quantity and in a digestible form. In additions to diet made in consequence of additional bodily work, not only should the stimulus of animal food be attended to, but the bulk of starch and fat in the rations should be augmented even in larger proportion, *for these aliments are the most direct contributors of force.*

This is well illustrated by a remarkable feat performed on the great Western Railway in the summer of 1872. It was necessary to shift the rails from the broad to the narrow gauge on upwards of 500 miles of permanent way within a fortnight. The task was enormous, for the Great Western is one of the few English lines whose rails are held down by bolts screwed into nuts. All these had to be unscrewed and replaced after removing the heavy rail two feet. About three thousand men were employed, working double time, sometimes from four in the morning till nine at night; and, without one being sick or drunk, they accomplished the work in the prescribed time. The scheme for generating muscular power was this. The men were huttled along the line, so as not to waste their strength by coming and going, and they brought with them food to provide their usual meals at usual times. But they had no beer nor alcohol in any form. A pound

and a half of oatmeal and half a pound of sugar were allowed extra to each man daily, and for every gang of twenty-one a cook was provided. The first thing done in the morning was to breakfast; and then the cook and his caldron started along the line till water was found convenient; a fireplace of stones was built, and the pot boiled. Oatmeal was then sprinkled into it with sugar, and thoroughly well boiled till thin gruel was made. As soon as the "shout for drink" was heard, buckets were filled and carried round with small pannikins to convey the liquid to the panting mouths. The men liked it exceedingly, and learned by experience the importance of having it well cooked.

The incident may remind the reader of classical medicine of Hippocrates, who considers the culinary preparation of oatmeal ptisan so important that in a short treatise "On the Treatment of Acute Disease" he devotes to it the only cookery recipe he has inserted in his works. He describes how it is to be boiled till it can swell no longer, so that it may swell no more in the stomach; how it is to be settled, and strained through a coarse colander. He prescribes it indeed for sick people, but he would have been the first to agree with our advanced physiologists in the opinion that overstrained muscular effort produces the same effects as continued fever, its chief dangers lying in rise of temperature and arrested cutaneous action, and that its true antagonist is nutriment capable of rapid absorption, dissolved in that most essential nutriment, water.

AT an art dinner at which several brewers were present as guests, an artist jovially asked why it was that painters did not succeed as well as brewers?

There was silence for a moment before a brother artist answered the question with the following caustic reply:—

"Because," said he, "painters work for the head, and brewers for the stomach; and where twenty men have stomachs but one has brains."

How to Make Good Soups

By E. G. Fulton

CREAM soups are seasonable at any time, using any vegetable in its season. Canned goods may be used when the fresh article is not obtainable.

Vegetables that are too tough and old to cook in any other way may be used in soups to advantage. If it can be afforded, a teaspoonful of whipped cream may be dropped into each plate, and will be found very delicious.

By a puree is meant a thick soup; it differs but little from cream soup, being perhaps a trifle thicker. If properly made, cream soups and purees are dainty, delicious, and nourishing.

Kinds of Soup

Observing these proportions and following the foregoing directions, delicious cream soups are made of rice, squash, celery, peas, asparagus, cucumbers, spinach, peanuts, potato, corn, lima beans, cauliflower, beets, tomato, salsify, chestnut, mushrooms, onions, baked beans, lentils, macaroni, spaghetti, watercress, string beans sago, tapioca, barley, carrots, etc. All vegetables should be cooked very tender in boiling salted water, drained, and rubbed through a sieve. Rice, sago, tapioca, and barley should be boiled slowly till each grain is soft and distinct. Roasted peanuts are chopped fine; chestnuts are boiled and mashed; macaroni and spaghetti are cut into very small pieces, after boiling till tender. String beans are to be minced before adding to the soup.

Foundation of Cream Soups

Rub one heaping tablespoonful of butter and two of sifted flour to a cream; melt in a saucepan over the fire, and add slowly four cups of milk, stirring constantly. When it thickens add salt and whatever seasoning and ingredient is desired to make the soup.

Croutons for Soup

Take thin slices of bread, cut them into little squares, place them in a baking pan, and brown to a golden colour in a quick oven.

Egg Balls for Soup

Egg yolks, hard boiled, 6; salt, 1 teaspoonful; flour, $\frac{3}{4}$ tablespoonful; egg yolks, raw, 2.

Rub the hard-boiled yolks and flour smooth, then add the raw yolks and the salt. Mix all well together, make into balls, and drop into the soup a few minutes before serving.

Egg Dumplings for Soup

Milk, 1 cup; flour; eggs, 2.

Beat the eggs well, add the milk and as much flour as will make a smooth, rather thick batter, free from lumps. Drop this batter, a tablespoonful at a time, into the boiling soup.

Rice and Nut Soup

Vegetable stock, 5 cups; sage, $\frac{1}{4}$ teaspoonful; rice, 3 tablespoonfuls; salt. Boil twenty minutes and serve.

Plain Vegetable Soup (1)

For soup stock. Water, 6 cups; strained tomatoes, 2 cups.

Shave in fine shreds, add to soup stock, and cook moderately for two hours:—

Carrot, 1; potato, 1; leek, 1; turnip, 1; onions, 2; celery stalk, 1.

Add a little sage and thyme. When done, run through puree sieve or colander, and add a little chopped parsley and salt to taste.

Plain Vegetable Soup (2)

Butter, 2 tablespoonfuls; flour, 1 tablespoonful; chopped onion, 1; chopped carrots, $\frac{1}{2}$ cup, chopped potatoes, $\frac{1}{2}$ cup; chopped turnips, $\frac{1}{2}$ cup; chopped celery, $\frac{1}{2}$ cup.

Place in heated saucepan, stir often to prevent burning, add a little more butter if necessary; brown till vegetables are quite soft, then add:—

Strained tomatoes, 2 cups; hot water to proper consistency.

Season with parsley and salt to taste. Simmer till done.





Exercise and Symmetry, Health, and Vigour

By Alexander Hing

THERE is something radically wanting in the person who cannot admire symmetry and beauty in the human form. Most people will probably agree that physically there is considerable beauty in the man who is symmetrical in figure, whose every movement breathes forth the grace born of the smooth and harmonious working of the muscles, and in whom there is seen a vitality and vigour that is superb; and few will be likely to dispute the assertion of Macaulay that there is nothing in the world that is physically more beautiful than the beautiful woman.

It has often been said that beauty is only skin deep; but this is far from the truth. Beauty is more than skin deep: it is as deep as the soul itself. The face cannot be perfectly beautiful unless the

thoughts be beautiful. The features may, perchance, be of classic mould, but without the fine, spiritual touches that are given them by the beautiful mind within—the dwelling-place of thoughts of peace, purity, gentleness, affection, aspiration, and holiness—they cannot fully be said to be a thing of beauty. And the clear

skin, the bright eyes, the well-rounded limbs, the grace of movement and abounding vigour are no mere superficialities, but have their seat in superb health, which in itself depends upon a variety of causes that operate on bodily structures and organs far deeper than the skin.

Richard Jeffries, the English naturalist, said that it takes one hundred and fifty years to produce a great world-famed beauty—five generations of good plain food, proper clothing, and ardu-



"Physical Training."

A CLASSICAL POSE OF MCFADDEN

ous exercise and fresh air in God's great out-of-doors. "In the fifth generation," he says, "the beauty appears, with the features so moulded and softened by time, so worked and refined and sweetened, so delicate, yet so rich in blood, that she seems like a new creation that has suddenly started into being. . . . The young thing walks in the glory of young



HEALTH AND BEAUTY

life; she is really centuries old. A hundred and fifty years at least, from all enchanted things of earth and air, this preciousness has been drawn."

Grace, Symmetry, Vigour, the Result of Exercise

We would reiterate the truth that the graceful, symmetrical man or woman, redolent of health and strength, is in a certain and considerable measure the result of suitable exercise. Symmetry,

grace, and vigour are, in fact, dependent as much upon exercise as upon any other one thing. These several attributes cannot be obtained, or long possessed without exercise; but with it, provided that due attention be given to diet, clothing, sleep, and rest, they can all be obtained by the majority of men and women, and long possessed.

Bernarr Macfadden, the well-known American authority on body-building, was a physical wreck when the subject of physical culture first attracted his attention. All hopes of ever possessing a vigorous body were with him beyond the wildest dreams of possibility. He lost all faith in medicines, and it began to dawn upon him that his only hope of health lay in the living under natural conditions—the eating of natural food, the breathing of pure air, and the exercising of his physical powers. This conviction was confirmed and strengthened by a visit to a gymnasium, at which he noticed that strength and vigour were displayed by nearly all the gymnasts who exercised there.

His own start was rather crude, but after two weeks of persistent work he noticed a slight improvement; and in two months his hollow cheeks had begun to fill out and his thin arms to assume a rounded appearance. Encouraged at this success he persisted in his fight for health and strength. Anyone to-day who sees classic poses of Macfadden would hardly suppose that he had once been physically weak.

Exercise and Growth of the Muscles

Exercise nourishes, builds up, and strengthens the muscles by bringing a larger blood-supply to the parts. When a muscle is contracted, the blood is squeezed out of it; when it is relaxed, a greater quantity of blood and lymph flows back to it. A working muscle has always a larger blood-supply than a muscle at rest; and this more active circulation not only imparts to these living springs more nourishment and power, but carries off waste products as well. Even after vigorous exercise has ceased, this stronger

blood-stream persists for some time, and in consequence of the greater nourishment brought to them, the muscles grow in size and strength.

Effects of Different Exercises

It is well to remember that all kinds of exercises do not affect the body in the same way. Some exercises build up strength; others, endurance; others speed; others again make one graceful, and assist in the improvement and retention of the health. The business or professional man who confines himself solely to health and grace exercises, will, though he may be enjoying perfect health, probably find when the holidays come with their continued rowing, climbing, or other active work requiring the vigorous use of the muscles, that his muscular system is inadequate to meet the demands upon it, and that, therefore, he tires easily. On the other hand, he who indulges exclusively in strength exercises, may, while he has an abundance of hard, powerful muscle, be awkward in movement, and may possibly, though of course not necessarily, suffer from a bad liver or a poor digestion. There is, therefore, no such thing as a best exercise or best exercises. Different exercises serve different ends, and the wise man will gather from each those peculiarly suited to his individual needs.

Strength Exercises

To put a hundred-pound dumb-bell above the head with one hand is purely and simply an act of strength. There is no endurance in it, and not necessarily any speed or skill; it is a sheer feat of strength. Again, one may take up a light dumb-bell and strain at it tremendously till the body quivers with the enormous tension; this also is an exercise of strength.

In strength exercises the utmost force is exerted for a brief period, and this force may be repeated at intervals. The effect of such exercises is not only to increase the hardness of the muscles, but greatly to increase the girth.

Some men have developed strength to

an amazing degree. The famous Dr. Winship succeeded in developing himself so greatly that he was able, with the assistance of shoulder straps, to lift fully three thousand pounds, a weight that an ordinary cart-horse could scarcely stand up under. Louis Cyr, of Canada, at one time the strongest man in the world, could out-lift Dr. Winship by almost a thousand pounds. Cyr's strength was to



Strength Development

This is a full-contraction, or tension, exercise, admirable for developing strength and increasing the girth of the muscles. The hand is flexed, and one's whole strength and will power concentrated on contracting the muscles of the arm. When this exercise is done properly, the arm, and even other parts of the body, will tremble with the tension. The will may be concentrated on the muscles of the forearm or on the biceps, whichever set it is desired to develop; and the same principle may be applied to other parts of the body. The contraction should last about three seconds, and should be followed by a period of relaxation of equal length. After the arm-development exercises, it is well to practise extending the fingers a number of times in order to strengthen the extensor muscles of the hand, and to counteract the effect of the strengthened flexor muscles in drawing the fingers up into the palm, a position that is most ungraceful.

some extent hereditary, being due in part to the fine physique of his mother, who was so powerful that she could shoulder a large barrel of flour and carry it with ease up several flights of stairs, a feat that

the average man could scarcely hope to emulate. With Winship the case was different. In his youth he was extremely weak, and was induced to go in for strength development through the taunts

or swimming, cycling, etc., may properly be classed as feats of endurance.

With regular, systematic work one may rapidly make a considerable gain in this quality. An authority who was experimenting in regard to the training of girls and women, said that a girl of nine years lifted during the first three days a three-pound dumb-bell thirty-three times above her head before she tired. After practising twice a day for a fortnight she could raise the weight 137 times before tiring. A thirteen-year-old girl averaged 160 times during the first three days, a total that was increased to 369 after a fortnight's practice. Many people marvelled



Trunk Development

Stand erect, with heels a short distance apart and toes turned outward. Extend arms sideways, and, bending the body and the right knee, touch the floor with the right-hand finger-tips, at the same time pointing left-hand fingers upward. Alternate with left knee and left hand. Repeat from twelve to thirty times. This exercise helps to impart a graceful carriage.

and insults of his schoolmates, against whom he could make no adequate physical defence.

Endurance Exercises

To take up a dumb-bell and raise it above the head as many times as possible without ceasing, is an exercise of endurance. Exercises of endurance do not necessarily add much girth to the muscles; their effect is to make the muscle hard, and of course considerably improved in quality. Long distance running, rowing,



For Muscles of Back and Abdomen

Standing erect, with the fingers raised as high as possible above the head, bend body forward and touch the fingers to the floor without bending the knees. Straighten the body, and repeat from fifteen to twenty-five times. This exercise also improves the carriage of the body.

when Tom Burrows swung a pair of clubs for a little more than forty consecutive

hours; yet Burrow's latest record is a little more than seventy consecutive hours.

Other Remarks

To move the muscles with the utmost rapidity is an exercise of speed. Speed



Chest Development and Vitality Building
(FIRST POSITION)

This exercise, which is for lung and chest development, and consequently the building up of vital power, is clearly shown in this and the following illustration, and needs no further elucidation.

exercises are similar in effect to those of endurance, making the muscles hard, though not necessarily much larger.

One needs to practise light exercises on account of the grace and freedom of motion they impart. Exclusive attention to heavy exercises has a tendency to make one slow and awkward.

Some exercises combine, to a greater or less degree, strength, endurance, speed, etc., all in one. Some, too, while developing one or more of these qualities, act specifically on one or other of the internal organs, thus improving the health and building up bodily vigour and vitality.

Generally speaking, exercise will, by improving the circulation and building up the tissues, develop the body to the

normal when it is too thin; and by oxidising, or burning up, the adipose tissue, reduce the figure to the normal when there is excessive fatness.

It is a fact worthy of observation that it is impossible for women to develop the rugged muscular appearance seen in athletic men. In many instances, it is said, women have avoided exercise through fear of this result; but their fears are groundless, for such a result is a physiological impossibility. No matter how much muscle a woman may develop, it will never stand out in bold and rugged outlines as it does in men. Nature will fill the hollows with fatty tissue, and the



Chest Development and Vitality Building
(SECOND POSITION)

form will present a smooth, well-rounded, and pleasing appearance to the eye.

The true object of all exercise is the greatest efficiency of the individual: not an excessive muscular development, which is unnecessary in the majority of people, and weakens vital parts; but better health, greater vitality and vigour, freer movement, and a reasonable degree of strength. Here, as elsewhere, the safe rule is moderation.

Is It Worth While To Be An Athlete?

THE whole trend of the advice of some of the crazy health culture magazines seems to be that everybody—be he man, woman, young or old—ought to be an athlete.

As commonly understood, the athlete is one who has an abnormal physical development like the champions in the old games of ancient Greece and Rome. As a matter of fact the champion athletes—the great runners, football players, and

of ordinary strength to seek to excel by long process of training and discipline is not only waste of time or waste of strength, but shortens his life thereby.

Don't try to be an athlete. Seek rather to be an all-round man with a good stomach, competent muscles, clear head, and a capacity for endurance in the performance of your own work.—*Healthy Home*.

"If the young man deems it necessary to begin at the bottom of a business and



HENLEY ON THE YARRA, MELBOURNE.

Scare. Photo.

oarsmen were notably short-lived. Their muscular development was secured at the expense of vitality.

Some men are born with physical strength, and are able readily to acquire skill, and so are natural athletes; that is, able to compete successfully in games and contests of strength and skill without undue strain. But for the average man

work his way up through its positions, why should not the young woman whom he marries also expect to begin at the bottom of housekeeping and do her own work, gaining valuable experience and acquiring perfect knowledge of its details? If young women would do this young men would have courage to marry early."



Effect of Water Applications on the Circulation

By George K. Abbott, M.D.

DURING health the blood-vessels of the body are not of a constant, unvarying size, but are in a state of continual change, dilating and contracting alternately, about once every minute. As contraction occurs, the blood is forced onward. When dilatation takes place, they again fill with blood, which is sent onward by the next contraction. This pumping action of the blood-vessels is so powerful, and is such an important factor in the circulation, that the smaller vessels, as a system, have been called the peripheral heart or skin heart.

If the nervous control of the blood-vessels is interfered with,—that is, if the vasomotor nerves are paralysed,—the blood-vessels dilate, and remain dilated. This causes them to be overdistended with blood that has only the force of the heart-beat to push it along. The slower circulation which results causes the part, say an arm or a leg, to become dusky in colour, and cold. This is what occurs in paralysis, such as follows apoplexy. Somewhat the same condition; namely, a weakness or paresis of the blood-vessels, is found in neurasthenia, dyspepsia, infectious diseases, and fevers. The failure of the blood-vessels to perform their part of the work of the circulation throws an added burden on the heart. For this

reason, the heart works under much stress and at a disadvantage, but may not itself be at fault. Many cases of so-called heart failure are in reality failure of the vasomotor mechanism, and not primarily of the heart.

There are many ways in which the work done by the peripheral heart may be increased in efficiency, or restored to normal when deranged. All sorts of applications to the skin excite contractions in the blood-vessels, so that the usual rhythmic changes in size occur more rapidly or are greater in extent. Each kind of application, however, is conducive to different degrees of contraction or dilatation, and so to different end results. It is these changes occurring in the blood-vessels which constitute circulatory reaction.

When cold water is applied to the skin for a brief space of time, and specially when accompanied by friction, the skin becomes reddened with an increase of bright-red blood. This is due to the vigorous pumping action of the blood-vessels. The circulation being hastened, the venous blood is rapidly replaced by fresh arterial blood. The cold and friction, through the vasomotor nerves, stimulates the blood-vessels to more rapid and extreme dilatation and contraction.

This condition of the blood-vessels is known as active dilatation, and resultant change in the vascularity of the part is known as active or arterial hyperæmia because arterial or freshly oxygenated blood predominates.

Hot applications produce results differing essentially from the conditions noted above. At first, the changes appear to be much the same, since the blood-vessels are excited to greater activity; but as the hot application is prolonged, the blood-vessels tend to remain dilated, and the pumping action is lessened. While with the cold, the blood-vessels are excited to dilate and contract vigorously, with heat the dilatations become greater and the contractions less and less as the application is prolonged. The blood accumulates in the dilated capillaries and veins. This results first in a redness of the skin, but later in a duskiess, because the circulation is slowed instead of hastened, venous blood predominating. The relaxed condition of the blood-vessels is known as atonic or passive dilatation, and the stasis of blood which results is known as passive hyperæmia.

When the cold application is intense, such as the prolonged use of an icebag, a condition results which is the opposite of that produced by prolonged heat. The blood-vessels are at first stimulated to alternate dilatation and contraction, but the dilatations become less and less while the contractions increase in vigour until a state of constant vasoconstriction results, the blood-vessels becoming very small in size and the skin blanched from absence of blood. In this condition the reaction is suppressed by the prolonged and intense cold of the ice.

When the body is immersed in a bath of cool salt water, charged with carbon-dioxide gas, the blood-vessels are very powerfully stimulated. Such a bath as this is known as an artificial Nauheim or effervescent bath. A defective heart, beating rapidly and working under adverse circumstances, may be so effectively assisted that its rate will decrease from ten to twenty-five beats a minute, and it

assume an easy, steady movement. The change for the better in such a heart, with this treatment, is often astonishing, and needs to be seen to be appreciated.

The Care of a Child's Teeth

FEW persons understand how much the health of a child depends upon the condition of its teeth. Watch closely a child that is nervous, undersized, and far from strong, and see what it eats and how it eats it. Often it will be found that the teeth are painful, and that therefore the child avoids chewing. Food swallowed before it is properly masticated not only fails to nourish the child, but is frequently the cause of acute indigestion.

Sometimes a careful examination of the mouth will reveal one or more broken-down teeth and inflammation of the gum; and although there may be no pain in eating, it is probable that the child is absorbing poison in a sufficient quantity to affect its digestion and even retard its growth.

Cases are common in which the pain caused by a diseased tooth is not in the tooth itself. It may manifest itself as facial neuralgia, or it may be felt in one of the ears. Ear specialists recognise the teeth as the cause of many earaches. Less frequently the eyes are disturbed by a diseased tooth, and relief does not come until the cause is found and the tooth is extracted or treated.

The germs of many contagious diseases find their way into the mouth. As a result, the school drinking-cup is frequently responsible for the spread of contagion. If the teeth are sound and are kept clean, the chance for germs to develop is greatly reduced.

Bacteria play an active part in destroying teeth. If starchy food and sweets are allowed to remain in the mouth, certain forms of bacteria that act on this food will develop an acid and cause decay. It is wise, therefore, to brush the teeth after eating. If it is impossible to have a child's teeth brushed after every meal,

insist upon a thorough cleansing after breakfast and before going to bed. Children and adults often complain that it takes too much time to brush the teeth, but anyone who will consult a watch will find that a very careful and thorough cleansing can be accomplished in less than two minutes. Five minutes a day honestly devoted to the care of the teeth will prevent a very large part of all tooth decay, and will also do much to preserve the health of the child and to prevent the spread of disease.

The habit of caring for the teeth should begin at an early age. If possible, begin at the age of two and a half, when the twenty teeth that comprise the temporary set have usually all come through. If the child is to keep well and grow properly, these teeth must be kept free from pain, and sound enough to chew with. A fine powder used once a day is a help in keeping teeth clean, and if economy is sought, a few pence' worth of precipitate of chalk will be found most satisfactory.

Very few serious cases of toothache in the first teeth will ever occur if the directions given are honestly followed; but if pain occurs, the child should be taken to the dentist. During the period that may occur before the dentist can be reached, it is often possible to quiet the pain by first washing out the cavity in the tooth with warm water, and then placing in the cavity a pellet of cotton wet with a drop of oil of cloves. The surplus oil should be squeezed out of the cotton; otherwise it will cause an unpleasant burning sensation in the mouth.

A drop of chloroform used in the same way will often stop the pain. A wise precaution is to have the dentist see the child every three or four months. Serious trouble will be then avoided.—*Youth's Companion*.

Mustard Poultices in the Treatment of Acute Bronchitis

THE value of external applications, and especially counter-irritants, in the early stage of acute bronchitis, is not appreciated at the present day. The old-fashioned poultice has been largely discarded, yet there are few remedies more beneficial, when rightly used. There is not very much good derived from the continuous application of flaxseed poultices or from hot fomentations. What is needed is sharp counter-irritation by mustard diluted with flaxseed, according to the age of the patient and the susceptibility of his skin. When the bronchitis affects mainly the trachea and the larger bronchi, with a sense of tightness behind the breast-bone, and an incessant, tickling cough, the poultices should be applied at the top of the chest in front. When the cold has attacked the small tubes, a large poultice should be placed across the bases of the lungs behind.

For adults, equal parts of flaxseed and mustard may be used, sometimes even more of the latter. I have often seen pure mustard applied to advantage, a layer of mustard being placed next the skin. For children who have more sensitive skins, one-third or one-fourth mustard should be used. The poultices should be left on until the skin is markedly red. Irritation may be relieved by smearing with oil or vaseline. In very young, feeble, and rickety infants it is better not to embarrass further the breathing by heavy compresses. In such a case it is better to let the child lie on the poultice.

Sometimes oil of turpentine may be substituted for mustard. Prepare a hot fomentation with flannel or spongiopiline, and sprinkle on it a half teaspoonful of oil, then give the flannel a final wring so as to distribute the turpentine. Its action, however, is somewhat uncertain, and unless care is exercised, blistering is likely to occur. It is in the early stage of the disease that these applications are especially beneficial, when the mucous membrane is congested, with much oppression

AN electric potato peeler for hotels and restaurants revolves a container with a roughened lining, which grinds off the skins as the potatoes are driven against it by centrifugal force.

and with but little expectoration. When the secretion is free, counter-irritation does not do much good.—*J. Walter Carr, in Folia Therapeutica.*

The Modern Treatment of Gall-Stones

MODERN medical researches have shown that gall-stones occur much more frequently than was formerly supposed. The statistics of postmortem examinations made by various observers have shown the presence of gall-stones in more than ten per cent of all persons dying over sixty years of age. Gall-stones occur much more frequently in women than in men. Guilbert, Dominici, Furnier, and Mignot, as well as many other observers, have demonstrated that gall-stones are due to infection of the biliary tracts. Germs are absorbed from the intestine, carried through the liver, and discharged in the bile. Gall-stones are formed in the effort to combat these bacteria, hence are one of the means by which the body defends itself against invading microbes. The microbes found in the lower part of the gall-ducts are of a harmless sort, ærobes, while those found in the gall-bladder and the upper portions of the biliary passages are anærobes, or poison-forming and disease-producing germs. The source of these germs has been shown to be putrefactive processes taking place in the intestines.

It is evident that the number of persons who have gall-stones without being aware of the fact is very much greater than those who suffer from the presence of these calculi. In fact, it appears that but a very small proportion of those who have calculi in their gall-bladders are ever in any way aware of the presence of stones. Doubtless many persons are discharging constantly from their gall-bladders small gall-stones which pass easily through the gall-ducts and produce no inconvenience. When, however, the gall-stones happen to be of such size as to be able to enter into the gall-duct, but too large to pass easily through it, obstruc-

tion occurs, accompanied by great suffering. In many cases in which pain is experienced in the region of the gall-bladder, an operation reveals the presence of gall-stones, and it is probable that the pain and suffering have been due to the inflammation of the gall-bladder accompanying the gall-stones rather than to the gall stones themselves.

Recognising these facts, Guilbert, Carnot, and Jomier have recently suggested the importance of adopting means to prevent the formation of gall-stones, and to render them innocuous when their presence is suspected. The essential means suggested is the adoption of a low proteine dietary, especially the lacto-vegetarian regimen. It is more than probable that the majority of persons having gall-stones, even when more or less discomfort is experienced therefrom may, by adoption of an antitoxic dietary, not only prevent the further development of the disease, but secure its quiescence and entire relief from its symptoms by discarding flesh meats and all substances calculated to encourage intestinal putrefaction. Eggs should be discarded entirely, or be eaten very sparingly, and the bowels should be made to move two or three times a day, so as to give no opportunity for putrefaction, and the absorption of poisons. In addition, hot cloths applied over the region of the liver twice daily, the moist abdominal bandage worn at night, copious drinking, and the adoption of all possible measures for building up the general health, are essential.—*Good Health.*

Two Causes, One Effect

ONE morning, at breakfast, Joey announced that he had the misfortune to fall out of bed the night before.

"That was because you slept too near where you got in," said Ethel, who likes to reason about things that happen to Joey.

"Pooh, that wasn't it!" he retorted, with scorn. "It was because I slept too near where I fell out."

Sleeplessness and Its Treatment

DRUGS in the treatment of sleeplessness should be employed with the greatest caution. When insomnia occurs as an occasional result of some known violation of the laws of health, no account need be taken of it. Excessive fatigue and eating just before retiring are common causes. There is also a simple insomnia due to empty stomach, which needs only a little hot milk to set things right. Flatulence or an overloaded colon may prevent sleep. The effects of tea, coffee, and tobacco are familiar to all. Strychnine, caffeine, and theobromine, when given medicinally, also cause insomnia. Mental excitement is a dispeller of sleep. The high arterial tension of kidney disease, arteriosclerosis, and digestive disturbances often cause persistent insomnia. Sleeplessness in old age is due to rigid vessels in the brain. On the other hand, insomnia may be due to weakness of the vessels, or rather of the nerves and muscles which should keep the vessels in tonic contraction, as in anæmia, in recovery from grippe and typhoid and in Graves's disease. These patients readily fall asleep sitting up, but when they lie down, such is the automatic dilatation of the cerebral vessels that the brain is suffused with blood, and sleep is effectually prevented.

Each case must be studied on its merits. It goes without saying that sleep-producing drugs are not to be given indiscriminately. Look for and correct

underlying causes. Drugs are to be regarded only as expedients, when they are used, while the cause is being sought out.

Somebody has said that no one ever suffers from insomnia who has to get up at six o'clock every morning. Of course this is too much of a witty generalisation,



IN OLD AGE A DAILY WALK IN THE GARDEN IS A GOOD ANTIDOTE FOR SLEEPLESSNESS AND OTHER ILLS

but there's a lot of truth in it, just the same.—*Therapeutic Medicine.*

“A WELL-KNOWN London doctor with a big practice said that he did not often have cases of alcoholic poisoning, but that the number sick, who were suffering from complaints from the moderate use of tea, was really alarming.”

Some Dangerous and Filthy Habits

By D. H. Kress, M.D.

IT is not uncommon to see men and women of some refinement put a coin into the mouth to facilitate the making of change on trams, at the theatre, in making purchases, etc. Often the coin between the lips could relate a history that would cause the lips to involuntarily open and drop it. The silver or copper coin is no respecter of persons; it is passed along from the rich to the poor, thrown from one filthy pocket into another, through hands that are often loathsome. It is handled often by people who have infectious diseases, and has probably been in one hundred other mouths before it reaches yours. Many diseases are communicated in this way. It is an easy way of communicating syphilis, diphtheria, etc. It is customary but unsafe to let children play with pennies or silver coin. Not only is the practice dangerous as a means of communicating various diseases, but it is actually *filthy*.

Licking postage stamps with the tongue is not a very clean habit, especially should it be shunned by vegetarians, since the glue used is made from the horns, hoofs, and filthy tannery refuse from the hinds of slaughtered animals. Use a sponge instead of the tongue, wet the thumb, and with the thumb moisten the stamp, or else in case of necessity wet the corner of the envelope with the tongue and apply the stamp.

Massage for the Relief of Pain

MUSCULAR rheumatism should always receive massage from the first, and very often it will need no other treatment. The deposits frequently found in these cases can be promptly removed by massage, thus relieving pain that has existed for months or years.

The pain of neuritis, sciatica, and many of the neuralgias can at times receive great benefit from massage, but some cases tax the ingenuity of the operator. The operator will be agreeably surprised

by the effects of massage for the relief of pain in frost bite, intestinal colic, flat foot, cramps, etc.

The manipulation must vary according to the case, and must be adapted to the position and kind of pain, and to the functional disability. The chief work in massage falls on the thumbs and fingertips, the inner surfaces of the fingers and eminences of the palm of the hand. The movements vary from the slightest touch to the most thorough kneading and percussion, following frequently by active, passive, and resistive movements.

The manipulations should not cause pain, but should be followed by relief of pain or tension, and a general feeling of lightness and well-being. The case should receive the care given to a surgical operation, such as preparation of the hands, condition of the surface of the body treated, temperature of the room, and the position of the patient.

The physiological effects of massage are increased elimination, circulation, and metabolism, absorption of exudations, improved nutrition, relief of congestion, and quieting of the nervous system.

Massage should be much more extensively used. It not only relieves pain, but it shortens the time required for treatment.—E. C. Thompson, M.D.

How to Extract a Splinter

NONE of the small accidents to which everyone is liable is more annoying than to have a sliver of wood stuck into the hand. Moreover, it is very painful if not promptly removed. If the wood of the splinter is soft, its removal is not easy, if attempted with a needle or other sharp instrument, says *Science Siftings*. Steam may, however, be employed, without inconvenience or pain, and is very effective. A wide-mouthed bottle, such as a milk bottle, should be filled nearly full of water as hot as the glass will stand, and the injured part placed over the mouth of the bottle, pressing down slightly, and preventing any steam from escaping. This

will cause the flesh to be drawn down, and in a minute or so the steam will extract the splinter, at the same time relieving all inflammation.—*Selected.*

Bile and Jaundice

THE liver is one of the largest glands in the body, and one of its functions is to make bile. The bile is stored up in a bladder called the gall-bladder, which lies on the right side just under the liver. When digestion is taking place, the bile is discharged from the intestine and helps to digest the food. It is very common for stones to form in the gall-bladder; sometimes there is only one, sometimes a hundred. They may lie quietly in the gall-bladder and never give any trouble. I have often seen gall-stones in a gall-bladder at a postmortem examination on a patient who never showed any signs of gallstones during life. On the other hand, if the stones get into the duct which leads from the gall-bladder to the intestine, they give rise to most excruciating agony. If they get stuck in the duct and completely block it, the patient then suffers from jaundice. The bile ought to escape along the duct into the bowel, but when this blockage occurs, it cannot escape, and it gets into the blood-vessels, and is carried all round the body. The bile, being yellowish, gives the well-known tint to the skin.

The chief causes of gall-stones are indigestion and dyspepsia, constipation, sedentary habits, over-eating, and insufficient exercise, tight-lacing, and not drinking enough water. When once a gallstone is formed, nothing will spirit it away. Sometimes, after several attacks of colic and jaundice, the gallstone passes of its own accord, to the great relief of the patient. After a bad attack it is expedient that the stone should be looked for in the stools. If it is found, it should be carefully preserved for the doctor to see, for by examining its shape it is easy to tell whether there are any more to come away. The operation for removing gallstones is now

quite common, and has afforded relief to hundreds of patients. The gall-bladder is opened, the stones lifted out, and the wound closed again. The desirability of operating or not can only be decided after a careful examination of the patient; every patient differs, and no law can be laid down which is suitable to every case.—*A Family Doctor.*

Virtue's Reward

DOCTOR BASCOMB was of the old school, and preferred the simple, old-fashioned remedies. So, when called to attend Jimmy Jones, he merely prescribed a tablespoonful of cod-liver oil every day.

"Indeed, Mrs. Jones," said he, "cod-liver oil is the elixir of life for children."

Mrs. Jones, who believed in dosing her children, and had implicit faith in Doctor Bascomb, nodded her head, and decided that perhaps the rest of the family also needed some. She called Jimmy, Mary, Julius, and four-year-old baby Susan.

"The doctor and I have decided," she said, "that you must take a tablespoonful apiece of this nice cod-liver oil every day. Jimmy's the sickest, so he comes first. Here, Jimmy, open your mouth!"

"I don't want it!" said Jimmy. "I'd rather be sick."

Mrs. Jones looked her scorn, but she had a new idea.

"If you'll take your medicine without fuss," said she, "I'll give each of you a penny every time you take a dose."

Standing in a row, the dejected children gulped down the medicine, and the mother gave each the promised coin, but she made them put the money in a tin bank. Later, she said, she would buy them something with it.

Finally the day came when the last drop was drained from the bottle. The children saw their mother empty the bank into her purse and start down-town. Their reward would soon be forthcoming!

"Wonder what she'll get?" asked Jimmy, who wanted a Newfoundland dog. Julius chose an air-gun. Mary yearned

for an automobile. Baby Susan's heart was set on a teddy bear.

When the mother returned, the children wistfully watched her unwrap a package, which could be neither auto, gun, teddy bear, nor dog. At last the paper was off, and the mother triumphantly revealed—another bottle of cod-liver oil.—*Selected.*

Radium

THIS element, the most powerful among the so-called radioactive substances, says an exchange, has been used tentatively in the treatment of disease for a number of years, but it is only within a comparatively recent time that it has attracted attention as a remedy of real value.

One reason why so little has been done with it is that it is extremely rare and expensive. A ton of pitch-blende, the substance from which radium is derived, contains only four or five grains of radium. The search for the needle in the hay-stack is easy in comparison with the task of extracting radium, and a sufficient amount for any use in medicine costs many hundreds of pounds. Recently, in the larger cities of the world, so-called "radium institutes" have been established. These are institutions with money enough to buy radium in large quantity, that is, perhaps as much as twenty or thirty grains, with which to treat all who apply, and even to lend a few grains to physicians who may desire it for the treatment of their personal patients.

The action of radium is very similar to that of the X-ray, although it differs in some respects. Hitherto its chief use has been in the treatment of cancer, and by it some actual cures have been obtained. It is also used before and after operations for the removal of malignant tumors, to prevent their recurrence. Many skin diseases, such as eczema and lupus, have been successfully treated by exposure to radium.

The substance is used only in glass tubes or mixed with a varnish painted on metal applicators of various shapes.

Water containing radioactive substances has been employed by giving it to a patient to drink, and has been applied in baths and hypodermic injections. In such cases the good effects are produced not by the radium itself, but by a gas given off from it—the so-called radium emanation. Water so impregnated is used to reduce high blood pressure, which is thought to be one of the causes of the hardening of the walls of the arteries, and in the treatment of rheumatism and of that disordered condition of the system commonly termed the uric-acid diathesis.

There are other conditions in which radium has been employed with apparent benefit, but the use of the remedy is still in an experimental stage.

An Efficient Burglar Alarm

IN South Dakota there is a bank cashier with a taste for chemistry who no longer lies awake at night worrying lest his bank be robbed. He has added to his protective devices an attachment to his safe that is described in *Technical Notes* :—

Some years ago he conceived the idea that if a bottle of some strong chemical were placed between the outer and inner doors of the vault, it would almost inevitably be broken by burglars attempting to gain entrance to the safe, and the fumes of the chemical would retard the work of safe-breakers, or even drive them away.

A quart bottle of formaldehyde was placed as a silent night watchman between the doors of the vault.

For five years nothing happened. Then, early in November, 1910, the test came. Professional cracksmen entered the town, and used two charges of nitroglycerine on the safe. The first one did little damage, but the second wrecked both the outer and inner doors, and of course shattered the bottle of formaldehyde. The burglars did not wait to wreck the inner safe. Choking and gasping, with tears streaming from their eyes, they

scrambled out of the window by which they had entered, and left tracks down the peaceful country highway that fairly sizzled.

For days after the explosion the fumes of formaldehyde were so strong that a man could not breathe in the vault.

The Race Problem in France

LIKE all other peoples, France has her perplexing international problems, but her

Lives Saved by Domestic Pets

WE expect our pets to return in some degree the affection we lavish upon them, and to show their love by a responsive attitude and a gratifying preference for our excellent society. Often they do more. In a single day, recently, the American newspapers contained accounts of a cat in Boston, a dog in New York, and another dog in Minneapolis, each of which saved human life by awakening persons in danger of death by fire. In



A HAPPY FAMILY

gravest problem would appear to be within her own borders. The serious attention of the public has again been called to the depopulation question in France by the publication of official statistics throughout the country. These cover the first six months of 1911, and show an excess of deaths over births of 18,279. The figures are all the more discouraging from the fact that in the same period in 1910, the births exceeded the deaths by 2,189. The figures for 1911 from January to June, inclusive, are: Population, 39,252,245; marriages, 153,931; divorces, 6,374; births, 385,999; deaths, 404,278.—*South-ern Cross*.

each case the animal, had it so wished, could have escaped quietly, without giving any attention to its master. The dog in New York performed the remarkable feat of climbing a ladder to the third story of a burning building, and, by barking, guided its master and two other men through the smoke to an open window. Instances like these make us wish that we knew more of the minds of our dumb friends.—*Youth's Companion*.

“BECAUSE the worst impurities in air cannot be seen, smelled, or tasted, many do not realise they are present.”

Correct Speaking and Writing

By John Louis Haney, Ph D.

Casabianca

WHEN Felicia Hemans undertook many years ago to tell the story of brave little Casabianca the first flight of her poetic fancy resulted in the memorable lines:—

"The boy stood on the burning deck
Whence all but he had fled."

Most readers hurried on to learn the tragic fate of the hero, but impassive grammarians let the boy stand and the decks burn while they pondered over the English of that second line. Is "all but he had fled" good English? Moreover, is "all had fled but he" good English? The result of the deliberation was characteristic. Some regarded the first form as permissible, but condemned the second; others said that both forms are correct, and still others insisted that both forms are wrong.

There has long been a diversity of opinion as to the form of pronoun to be used after "but" in such cases. Common-sense would seem to suggest that "but" is here equivalent to "except," and should govern its pronoun accordingly. No one is likely to defend "all except he had fled," or "all had fled except he." Those who stand with Mrs. Hemans (and with the many other writers who have used similar constructions) will justify her use of "he" on the ground that "but" is still a conjunction, and that the expression is to be taken in its full form as "all had fled but he (had not fled)."

Those who have a clear logical sense may prefer to discredit a sentence in which one clause contradicts another. If he had not fled then all had not fled. Such apparent absurdity is avoided when we write "all but (except) him had fled." Similarly "all the girls but she received a book" would not be taken by Mrs. Hemans's champions to mean "all the girls except her received a book," but would be rearranged and expanded into "all the girls received a book but she (did not receive a book)."

One American authority would determine the form of pronoun to be used after "but" by the analogy furnished in the preceding part of the expression. He would write "all went but he," but on the other hand "the natives killed all but him." Although his usage in the second sentence happens to coincide with that of the opposition, he would probably account for "him" by the expanded form: "the natives killed all but (they did not kill) him."

In view of the divergent usage among careful writers it is impossible to give a fixed rule in this case. Every one who is qualified must decide for himself. A fair test to ascertain one's preference is to parse the word "brave" in Dryden's "None but the brave deserves the fair." Those who regard "brave" as the object of "but" align themselves against the Casabianca faction; but those who would make "brave" the subject of a hypothetical "deserve" in their own glorified version of Dryden, "none deserves the fair but the brave (deserve the fair)," may take their places with the boy hero and his worthy champions.—*Ladies' Home Journal*.

Why So Many Widows

WILL CARLETON, the author, met a lady the other day who had been house-hunting. "Widows, widows," said the pavement traveller, dolefully, "I have met nothing else on the long gloomy trip. A widow occupies House No. 1; two of them are in House No. 2; a widow owns House No. 3, but is now in Europe; and Nos. 4 and 5 had within them no men of any account. Why are there so many lords of creation in the cemeteries while their wives are still living?"

There are one or two obvious reasons why our long settled community has its widows. Many of them are widows of well-to-do or rich men.

One of these reasons is that many a man marries a woman much younger than himself, who naturally in accordance with the law of nature outlives her husband.

But another and very obvious reason is that many an active business man works and toils and struggles without resting until a stroke of apoplexy or some other serious affection terminates his career. His widow, who during her wifedom has not lived so strenuous a life as her husband, survives him.

A second reason is that most women really take better care of their health than the men.

sometimes, with a snarl, his wife's gentle efforts to coddle him.

Is it any wonder that the houses are largely owned by widows?—*Selected.*

The Spirit of Exploration

A THOUSAND years ago the Chinese probably enjoyed the highest civilisation of any nation in the world. They had discovered the mariner's compass, the use



A HEALTHFUL FORM OF RECREATION

The little girl even protects her doll from the draughts. But the boy seldom takes any care except what his mother holds out to him; and spurns most of that. As he grows up to be a strong man he gets more and more careless; eats, drinks, smokes, toils nights, worries himself half to death over business matters, and repulses, more or less gently, or,

of gun-powder, the art of printing, and a hundred other things unknown to the Europeans of that time. They had a system of law and morals better than that enjoyed by many of their contemporaries.

But they became too well satisfied with their system—fatally well satisfied. They were content to till the fields that their

fathers had cultivated, rather than to make explorations into new ones.

The result was that they were left behind by other nations which had less highly developed arts but more of the spirit of exploration.

It was by this spirit of exploration—using the word in its broadest sense—that Europe and America avoided the fate of China. And on both sides of the Atlantic the colleges have borne an honourable part in keeping that spirit alive.

In the thirteenth century, when Europe was settling into a formalism which threatened to be as hopeless as that of China, it was the "humanists" in the universities of England and France and Italy that opened the eyes of the world to wider possibilities of development. In the different periods in which the church has seemed to become a dead thing, it has been in the colleges and the universities that the spirit of reform, the missionary spirit in the true sense, has been rekindled. It was zeal for the discovery of scientific truth, manifested by the teachers and students of a generation or two generations ago, which paved the way for the extraordinary material progress of the last thirty years.—*Youth's Companion*.

The Danger from Flies

NOTWITHSTANDING all that has been said and written, many people continue to ignore the constant danger from flies as carriers of infection. Everywhere one sees food exposed to the visits of these distributors of disease. A series of reports on this subject has recently been published in England, in which it is shown that infections may remain active upon flies which have been exposed to them—and their habits thus expose them continually—for from four to ten days. An idea of the distance to which infection may be dispersed by flies is given by recent investigations at Postwick, near Norwich, where it was found that marked flies travelled nearly a mile from the notorious refuse-heap that served as their breeding-ground.—*Selected*.

Electric Lamp as a Bed Warmer

JOHN ALDEN of Boise, Idaho, has patented a bed warmer which includes a metal casing covered with asbestos so that it will not burn the feet of the sleeper, and having an opening through which the heat from an electric lamp in the casing can escape to heat the bed.

The Spirit of the Master

IN Copenhagen there stands, on the Gothersgade, a large, old-fashioned building, which is worthy of a visit from any stranger who wishes to know the spirit of that brave little northern country, Denmark.

Although it is not named among the notable sights of the city, and is not dedicated to art or genius or heroism, it is, in the opinion of many, one of the noblest and most significant of Danish institutions. The inscription that it bears is this: "Winter Quarters for Old People, Whom Danish Students Cordially Invite to Enter."

Throughout the long winter the old building is full of light and music. On entering, the visitor finds many old people, all of whom, though poorly dressed and evidently acquainted with hard times, are cheerful and happy; for the students do far more than simply supply their guests with warm rooms, comfortable seats, and hot coffee. They give themselves. They sing and play to their aged guests; they give them lectures and talks; they mingle with them and learn to know them. They are hosts in the best sense; they make the aged poor of Copenhagen their honoured guests.

By the law of friendship that Jesus Christ came to preach, all social barriers were to disappear. Rich and poor, employer and employed, strong and weak, were to be brothers. That still another barrier—that which unhappily so often exists between youth and age—yields easily to the great law of friendship, the students of Copenhagen are proving. It is doubtful if, in all their university course,

these Danish students learn a greater truth than this which they have found out for themselves.

Every nation honours its dead soldiers and heroes; in honouring the aged toilers in the heavy battle with poverty, the students of Copenhagen have shown a clear sense of the value of life, and that is one of the signs of a new age.—*Youth's Companion*.

The Folk That Laugh

The folk that laugh,—God bless them!
 They lighten all the day.
 They bring the cheer of sunshine clear
 Though skies be brooding gray.
 They lift the load of trouble;
 They ease the grip of toil;
 They leave less room for grumbling gloom
 Our precious hours to spoil.

What though they have their sorrows?
 What though they have their woes?
 They aim to get the laughter debt
 The joyous old world owes.
 And so they make a stranger
 Of foolish fret and fear,
 And make each day a happy way
 Of rich content and cheer.

The folk that laugh—God bless them!
 What ills do they not mend!
 For them the rose in beauty glows,
 And every man is friend.
 For them the skies grow bluer,
 For them the stars are bright,
 Gloom flees away across the day
 And comfort bides at night.

—*Wilburt D. Nesbit*.

The Coming Crinoline

THAT sensible part of the world which for over a year has denounced the "hobble" skirt, says the *Youth's Companion*, may now have the comfort of a complete change in the object of its invective; crinoline, "that strange revival of the antique hoop," is said to be coming in again.

Some one might well make a study of those few fundamental styles which underlie all costume, and to which fashion regularly returns. One is the swelling skirt. Skirts swelled voluminously in the sixteenth century in the days of good Queen Bess; in the eighteenth century

Sir Roger de Coverley spoke of hoop-skirts as at once a new fashion and as an old one revived. One of the splendours of Versailles was the great garden staircase, where sixty ladies with hoop-skirts twenty-four feet in circumference could move easily. In London the vogue of the hoop-skirt was extraordinary, for these heavily whaleboned petticoats grew so vast that architects began to allow for their passage up stairways by curving the balusters outward. In the nineteenth century, the Empress Eugénie rescued them from over a half-century of forgetfulness, and she decreed also that muslins should be the material for ball gowns, a fabric unadapted to hoop-skirts. Antebellum beauties relate that they had to wear fourteen, or even sixteen, stiffly starched petticoats in order to get the necessary swelling effect.

That such a style can be becoming and graceful is shown not only in Winterhalter's charming portraits, which are said to have had much influence in restoring this forgotten mode to favour, but in the costuming of mid-Victorian plays that have been recently revived.

But it has drawbacks more marked now than ever before. Imagine a shopping district crowded with traffic and hoop-skirts! Imagine a bargain sale! Crinoline may come, but its reign cannot endure long. The pressure of existence is too great, space too valuable.

"A STRONG protest is being made in South Australia against the continual slaughter of such birds as the ibis, the egret, cranes, and spoonbills to supply the demands of milliners. The slaughter is objectionable not only as destroying some of the most beautiful and interesting creatures of nature, but, according to the *Journal of Agriculture*, also as rendering South Australia ever more prone to plagues of grasshoppers, and is a prime cause of the decline of its fish resources. As the wading birds disappear, the crustaceans that destroy fish spawn increase in multitude."

The Growth of a Home

AT this season comes the acute epidemic of the bargain sale—on the whole, a pleasurable disease, and regrettable only because, if you are a victim, you inevitably accumulate a mass of needless purchases. The smaller things that you buy do not matter so much; you can hoard them, give them away, save them for future exigencies of present-making; but the big

house full of the ample magnificence of a first-class hotel. That, however, is not decoration at its best; it is decoration at its easiest. The woman of moderate means should make the harmony of a room her end, choose patiently, and never buy, merely because it is a bargain, a chair, a table, or a rug that she will later long to throw away. She should make haste slowly, and to that end should buy those things only that long consideration



AN EXAMPLE OF FANTASTIC GARDENING

things that you buy—the rugs and the furniture, the objects that go to make up a part of your daily background—are likely to be fatal mistakes. You should choose your furnishings with the care with which you choose your friends; both should wear well, and neither should be undesirable or disturbing. Bargain heat is not a safe temperature at which to select either friends or furniture.

The day of the woman with the moderate income has arrived. Anyone who commands a fortune can summon a decorator and create, not a home, but a

has taught her are necessary and beautiful. One of the compensations for her narrow means is that she must think twice, and so has the better chance of thinking wisely.

She should remember that to watch a home grow in beauty is hardly less enjoyable than to see children grow in perfection. Why hurry either the home or the children? The growth of each is a slow process, but in both cases the result, if successful, is one of the deeper satisfactions of the heart.—*Selected.*

What Other Women Have Found Out

IT is surprising to find how many uses children can make of a breadboard, which is an excellent device for saving sewing-tables and the tops of other tables from damage. When a sick child is able to sit up in bed, the board makes a fine place for toys. On the floor of the playroom block castles and dolls' houses may be built upon it, and even small trains may be run. Placed on top of a table it serves very well for the children's painting outfits.

For cleaning windows a dish-mop will be found useful, as with it you can easily reach places which would otherwise be hard to clean. It is wise to have two mops: one to be dampened for washing, the other to be kept dry for polishing.

In planning for a new linen closet remember that if the shelf that is to be waist high is made much wider than the others, it will be a great help when sorting articles, serving as a table. It will also pay to keep in the closet a thin board for use when removing articles from points near the bottom of the pile. Just slip the board in where you need to get something, and use it as a lever with which to raise the things that are above it.

Articles made of Irish crochet may be kept in shape by this method: Wash carefully and rinse thoroughly; then dip them in a basin of warm water in which a teaspoonful of sugar has been dissolved. Next put them in a dry cloth and squeeze, after which pull them into shape and pin upon a cushion. Be careful to fasten down each part of the articles, and they will dry satisfactorily.

In cleaning white enamel woodwork, try using sweet milk and ammonia: two tablespoonfuls of the latter to a quart of milk. This mixture will not turn the enamel yellow, as some cheap kinds of soap are likely to do.

A box on the back porch for rubbish will keep the yard much cleaner. Have the box hooked to the porch on a level with the top step, so that dirt may be swept directly into it instead of over the

step into the yard. The box may be easily unhooked and emptied.

A paintbrush will get dust out of cracks better than any duster will, for a cloth cannot reach all the corners. Try the brush when you are cleaning baseboards, window-sashes, etc., and you will appreciate it.

Parasols may be kept in condition through the winter months if every section is stuffed lightly with tissue paper when putting the parasols away. The paper will prevent creasing, which causes the silk to crack.

Tie a paper bag over the food-chopper when grinding stale bread. It will prevent the crumbs from scattering. When the bag is full, empty it into a dish, and then fill it again.—*Ladies' Home Journal*.

The Country's Curse

An Overdose of Frying-Pan

By Margaret Macsabre

SOME people assert that the curse of our country is pride; others that drink is the worst evil; and many will grin broadly at it being suggested that the innocent, humble frying-pan is the sorest curse that we groan under; but when the case is considered from a ruined digestion point of view, matrons, merry widows, dyspeptics, and permanent samplers of every patent pill on the market, will agree that after all the stew and frying-pan is a real and crying curse. Young ladies who delight in fifty-four inch hats, roller-skating, and militant suffragette tactics, but who scorn the idea of learning anything about house work or what a cookery book can teach, after a more or less short or long courtship, "take their young men in," and immediately the frying-pan comes on the scene at breakfast, dinner, and tea, with the sure result—waste, indigestion, pills, bad temper, and failing health.

Now, this is very sad for the poor hubby—who has dreamed of everlasting happiness—to realise that his idol is only an idol, an expensive ornament, utterly unfit for the duties pertaining to a wife.

It is gross fraud on the part of the woman. It is high time young females devoted more time to the study of cooking, and what is suitable for the kail pot or roasting jack. They know beef and mutton when they see it, but how to make the best of it is quite another question. Fried and stewed meat is the curse of a working man's home, and should be resorted to as seldom as possible, and the sooner they learn this the better for everybody concerned. A little study in cooking will amply repay, for the working classes cannot afford to waste their money on food that is positively injurious. Beef or mutton may be boiled, baked, or roasted, but never fried or stewed except by an expert.

If the young ladies want to have happy, healthy husbands, who will call them blessed, they should think less of the vote, the picture hats, and roller-skating, and go in for a course of domestic economy.

"THE common towel is doomed to follow the common drinking-cup. The board of health of the city of New York has ordered that public wash-rooms make arrangements to prevent the use of a towel by more than one person."

RATHER a grim bit of evidence concerning liquor-selling, says an exchange, is furnished by a manufacturer. Seeking in a certain neighbourhood for a new situation for his plant, he announced at the start that he would consider only those towns that license the sale of liquor, and would pledge themselves to continue to do so. The reason he gave is that in no-license communities he has found it impossible to get the necessary women and girl labourers. In such communities, women do not have to go out to work; their husbands or fathers support them.



To Save Boys from the Gangs

IF a false emphasis were not laid upon head-work in our schools, declares Mr. Jacob A. Riis in the *Craftsman*, "if real training of hand and eye went with book-learning as an equal partner, the result would be a wide-awake and competent lad, instead of the chap who can only fetch and carry, and does not think for himself." We read further:—

"Every schoolhouse in our cities should have its workshop that should share the boy with the classroom, and the girl, too. All children should be taught how to use tools, not to make mechanics of them, but men. They all want to learn. Why is *Robinson Crusoe* every normal boy's hero? Why are the Scouts so popular? Because to him they both mean doing things. Making mud pies is good for children because it is a first lesson in manual training. We do not expect them to become bakers, but as they pound their little piles of sand we see initiative growing in them, individuality, the very thing our age of machinery is doing its best to kill. Take his scout's trappings from him, try to choke off the budding interest in life, and see how quickly the lad escapes to the street, if he can, and joins the gang. There, at least, he can be himself; he can choose his own leaders; he can do something, and if he does the wrong thing, who is to blame? That is one reason why his play is so important: it gives him a chance to express himself. So do the tools he works with. The world comes to mean something to him. The very things his books tell him of become real. Thoughts are translated into action, and with experience comes self-reliance. We think of the skill of the mechanic as being of the hands. We err; it is in the brain which guides the hand that the skill resides. Manual training is, in fact, mental training. The boy finds himself, and knows what he wants to do."

Mr. Riis draws an illustration from Worcester, Mass., where they made a "dead-cat dump" into a garden, with the children as gardeners. He says:—

"They did thirty per cent better work at their books for it,' was their experience. The gang had owned the neighbourhood before. 'Thou shalt not steal' had been a good joke there; to the police it was a running fight. Eight hundred youngsters cultivated six hundred gardens the second year, and raised twelve hundred dollars' worth (£240) of vegetables. Mischief and stealing ceased altogether. The police took a long breath and owned that respect for law and property had succeeded the old order of things. 'The business instinct received a new impetus in doing something.'

"That was manual training out of school. New York has the same story to tell in the region just north of Hell's Kitchen, where Mrs. Parsons has been at work this half-score years. The boys there 'stole all they could lay their hands on,' and went gaily to gaol as on an excursion to 'Larry Murphy's Farm.' They called themselves the Sons of Rest. The police buckled their belts a little tighter when they heard there was going to be a garden in Hell's Kitchen. To them it meant some new kind of trouble. And there could not have been a worse beginning. They had only clamshells for tools the first year, and the city owned no plough strong enough to break that soil in which generations had deposited their refuse. That was then; last year Mrs. Parsons marshalled eleven hundred young gardeners, one hundred and fifty of them cripples. Not a tool was stolen. No marauder invaded the garden, not even to dig worms when a school of sunfish came down the river and bait was as scarce as hen's teeth. The destructive forces of the neighbourhood had been harnessed by so simple a

thing as a garden-patch, and made constructive. And 'a sense of the dignity of labour' had grown up in that of all most unlikely spots, that made the young gardeners willing and anxious to work for the general good as well as for themselves. Their little 'common' was their chief delight. The Sons of Rest disbanded."

though they laughed at him, and dubbed him 'Potato Pingree.' Out in the boroughs our national wastefulness fairly stares at one. From where I sit writing this, I can see an acre lot that, with its rank weeds, is the one hideous blot on a landscape of pretty homes. It has been so all the years I remember. Right behind it is a church, the Sunday-school



A BOY FARMER

A boy who is industrious enough to grow a pile of corn cobs will not join a gang of idlers.

In the past the street has set a trap for the boy. Mr. Riis now proposes that "we enlist it for good, and take the experience of Worcester and Hell's Kitchen for our guide." Going on:—

"Why not use the countless vacant lots in our cities that are not needed as playgrounds, for profitable gardening, instead of handing them over to waste, and ugliness, and devilry? Pingree did it in Detroit to the great good of his city,

of which might raise potatoes in it to pay for its summer outing, or else to give to the poor instead of depleting mamma's larder on Thanksgiving day with a rank pretense of being charitable. It would do the school good in a dozen ways, and the town, too, for it would be doing something real instead of pretending. Besides, it would be no end of fun, and when you provide fun for the boy, you give him the chance of being good that

prevents his being bad. Perhaps they thought of that in France when they made it law that every country school shall have a garden. The children work in it, have a good time together, and help support the teacher by their work, the while they learn the thrift that has made the French peasant prosperous and contented.

"Philadelphia has for fourteen years carried on the cultivation of vacant-lot gardens, wherever land can be borrowed of the owner. Last year more than a thousand men and women out of work earned there sixty thousand dollars, at an outlay for ploughing and planting of about six thousand dollars, that is, they took ten dollars out of the soil for every dollar they put into it. That was truly bringing the land and the man together."

colour is reduced in darkness, while conversely, lowering temperature tends to darken the appearance of the fish. In a series of more recent experiments Von Frisch has exposed only a limited area of the surface of the fish to the temperature applied. Under these conditions he found the effect reversed, heat causing expansion and cold contraction of the pigment cells. The action was found to be local and independent of the blood circulation. Severing the spinal cord does not destroy the effect, but it is not yet certain whether the influence is due to direct action on the pigment cells or to a reflex action through the sympathetic nervous system.—*Scientific American*.

Did You Know This?

CHICKENS and other birds roosting at night on a perch no bigger than a lead pencil, never fall off. Do you know why? "The tendon of a roosting bird's leg," said a farmer, "is so constructed that when the leg is bent at the knee the claws have to contract—can't open till the leg is straightened out again. Thus a chicken getting on its perch bends its knee to be comfortable, and with the bending locks itself, as with a key, to the wood. It can't come off."

Temperature and the Colour of Fish

EXPERIMENTS have recently been conducted, says the *Scientific American*, to determine the influence of temperature upon the pigmentation of fish. The general result, as hitherto accepted, is that an increase of temperature tends to produce a contraction of the black pigment cells, whereby of course the surface





THE CHILDREN'S HOUR

Our Wonderful Tongue

IN spite of certain undeniable disadvantages, the English language steadily makes headway. There are few tongues so hard to master. One foreigner, who has had his troubles, but has won his way to a perfect command of the language, has presented in *The Bookman* some of the humours and some of the difficulties which belong to this richest of living languages.

As a boy, I heard a fantastic Turkish legend which, to my mind, aptly illustrates the actual facts concerning the origin and formation of modern English.

After creating the first parents of each of the races, the story runs, Allah took a large piece of meat, and cutting it into slices, distributed them among all the people to serve them as tongues. For some reason the Englishman was absent when the others received their share. At last he came into the presence of his

Maker, and in mute humility begged Him to put a tongue into his mouth. But nothing was left of the meat. So Allah was obliged to cut a little piece from the tongues of all the others, and joining these pieces, He fashioned a tongue for the Englishman.

The orthography of the English language does not by any means contain all of a foreigner's troubles. One of the most perplexing characteristics of the English tongue is the fact that, as a rule, the same word has different meanings. My dictionary gives to the verbs see, lead, hold, and draw fourteen, eighteen, nineteen and thirty-two meanings respectively. Now, for a foreigner to be able to distinguish all these various meanings is a tremendous task. The words which have only one or two meanings are comparatively few. Is it surprising that a foreigner is often puzzled by the numerous

and sometimes opposite meanings of many an English word? Just as an illustration, consider the perplexity of a persevering Frenchman over the meaning of the word "fast."

"Zis horse, sair, he go queek; what you say?"

"Yes, he is a fast horse."

"Ah, pardon, monsieur, but your friend say he make fast his horse, and he tie him to a post so he no go at all."

"Very true; he is made fast by being tied."

"Ah, zat cannot be; he cannot go fast. But what you call a man that keeps fast?"

"Oh, he is a good man that does not eat on fast days."

"But I have seen one *bon vivant*, who eat and drink and ride, and do everyzing. Ze people say he is a bad man—he is very fast."

"True, that is called living a fast life."

"Ah, *certainement*. Zen all ze days of his life must be fast days."

"No, of course —"

"*Eh bien*. Does he eat every day?"

"Certainly he does."

"Zen how can he keep fast?"

"Why, he keeps going, to be sure."

"Vy, you tell me to stand fast when you want me to keep still, and go fast when you want me to run. How can I understand?"—*Youth's Companion*.

The Miner and the Canary

OUR title suggests a fable after the order of the "Lion and the Mouse," and no doubt a modern Æsop could construct a very pleasing tale with a telling moral based upon the important part that the canary now plays in warning rescue men of the treacherous fire damp. About fifteen years ago Dr. John Scott Haldane, who had studied conditions in Cornish collieries, suggested that canaries could be used to advantage for detecting poisonous gases. These delicate birds are very susceptible to impure atmosphere, and can thus be used to give a warning

before a man feels the slightest discomfort. The first test of canaries in a real mine disaster in America took place at the Cross Mountain mine explosion at Briceville, Tenn. Here the government rescuers, equipped with oxygen-making machines upon their backs, and carrying caged canaries, were followed by squads of unprotected volunteer rescuers. The birds were watched, and as long as they remained cheerful all was well; but when their wings began to droop and they gasped for breath, it was known that the men without oxygen machines must venture no farther. The canaries drew the line of safety, and as a result no volunteer rescuers were exposed to the dangers of after-damp.—*Scientific American*.

The Song Cure

MRS. REID, going out upon the shady side piazza to shell her peas, caught a glimpse of blue behind her next-door neighbour's vines, and dropping peas and bowl, ran delightedly across the lawn.

"Why, Lucy Maxwell," she cried, "when did you get home?"

"Last night. I was going to run across as soon as I could get a moment. Here, take this chair; that one is apt to tip over."

"Never mind chairs!" her neighbour cried, warmly. "I just want to see you. You look a hundred per cent better. What have you been doing to yourself?"

Mrs. Maxwell's eyes danced mischievously. "I've been taking the song-cure," she answered, demurely.

Mrs. Reid, the warmest-hearted little body in the world, was also excitable. Her questions fairly tripped over one another.

"The *song-cure*! I never heard of such a thing! What is it, and where do you take it, and how did you ever come to hear of it yourself?"

Mrs. Maxwell laughed, and answered the last question first—the order did not matter with Mrs. Reid.

"I 'took' it in a little town twenty

miles from here. You know how tired I was. I couldn't rest days or sleep nights, and finally an old friend insisted that I go to Upton and spend a fortnight with the Freys. She wouldn't tell me much about them—only that she was sure I would like the place. I found it a big rambling old farmhouse with no other house in sight. There were five children—

"Five children! And you went there to rest!"

"Five children, and I went there and rested," Mrs. Maxwell corrected her.

"It was this way. Every one of the family sings. None of them has a remarkable voice, but they all love music, and it's as much a part of their life as bread and butter.

"Well, when any one of the children does anything that has been forbidden, he is sent to his room to sing till he is ready to say he's sorry. He may choose his own songs, but sing he must.

"One of them, Jimmie, has a quick temper." Mrs. Maxwell laughed at the memory. "Have you ever tried to sing when you are angry?"

"Never!" Mrs. Reid declared, fervently.

"Well, try it. You'll find you can't possibly do it and stay angry. Jimmie couldn't, to save his life. As for me, I grew so interested watching the effects of the song-treatment on those lively youngsters that I got rested before I knew it; and since I've come home, I've found it works exactly as well for other things."—*Selected.*

THE rule to find out what a boy likes to do and let him do that, is good, provided, in addition, you find out what he does not like to do, and make him do that also. The mind and the will need discipline as well as the body. A boy gets strong through using his muscles until they ache, and then through keeping on using them until the ache wears off, and flabbiness becomes firmness. Then he can endure.—*Selected.*

Puggins and Poppett

"WELL, well, what's the matter, Tiddle Tiddle Toodlekins?" said big brother Dick, as he saw his small sister sitting in the big arm-chair, looking very disconsolate.

"O Dick," said the little girl, whose name was really Gertrude, but who was called "Trudie" for short, and "Tiddle Tiddle Toodlekins" when Dick wanted to tease a little, "I'm so worried about Puggins and Poppett, the little kittens Mrs. Spencer gave me. Their mother died, and the poor little things are too young to drink milk themselves. We must find some way to feed them, but I've tried all sorts of things, and I can't teach them to drink. They are getting so thin I don't know what to do."

Dick thought a minute, and then he said, "Come on, Trudie; I know the very thing." He ran upstairs to his room, and pretty soon came back with something in his hand. "Now," he said, "come out where the kittens are, and let's see if I can get them to drink."

First they went to the kitchen and heated a cup of milk, not really hot, but just nice and warm. Then Dick and Trudie went out to the shed, where the two little motherless kittens were in their box. Really, they were very thin, for, as Trudie said, they had eaten nothing for two days. Dick took one of the little kittens up, and then Trudie saw that what he had in his hand was a nice, new, clean fountain-pen filler or medicine-dropper. He filled the dropper with the warm milk and put one end in kitty's mouth. He then pressed the rubber end of the dropper, and kitty tasted the warm milk in her mouth. How she did claw and struggle to get more milk!

Trudie held her in her arms, and Dick fed her with milk until she was satisfied. Then Trudie put her back in the box, and the other kitten was fed in the same way. Trudie fed them with milk in this way for several days, until they learned to drink milk out of a saucer.

The kittens are sleek, grown-up cats

now, and well able to take care of themselves. They have forgotten all about how they used to take milk out of a medicine-dropper, but Trudie has not forgotten, and she thinks Dick is the nicest brother in the world. I rather think that Puggins and Poppett think so, too.—*Robert Seaver, in Youth's Companion.*



"SLEEK, GROWN-UP CATS"

The Light of Genius

"BOXVILLE," related little Mrs. Spicer, "was the greatest place for borrowing I ever lived in. Nearly every one had fallen into the habit, and all borrowed of one another—everything from buttons to setting hens. I like to oblige my neighbours, and I had had the pleasure of lending eggs, pies, pans, coal, starch, music, scissors, aprons, table-cloths, fruit-jars, carpet-sweepers, and even my children. Mrs. Huskins sent over once to know if I wouldn't lend her Kitty to take care of her baby while she went to town.

"Well, I was so used to being borrowed of that I wasn't disturbed when Mrs. Gorley asked one day if I wouldn't hurry up my baking so as to lend her my bread-mixer, and I didn't think that anything in the borrowing line could surprise me; but I was puzzled once when Tommy Lang came over and said his mother wanted me to let her have the lamp that wouldn't burn.

"'Why, Tommy,' I said, 'I haven't any lamp that won't burn. We use gas,

and the only lamp I have now is a new one; we use it to carry about the house. Do you think your mother wants that?'

"Tommy yanked at his red hair a minute. 'No'm,' he said, 'we got plenty of lamps. I b'lieve ma said it was a book. She said tell you Mr. Spicer said she could have it.'

"Just then Mr. Spicer walked in and heard Tommy's last words. 'Susie,' said he, 'I forgot to tell you I promised Mrs. Lang Kipling's "Light That Failed." She hadn't read it, and she said she'd send Tommy over for it.'

"I got the book for Tommy, and then drew a long breath of relief. I was so glad it wasn't our one lamp that was wanted!"—*Selected.*

The Power of Music

MANY as are the tributes to the power of music, you seldom find so picturesque and dramatic an illustration of it as appeared during the recent swimming of the English Channel by Mr. Burgess. When weather and water were at their worst, and he felt his strength ebbing, he asked his friends in the boat to sing to him. They sang the "Marseillaise." Instantly the swimmer's stroke lengthened and his pace improved. Again, when he had almost reached the French shore, he repeated his request, and the men in the boat sang the "Marseillaise" once more. It stirred him to summon his last ounce of strength; and so this Englishman, son of the traditional enemy of France, was able to win his way by the point of a tide-swept headland, and set his feet upon the soil which gave birth to the great song. It was as pretty an international incident as may be met in a lifetime.

"WE know that George Washington began as a boy to be true and honest. Every boy can begin that way.

"And we all know, too, that such a beginning leads on to noble manhood."

Chats with the Doctor

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

NOTICE.—Subscribers sending questions to this department should invariably give their full name and address, not for publication, but in order that the Editor may reply by personal letter if he so desires. Because of this omission several questions have not been answered.

56. Old Age; Heart Disease; Plasmon.—“I shall be pleased if in your next issue of LIFE AND HEALTH you will say whether the enclosed cutting respecting elderly people eating bread is correct?”

Ans.—It is an error to suppose that the eating of a reasonable amount of good bread hastens old age and shortens life. The theory is that the salts contained in bread harden the arteries, and as a French physician has said, “A man is as old as his arteries.” The fact is, however, that the use of bread has nothing to do with these arterial changes, which are in reality brought about, in the majority of cases, by the use of alcoholic drinks.

2. “Is it safe for people with any form of heart disease or weakness to practise deep breathing?”

Ans.—Deep-breathing in heart disease is not injurious; it is, on the other hand, beneficial. Straining should, however, be avoided. The most successful methods of treating diseases of the heart consist in the judicious practice of graduated exercises and the employment of effervescent baths—Nauheim baths, as these are called.

3. “I would very much like to know your opinion about plasmon. Is it as good as the enclosed paper says it is? Would it do for a person with whom milk does not agree?”

Ans.—As is common with all patent foods, manufacturers of plasmon make extravagant claims for this preparation. Consisting as it does of dried milk from which the cream has been removed, it is of less value to the body than pure, fresh, whole milk.

As to the digestibility of plasmon, it does not digest more easily than milk,

except for persons suffering from dilatation of the stomach. In these cases it agrees better because an equal amount of nourishment can be introduced in less bulk in the form of plasmon than as milk. Milk may be concentrated at home by the removal of whey. A simple method of doing this is to curdle slightly warmed milk with lemon juice. Strain off the whey, and mix the curd with a little cream. In the same way the curd may be obtained from lactosa, which, by the way, is one of the most easily digested and beneficial forms in which milk can be taken.

57. Urticaria; Threatened Ulceration.—“My sister suffers at the change of every season from a terrible itching of the skin. Hard lumps about the size of a threepenny piece and larger come out all over her body, and are at first white, but turn red after having been out an hour or two. I will be indeed grateful if you will advise me.”

Ans.—Your sister's ailment is known by various names—urticaria, nettle rash, hives. This itchy eruption is due only in part to over-heating and irritation of the skin, its underlying cause being poisons which are absorbed by the blood from the alimentary canal. A small dose of Epsom salts or other mild purgative, followed by a cleansing enema, soap bath, free water drinking, and a low diet for a day or two, such, for example, as fresh fruit, fresh fruit and dextrinised breads, or lactosa and zwieback, is all the treatment that is needed. Avoid irritation of the skin by wearing either linen or cotton loose cellular garments next the skin. Fuller's earth or talc toilet powder may be dusted over the itchy skin.

2. “Will you also tell me what is best to do for my mother. She has a small, angry-looking spot just above the ankle.

It does not pain, but it itches dreadfully, and has been there several months. Will be glad to have your valuable advice, as the thought of her having a bad leg is painful."

Ans.—Your mother is evidently threatened with ulceration of the leg. The itching angry-looking spot is an eczematous patch which is likely to break down and ulcerate unless preventive treatment is adopted. To prevent such a troublesome condition, the leg should be kept elevated, and treated with cold boric lotion compresses. Boil a quart or two of water, and dissolve in it a dessertspoonful or two of the boric crystals. Wet a clean, soft, cotton, or linen cloth in this solution, and apply to the affected leg, lightly bandaging in place. Change this compress every hour or two till the angry look has disappeared, then apply a little bismuth ointment. Keep the leg elevated till the skin is quite healthy. The patient may sit in a chair with the foot on another, or lie upon a couch or bed with the leg resting on a pillow.

58. Neurasthenia.—"I have recently become a subscriber to *LIFE AND HEALTH*, and have been much interested in its instructive articles, and its answers to correspondents. I broke down in health a little over four years ago, and have not yet regained my strength, so I am writing to you in the hope that you will be able to give me some helpful advice. My trouble is neurasthenia. I eat and sleep fairly well, and yet have no strength to speak of—no endurance. I am fagged out before an ordinary person feels tired at all. I cannot get up to breakfast, for a nausea and faintness settles on me before I am dressed unless I have had my food, and I am of no use for the day. It seems so idle to stay in bed for breakfast habitually, but I have proved that it is the greatest economy of time to do so. For fully two years I was under doctors, and took all kinds of medicine, but in spite of everything we tried I got into a dreadful state. Then in desperation I stopped everything, and I have gradually

improved, though I am still a long way from being well. For about a month I have been taking a cold sponge each morning—I find it so highly recommended in your magazine. I think it has done me good."

Ans.—What you really need worse than all else to improve your condition of health is a course of treatment under medical supervision in a health institution where suitable diet, hydropathic, electrical, and other treatments are available. I would strongly advise you to spend a period of not less than three months at a sanitarium.

In the way of home treatment, you could take a cold morning sponge or friction bath, which you have already started; and with this a glass of cold water. These taken soon after waking should prevent the nausea and faintness, and enable you to rise before breakfast. The night's rest could be supplemented later by an hour's rest before dinner. Again before tea you could rest if you find it helpful to do so. It is better to rest before meals than after, as is commonly done. You should spend much time out of doors. It would be well for you to sleep out, and to exercise as much as you are able in walking, gardening, and so on. Better get right away from the home cares for the first few months, however. This would get you out of certain bad habits into which you may have fallen, and would give you a good uplift toward health.

59. Condensed Water; Tired Feeling.—"Is condensed water good to drink, as all germs are taken out of it? If not, will you kindly suggest what would be the best way to make it good to drink?"

Ans.—Water obtained by the condensation of steam is an excellent drink, as it is not only free from all germs, but free from mineral substances as well. Distilled water, as this is called, to most palates seems very flat. This is due to the fact that it is unmixed with air. By vigorously shaking such water, or by whipping or beating air into it, its taste

is completely altered. It is a wholesome drink, however, even when unmixed with air, though not so palatable.

2. "Will you please tell me of a cure for a very tired feeling. My husband is a hard working man, and he goes to bed early, but gets up feeling tired; in fact, he is always tired, and goes off his food. We are vegetarians, but are not always able to get fresh vegetables and fruit, so have to rely on beans, peas, and lentils. What would you suggest?"

Ans.—In reply to this question, I would say that your husband is living too largely on peas, beans, and lentils. An excess of these foods would account for the tired feeling of which he complains. Later he may get rheumatic pains if he continues on his present diet. He should have some fresh fruit or vegetables each day. He should also take milk and cereal foods. Eggs may be eaten, but not too freely; not more, perhaps, than two a day. You must try to grow something in the way of vegetables and greens in your garden. You could also get some of the health foods, such as granola. You will find granola a much better staple food than peas, beans, or lentils. The latter should be somewhat sparingly used. Try to introduce greater variety into your husband's dietary.

60. Anaemia; Faint Turns; Abnormal Cravings. "A girl friend of mine for seven years has suffered with anæmia. She used to get faint turns, but these have

left her, though she is always languid and tired. She craves for quantities of salt, dry tea, and dry soda. She has shortness of breath, and suffers somewhat from constipation. What would be the best diet and treatment for her?"

Ans.—The abnormal cravings of this young girl are evidence of a state of malnutrition. She should be properly fed, and these cravings will cease. Her diet should be similar to that of the ordinary healthy young person, consisting largely of milk and cereal foods, such as granose, granola, rice, oatmeal, macaroni, and zwieback. She should also have sweets, such as melsitos, dates, figs, and honey. A sufficient proportion of fat is important, and this is best taken in the form of nuts, and nut preparations, sterilised cream, butter, ripe olives, and olive oil. Besides the foods mentioned, fresh fruits may be freely eaten, and properly cooked, easily digested vegetables. One or two of the following special foods should be partaken of each day until the blood is enriched, the colour improved, and the girl is in robust condition: bromose, malted nuts, eggs, especially egg-yolks, and forty per cent gluten meal. The quantity of milk to be consumed is not less than two pints a day. The quality should be rich Jersey milk. Your friend, on this diet, will soon lose her craving for dry tea, soda, and salt. She should live a healthy, open-air life, and take a daily cold friction bath.

Report in six weeks how much she has gained in weight, improved in colour, and otherwise benefited.



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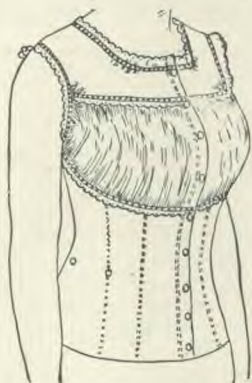
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Granola Makes a satisfying, dainty meal. It is thoroughly cooked before it leaves our factory. Besides being a breakfast-food, it also makes delicious puddings and custards.

Gluten Many who cannot easily digest starchy products have found our Gluten food a great boon. It is made in three grades, 90%, 40%, and 20%, the two former being indispensable in cases of Diabetes.

Also made in biscuit form

Write to any of our Branch Addresses for Free Booklet containing recipes and other useful information:

SYDNEY, N.S.W., 45 Hunter Street
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ADELAIDE, S.A., 23 Weymouth Street
PERTH, W.A., 103 William Street
HOBART, Tas., H. Moore, Liverpool St.

LAUNCESTON, Tas., J. Beck, Charles St.
BRISBANE, Qld., 186 Edward Street
WELLINGTON, N.Z., 10 Manners Street
AUCKLAND, Strand Arcade, Queens St.
CHRISTCHURCH, N.Z., 86 Cashel St.

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SYDNEY : Royal Chambers, 45 Hunter Street.

ADELAIDE : 28 Waymouth St. (near King William St.)

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