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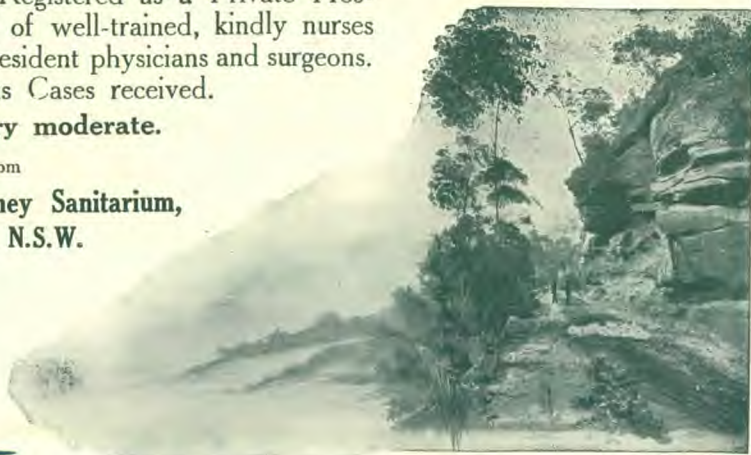
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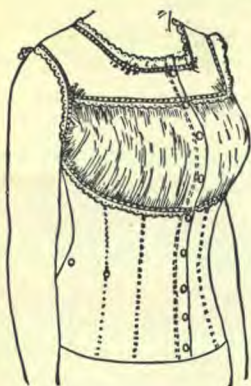
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As this issue of LIFE & HEALTH goes forth to our readers, we feel sure that it contains much that will commend itself to them. We wish to make our magazine as helpful as possible to the public, and in as many ways as possible. Not only do we desire to provide our readers with practical, medical knowledge, but also such information as will make for a higher and healthier plane of living, and help them upward and onward generally. Out of the abundance of interesting matter in this number, we select a few items for brief mention. "Children's Coughs and Colds," by Dr. Eulalia S. Richards, will be found timely, and ought to prove of value to mothers and others who have the care of the little ones. We would bespeak for this article a careful reading. "Influenza" is another valuable article. "Accidents and Common Ailments," by Dr. G. K. Abbott, will at once commend itself, for the doctor has given in easy, readable language, simple, effective methods of treating sprains, burns, sore throat, etc. Mothers will welcome "A Bundle of Possibilities," by Dr. Ethel M. Heynemann, and will find the hints given eminently practical and useful. Dr. W. Howard James has not only contributed an interesting article on "The Daily Amount of Food Required in Health," but also the usual "Chats," which are always welcomed by numerous readers. And besides these there are other interesting, helpful, valuable articles, from which our readers will not fail to gain benefit.

We would draw our readers' attention to the advertisement, in this issue, of Messrs B. Callose & Sons, Sydney, in regard to Salutus Soap, for which they are the Australian agents. This soap is made in Italy, of pure, Italian olive oil, and by first-class Italian makers; it does not irritate the skin, is pleasant to use and refreshing, and is, withal, medicated and agreeably perfumed. It is used and recommended by the Sydney Sanitarium, and our readers will find it a toilet soap in which are combined superior merit and moderate price.

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LIFE &

HEALTH



Vol. 3

August-September, 1913

No. 4

## Beneficial Influence of Sanitary Reform

A. W. ANDERSON

WITH all deductions, the triumphs of sanitary reform as well as of medical science," says W. E. H. Lecky, "are, perhaps, the brightest page in the history of our century." Hand in hand these two important factors in modern civilisation have worked for the health and happiness of the human race. That they have already achieved marvels, not only in curing but in minimising disease, is something for which humanity should be profoundly thankful. But while much has already been done, much more remains to be accomplished, especially in educating the masses upon the question of the importance of co-operating with the health authorities in their efforts to introduce efficient sanitary regulations which have for their object the purification of public food supplies, the disinfection and destruction or disposal of public refuse and filth, and the protection of the community against the introduction of epidemics.

The amount of ignorance which still enshrouds the public mind upon the question of health is appalling, and constitutes a constant menace to the best interests of every community. Many people pay no attention whatever to the question of

health reform. In fact they despise the whole movement, and regard as infatuated cranks all who attempt to offer any instruction along the lines of healthful living. Even amongst those who cultivate habits of personal cleanliness there are some who fall into the error of supposing that all that is necessary for their protection against disease is to study *personal* cleanliness. Every-day experience proves to the contrary, however.

In his "Principles of Sanitary Science," W. T. Sedgwick, Ph. D., says:—

"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.

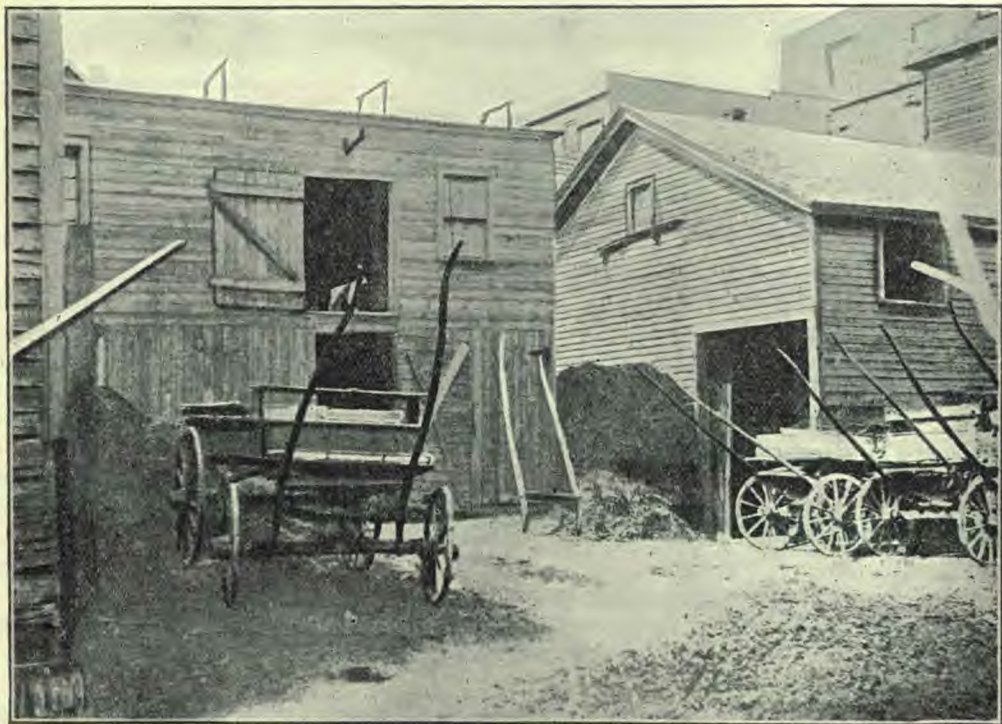
"It follows as a matter of course that personal cleanliness is more important than public cleanliness. In other words, that the avoidance of personal filth is far more necessary than, for example, is

cleanliness of streets, backyards, 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

is one point from which the germs of infectious disease may find admission into the body danger may be imminent."

#### Invalid Objections to Sanitary Regulations

Notwithstanding the dangerous diseases which lurk in an insanitary food or water supply, there are countless thousands who regard pure foods acts and other sanitary regulations as obnoxious restrictions upon the liberty of the subject. In this, how-



Barns with Insanitary Manure Heaps

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 unexceptionable, 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

ever, they are utterly mistaken, for such legislative enactments are nothing of the kind. They are intended to operate solely in the direction of the public benefit, and as such, cannot be regarded as undue interferences with the liberty of the subject, inasmuch as an insanitary backyard, or an insanitary house, or insanitary drains, or insanitary or dirty people are a menace to the health of the whole community. If a man suffers from leprosy, smallpox, diphtheria, or some other pestilential malady, it is not an

undue interference with the liberty of the subject to isolate him that he imperil not the lives of others. It would be a menace to the liberties of all the other individuals in the community to permit a man suffering from a deadly contagious disease to roam at large imperilling the lives of his fellow-men. He may regard the restrictions which are placed upon him as an infringement of his liberty, but the community turns a deaf ear to his protests, and prevents him from contaminating the health of the community. The same is true also of a man who possesses filthy premises, or foul drains, or who fails to dispose of his garbage in the prescribed fashion. He cannot rightly protest against the fine which the health authorities may inflict upon him, because he has transgressed against the community of which he is a member in that he has permitted a condition of things to exist upon his premises which is a menace to the lives of his fellow-men.

#### Public Evils Which Should Be Prohibited

Let us now apply this line of argument to other public evils. If it is wrong for a man to permit his premises to become a menace to the well-being of the community, and if it is right for the community to enforce a penalty against him for so doing, then it must be equally right and lawful for the community to restrain a man from using opium or alcohol, by which he not only shortens his own life, but endangers the lives of others, and impoverishes and pauperises his children. If a man through drink is led to neglect his wife and children, and leave them without the necessaries of life, their vitality is diminished, and they fall an easy prey to consumption or some one of the infectious diseases which periodically ravage the community. The actual cause of their untimely deaths or miserable lives is drink. At the bar of universal experience drink stands condemned as the chief cause of crime and poverty. In the name of commonsense we ask, why should such a culprit be permitted to continue its soul-destroying business, robbing men of

their mental and physical powers, pauperising a large proportion of the nation, converting good husbands and kindly fathers into fiends, robbing children of their parents, wives of their husbands, and husbands of their wives? One would think that a culprit guilty of such wickedness would be banished from the Commonwealth by common consent of the citizens. But instead of a decree of banishment being issued against it, this promoter of vice, poverty, and sin is protected by law and licensed by the government, and if any effort is made to drive this demon out of the country, those who profit by the moral weakness of its devotees talk loudly about "vested interests" and "the liberty of the subject." What about the "vested interests" of the families whom this demon has robbed of their breadwinners? Are these widows and orphans to have no consideration at all? Must we consider only the "vested interests" of a trade which fattens upon the moral weakness of unfortunate men and women who have been deceived at the shrine of Bacchus, and turn a deaf ear to the cries of the innocent victims who are powerless to protect themselves?

While we implicitly believe in the liberty of the subject, yet we are just as strongly of the opinion that the subject should not have liberty to imperil the lives of those depending upon him, nor to rob them of their food, clothing, and shelter which not only the law of the land but nature itself demands him to provide. Some men seem to overlook this fact. Their moral obligations have become so deadened that they recognise no obligation to provide for those depending upon them. They will spend their last farthing to satisfy their craving for drink. Others, again, who have not become quite so depraved, will not hesitate to expend in providing themselves and their friends with intoxicating liquor money which should have been used, maybe, for food or clothing or other necessities for their little children who are absolutely dependent upon them for their sustenance. If anyone suggests that the temptation to

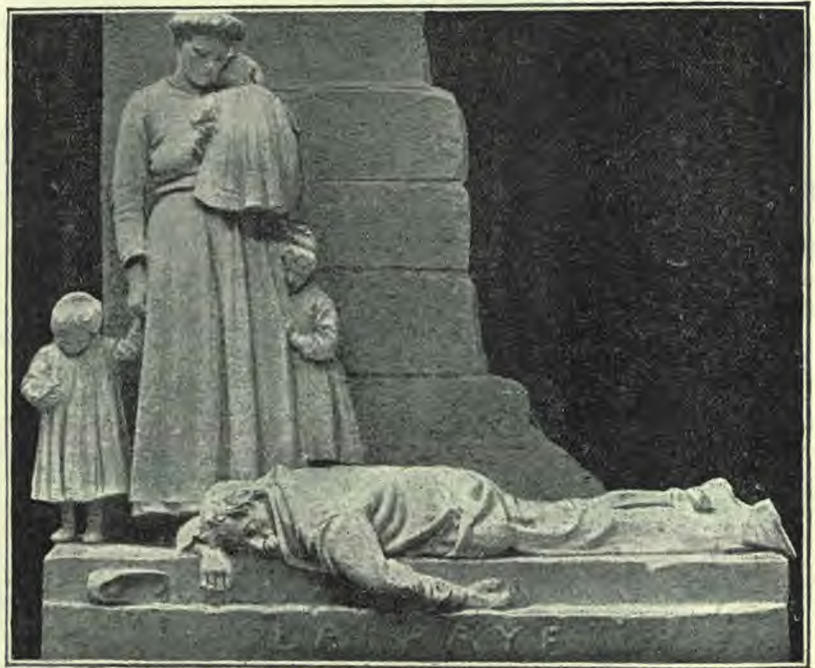
rob their children in this way should be placed out of their reach, they at once declaim about individual rights, forgetful of the fact that their children also have rights, and that it is the bounden duty of the State to protect them in the enjoyment of these rights. The day is far in the past when it was admitted that a man could do as he pleased with his children.

Nature itself expects a man to shelter and protect his wife and children, and to provide them with sustenance. If he ignores this natural law, the community has a right to step in and teach him his duty. This is tacitly admitted throughout the civilised world. By what kind of logic, then, can it be shown that it is no interference with the liberty of the subject to compel him to shelter and sustain his children, while it is an infringement of the liberty of the subject to remove from his reach a poison which has to a greater or less degree robbed countless millions

of children of their food and shelter? If it is legitimate to compel the wife deserter to support his wife and children, surely it is equally legitimate to compel the drunkard to support his own family instead of enriching the liquor sellers and brewers, and seeing that the victim of strong drink is usually powerless to resist the temptation of the open door of the public house which lures him to his own destruction, the only effectual way to protect him is to close the public house and abolish the family-wrecking business once for all.

Those strong-minded men who claim to have sufficient moral backbone to refrain from drinking to excess ought to be willing for the sake of their weaker brethren to stiffen their backs a little more and refrain from drinking altogether. They should also remember that the drunkard whom they now despise or pity was once, perchance, possessed of as much moral backbone as they now boast of.

For the sake of the heart-broken wives and widows, and the starving children of



A graphic comment in stone on the saddening and debasing effects of the liquor traffic

drunkards, we appeal to the common-sense of the men and women who claim to possess enough moral backbone to restrict their drinking to moderate limits to exercise a little greater self-denial, and assist the temperance cause by demanding the prohibition of the manufacture and sale of intoxicating drinks. Were this happy condition inaugurated in our fair country, liberty would be proclaimed to many who are now in captivity and the opening of the prison to many who are now bound.

## The Daily Amount of Food Required in Health

W. HOWARD JAMES, M.B.,B.S.

**T**HE question is frequently asked, What is the daily amount of food that should be taken to maintain the body in health? Undoubtedly most people eat more than is required; and, on the other hand, many eat too little. The circumstances of every life vary so greatly that it is impossible to give any very definite answer to the question. We certainly do not think it would be at all pleasant or helpful for any man to sit down to his two or three meals a day with scales and weights on the table for the purpose of doling out the ounces and grains of the various food stuffs he should consume. To our mind it would seem an insult to nature. Even in the same individual the quantity of food necessary must vary considerably; it will depend on whether his work be active or sedentary; the temperature of his environment, whether it be summer or winter, whether he live in the tropics or Arctic zones; the kind of food taken, whether it be nitrogenous or non-nitrogenous; the digestibility or indigestibility (using the term to indicate the amount of food assimilated) of his food; if he does not assimilate most of what he takes more will be required; the way in which the food is taken, if it be taken hurriedly more will be required to produce the same results. This is especially true in regard to starchy foods. A child will require much more in proportion to its weight than the adult, and the adult than the aged. Dr. Hutchison remarks: "The dietetic requirements of old age are just the reverse of those of childhood. The assimilative power of the cells is on the wane, and the bodily activities are restricted, hence less food is required. The danger of overfeeding the old is almost as great as that of under-feeding the young; an excess of nourishment chokes instead of feeding the flickering flame of life.

Leanness and longevity, it has been remarked, go together, and a man will only roll all the faster down the hill of life if his figure be rotund." Again, a big man will require more food than a small man. The build or shape of the body is even of greater importance than its actual weight. The larger the amount of surface of the body relative to its weight the greater the amount of heat will be lost by radiation, and the more food will be required to maintain the temperature. A tall, thin man will require much more food than a short, stout man, even though their weights be equal.

A large number of very careful experiments have been made of late years to ascertain the amount of food required under varying conditions of work and rest, by estimating the amount of heat lost under these conditions. The food oxidised, burnt up, in the body supplies the body with heat and every energy manifested throughout the system. Even a thought obtains its energy from the burning up of food. The more work done the greater amount of heat will be lost from the body. The amount of heat lost will thus show us what amount of food will be required under specific conditions.

The amount of heat lost in a given time from the body, or the amount of heat produced by burning a certain quantity of food outside the body, can be accurately ascertained by such instruments as the bomb-calorimeter. If a man loses a certain quantity of heat in performing a specific amount of work, then all we have to do in order to find out the amount of food required will be to ascertain how much food, oxidised or burnt up, will produce the same amount of heat. For our calculations it is necessary to have a standard for measuring

heat, and that unit we call a calorie, which is defined as the amount of heat required to raise one litre of water 1° C, or, which is the same thing, 1 lb. of water 4° F.

It has been found that an average-sized man doing moderate muscular work gives off 3,500 calories of heat in the twenty-four hours. Ruben estimates the amount at 3,121 calories; Atwater, 3,500; and Playfair at 3,611. It must be remembered, however, that the body does not reduce all its fuel to the condition of ashes; some of it is only charred. Allowing for the charred food, it is found that the following quantities of various foods will produce the 3,500 calories; viz., 1 lb. butter, 2½ lbs. peas (dried), 2⅔ lbs. cheese, 3½ lbs. bread, 5 lbs. eggs, nearly 6 lbs. beef, 10 lbs. of either potatoes, milk, or fish, 1¾ lbs. oatmeal, or 15 lbs. apples.

Of course it would be impossible to live on one kind of food only. For instance, anything over three or at the most three and a half ounces of butter would produce serious digestive trouble. Probably bread or milk, if relied on alone, could be taken in the above quantities for some time without producing much discomfort. From the above figures, however, it would be easy to make up the 3,500 calories by taking a smaller quantity of each kind of food. For example: 2 oz. peas (184 calories), 2 eggs (140 C.), 2 lbs. bread and biscuits (2,240 C.), 1 oz. oatmeal (130 C.) 2 oz. rice (196 C.), 2 oz. butter (444 C.) 8 oz. of milk (166 C.). If this be thought too rich in proteids 10 oz. of apples could be substituted for the 2 eggs.

Men have lived arduous lives on much smaller quantities of food without endangering their health. Hudson Taylor, for instance, while preparing in London for medical missionary work in China, writes: "I found that it was not possible to live quite as economically in London as in Hull. To lessen my expenses I shared a room with a cousin four miles from the hospital, providing myself with board; and after various experiments I found that the most economical way was to live almost exclusively on brown bread and

water. Thus I was able to make the means that God gave me last as long as possible. . . . A large twopenny loaf of brown bread, purchased daily on my long walk from the hospital, furnished me with supper and breakfast; and on that diet, with a few apples for lunch, I managed to walk eight or nine miles a day, besides being a good deal on foot while attending the practice of the hospital and the medical school." While on this diet the doctor contracted blood poisoning in dissecting the body of a person who had died from some fever—the poison entered through a prick on the finger received accidentally the previous day. "Days and nights," says Dr. Taylor, "of suffering passed slowly by; but at length, after several weeks, I was sufficiently restored to move downstairs and lie on the sofa; and then I learnt that two men, though not from the London hospital, who had had dissection wounds at the same time as myself, had both succumbed, while I was spared in answer to prayer to work for God in China." At the commencement of his illness the doctor was informed by his medical attendant that if he had not lived an abstemious life there would be no hope whatever for him. We would not recommend to anyone such a restricted diet, for the total amount of food taken daily could not have yielded more than 2,000 calories. It must be remembered, however, the greater the quantity of food taken the larger is the percentage passed off by the bowels without being digested or assimilated. Certainly none of Dr. Taylor's 2,000 calories of food could have been "charred." Nature does her best to secure all that is needed for the system. If the bare quantity is supplied it is practically all absorbed, but if much more than is really necessary be taken, some will certainly be passed on undigested and unassimilated. In cold climates fat is a very necessary food, and will be readily absorbed, but in hot climates the fat will be rejected and the carbohydrates chosen.

The controversy of late years has been over the amount of albuminous or nitrog-



enous food that should be taken, as it is recognised that over-eating of nitrogenous food is much more likely to produce permanent ill effects than the excessive use of carbohydrates or fats. The latter will produce digestive troubles, which are more or less quickly apparent; but the excessive use of the nitrogenous foods may be carried on for a considerable time before the ill effects are discerned. It is the

products, xanthis, hypoxanthis, etc., which must be got rid of through the kidneys if disease is to be avoided.

The tendency among modern authorities is to greatly reduce the estimate of the amount of nitrogenous food required. Liebig taught that force and energy depended entirely on albuminous foods, that now nitrogenous foods produced heat but not energy; but that hypothesis has



Our work determines the nature and quantity of our food

Sears, Photo.

albuminous foods that under unfavourable conditions leave in the system uric acid and purin bodies that are so inimical to our health. The carbohydrates and fats, when once digested, are readily converted into heat and energy, and the waste products are simple compounds, carbonic acid and water; and these are got rid of through the lungs and skin. The albuminous foods, on the other hand, are liable to form complicated "physiological acids," uric acid, and the still less oxidised

been conclusively proved to be erroneous. It is generally believed, however, that energy can be more quickly generated from the proteids. Dr. Pavy, in his well-known treatise on "Food and Dietetics," cites numerous experiments which show that the non-nitrogenous foods can be utilised as sources of energy equally as well as the nitrogenous. A certain amount of proteids, however, is absolutely necessary. Many authorities have arrived at the conclusion that a man doing moder-

ately hard work requires daily about 125 grammes ( $4\frac{1}{2}$  oz.) of proteids. Chittenden demonstrates that perfect health can be maintained on 60 grammes. The following quantities of nitrogenous foods would supply 125 grammes of proteids: 19 oz. dried peas,  $14\frac{1}{2}$  oz. cheese,  $3\frac{1}{2}$  lbs. bread, 14 eggs, 20 oz. beef, 27 oz. cod fish,  $7\frac{1}{2}$  lbs. milk. It must be remembered,

he estimates, should take 9 grains of albumens for every pound weight of his body (excluding excessive fat), while a man doing hard labour should take  $10\frac{1}{2}$  grains for every pound weight of his body. A growing child would require much more, 30 grains per pound of body weight. On the other hand, he estimates the amount required by old people at only six grains

TABLE OF ENERGY VALUES OF SOME FOODS

FOOD	Energy value per ounce (in calories)	FOOD	Energy value per ounce (in calories)	FOOD	Energy value per ounce (in calories)
Beef, lean, cooked	60	Oysters	15	Tapioca	96
„ fat, „	93	Milk	20	Arrowroot	96
Lamb, cooked	62	Cream (45%)	126	Macaroni	100
Veal, „	66	Butter	222	Peas (dried), raw	92
Pork, „	88	Plasmon	86	„ (green), raw	22
Fowl, „	80	Cheese, American	118	Potato, boiled	25
Duck, „	47	„ Cheddar	134	Carrots, cooked	110
Tongue, tinned	84	„ Cheshire	113	Cabbage, raw	8
Sweetbread, raw	50	„ Dutch	90	Spinach, „	10
Liver, raw	38	„ Stilton	124	Figs, dried	92
Kidney, raw	32	„ Camembert	95	„ stewed	50
Calf's-foot jelly	25	„ Cream	170	Prunes	87
Cod, raw	20	Egg (in one)	70	Raisins	106
Salmon, raw	60	Flour, white	100	Apples, raw	14
Eel, „	36	Bread, „	70	Grapes	20
Herring „	41	„ wholemeal	62	Bananas	28
„ smoked	85	Biscuits	112	Almonds	174
Haddock, raw	20	Rusks	98	Walnuts	182
„ smoked	27	Oatmeal	130	Hazelnuts	190
Mackerel, raw	40	Rice	98	Sugar	115
Sardines in oil	80	Sago	96	Marmalade or jam	98

Owing to the great variations in the composition of foods, the energy values given in this table are merely approximative; in the case of some foods, such, for example, as bacon and ham, the variations are so great as to render any statement as to the average value useless. In every case the value of the edible portion of the food is alone represented. So far as possible, the energy value has been calculated for the food as prepared for the table; but in many instances, owing to the elaborate methods of cooking employed, this has been found impracticable, and the value of the raw food is given instead.

—Dr. Robert Hutchison in "Food and the Principles of Dietetics," p. 7.

however, that there is scarcely an article of food commonly consumed that does not contain some nitrogenous elements.

Dr. Haig, a strict vegetarian, and a great believer in the value of albumens for the production of energy, from a series of experiments largely conducted on himself, gives the body weight in pounds multiplied by nine to ten and a half as the weight in grains of albumens required.

for each pound weight of body. Dr. Haig gives the following tables for a man weighing 140 lbs. doing moderately hard work:—

13 ozs. bread	-	8% albumens (= 34 grs. per oz.)	= 442
2 pints milk	-	3% „ (= 13 „ „ „)	= 525
$1\frac{1}{2}$ ozs. cheese	-	33% „ (=140 „ „ „)	= 210
2 ozs. nuts	-	16% „ (= 68 „ „ „)	= 136
11 ozs. fruit and vegs.	$\frac{1}{2}$ -2%	„ (= 8 „ „ „)	= 87
68 ozs.			1,400

These 1,400 grains=90 grammes, producing 370 calories from the albumens,

and about 2,400 calories from non-nitrogenous elements.

11 ozs. bread	...	....	=374 grains
12 ,, biscuits	...	...	=516 ,,
2 ,, rice (8% albumens)	...	...	= 68 ,,
2 ,, macaroni (11% albumens)	...	...	= 95 ,,
10 ,, potatoes (2% albumens)	...	...	= 82 ,,
7 ,, fruit	...	...	= 61 ,,
3 ,, nuts ...	...	...	=204 ,,
47 ozs.	Total of 3,200 calories		1,400 grains

6 ozs. nuts	...	...	=408 grains
2½ ,, cheese	...	...	=351 ,,
30 ,, milk	...	...	=393 ,,
16 ,, potatoes	...	...	=128 ,,
15 ,, fruit	...	...	=120 ,,
69½ ozs.	Total of 2,650 calories		1,400 grains

These tables agree fairly well with the standard daily dietaries constructed by Atwater, which include such foods as beef, pork, sausages, fish, eggs, potatoes, oatmeal, beans, rice, sago, sugar, and milk. He gives the total weight of *dry* food consumed daily at 23 oz. (or about 1 oz. per hour). This represents 45 oz. (nearly 3 lbs.) of ordinary food.

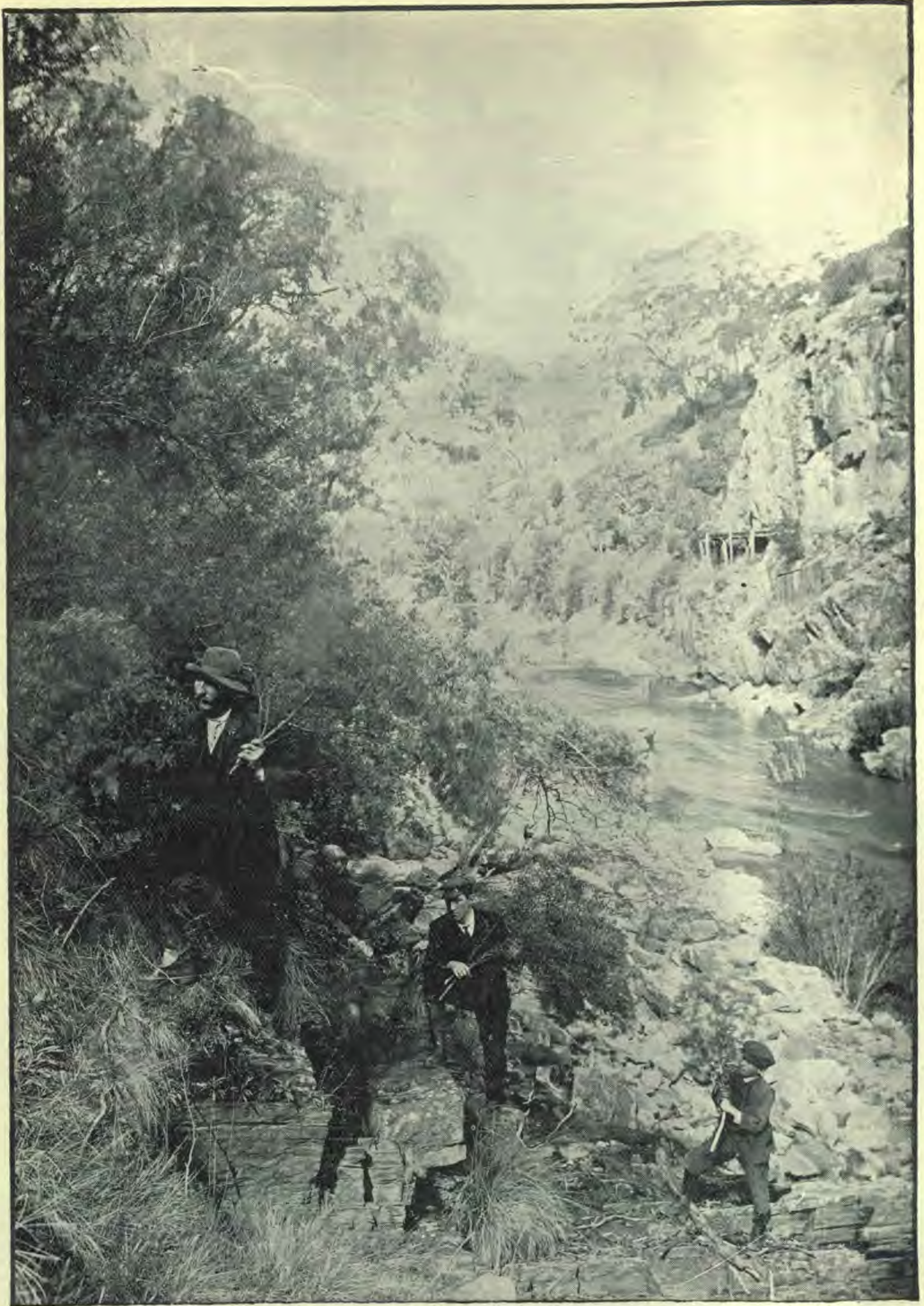
### The Blessing of Labour

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

FORTUNATELY, idleness is the curse of comparatively few, and the bulk of our countrymen enjoy the blessings of work. Hard work by itself, under anything like reasonable conditions and hygienic surroundings, and disassociated from worry, is one of the greatest blessings of the race. Man was made for work, his muscles, his heart, his lungs, his brain, aye, and his nerves too, were given him for service, and the fullest and most perfect development of the human body and all its functions comes through their natural use and activities. We get on best both physically and mentally, yes, and morally and spiritually too, when our time is fully occupied with work or play.

But we find a growing discontent even amongst the sober-minded labouring classes, and there is a growing intolerance of order, system, and discipline. The truth is that the ordinary, plain, everyday work is monotonous, and is not regarded as sufficiently diverting to satisfy the requirements of everyday life. Work, even though it may be strenuous, is a blessing to be coveted.





HUNTING FOR WATTLE BLOSSOM  
Werribee Gorge, near Bacchus Marsh, Victoria

*N. J. Caire, Photo., Melbourne*



## Children's Coughs and Colds

EULALIA S. RICHARDS, L.R.C.P. and S., Edin.

**A**T this season of the year coughs and colds reign supreme in many households. The weary mother whose rest is disturbed at night by the almost incessant coughing of one or more children will doubtless welcome a few practical suggestions as to the prevention and cure of colds in young children.

First of all it is necessary to understand the nature of this universal affection. A cold is an inflammation of the nasal mucous membrane, which tends to extend downward to the throat, bronchial tubes, and lungs. This inflammation is caused by a chilling of the skin, usually combined with the breathing in of certain disease germs. It is a matter of common observation that colds are often infectious, so that one member of the family after another succumbs. The cause of the infection is the germs which are invariably present in the discharges from the nose and throat of an individual suffering from a so-called "catching" cold. This inflammation of the air passages is characterised by an array of familiar symptoms, among which are sneezing, watering of the eyes and nose, cough, sore throat, hoarseness, tightness in the chest, fever, and loss of appetite. In favourable cases these symptoms usually abate in a few days, but in susceptible persons and particularly in frail and delicate children, a "common cold" may develop into bron-

chitis, pneumonia, or even into consumption, the results of which may be most disastrous.

The prevention of colds may be considered under three points: the adequate clothing of the body; the maintenance of skin activity; the avoidance of undue exposure to the weather.

It is most necessary during the cold season, that the body be clothed equally and warmly. We emphasise this point because so many mothers make the mistake of warmly clothing the bodies of their children while their legs are but thinly clad, or are wholly exposed to the weather. It is not uncommon even in the coldest weather to see little girls with legs and thighs quite bare, for the short full skirts and the diminution under garments worn afford practically no protection from the cold. Children so clad usually suffer from chronic coughs and colds, and what wonder! Hundreds of precious little lives have been sacrificed through the blind following of custom in this matter of children's clothing. In cold weather, no matter what the month or season of the year, little children, both boys and girls, should wear warm combinations with long sleeves and legs, heavy woollen stockings, and strong boots with thick soles. In extremely cold weather a second pair of stockings, or a pair of gaiters should be worn as well. Certainly it costs

something to provide suitable clothing for the children, but surely our boys and girls are worth everything to us, and we cannot afford to deprive them of anything which will increase their health and efficiency.

The maintenance of skin activity is another matter of great importance in the prevention of colds. During the summer season the skin perspires freely, and a daily bath seems a necessity. This keeps the skin in a state of healthy vigour. But when the wintry winds do blow, the skin perspires less freely, and a warm bath once a week is the plan followed by many who have not come to realise the advantages of the daily bath during the winter as well as the summer. Even young children are greatly benefited by the daily cold-towel-rub. The little one while still warm from bed jumps out of his night-clothes, is briskly rubbed all over with a small, wet towel or friction mit, is vigorously dried with a coarse towel, and at once scrambles into his dry clothes. It requires but a few moments to thus assist several children with their morning skintonic. Older boys and girls may take a spray or shower "on their own." The man, woman, or child who has a daily cool bath very seldom takes cold, and when an infectious cold is contracted, a speedy recovery is the rule.

The protection of the children from undue exposure to the weather is a matter which should receive the mother's careful attention. Fresh air is a vital essential to health, and the children should play out of doors in all but the most extreme weathers. The mother must, however, see that the little ones are warmly clothed, and that they do not sit upon the dampground or play in dark, cold places. Action sport in the sunshine should be encouraged rather than inaction play which leads to a chilling of the body. Should the children come in from play with wet feet or damp clothing, a change to warm, dry garments should be made at once, as severe colds may be prevented by this wise precaution.

### The Treatment of Colds in Young Children

A little attention bestowed upon the child when the first signs of a cold appear will often suffice to prevent a severe attack. If the little one is old enough, he should be made to wash out his nose with tepid slightly salted water. This is done by drawing the water through the nose from a tumbler, letting it escape through the mouth. All children over three years of age should be taught to thus cleanse the nose at frequent intervals, as a part of the morning toilette, and especially when suffering from colds. After thus cleansing the nose, a little vaseline, slightly mentholated, should be inserted into each nostril, on the tip of the little finger. This simple treatment employed early, will sometimes arrest at once the discharge from the nose.



Showing how the wet towels are crossed over the chest and back.

If the little feet are cold, they should be warmed by a fire, or better still, in a hot foot bath. A drink of hot lemonade, but slightly sweetened, is also beneficial. If the child has a severe cold, it is far better to keep him warm in bed for a day or two. Then when he is allowed to get up, he should wear warmer clothing than usual, until he has recovered from the cold. A warm bath at night, followed by an oil rub,

and a cold-towel-rub each morning, hastens recovery. When the little one complains of stuffiness in the head, and has difficulty in breathing through the nose, he may be given a medicated steam inhalation. To do this, half fill a table jug with boiling water, add a few drops of eucalyptus oil or of compound tincture of benzoin. The



Showing how the pants are applied to the front of the chest.

child should hold his face close to the jug, and inhale the steam as it arises. The little patient should be instructed to close his eyes during the inhalation, as the medicated vapour is likely to make the eyes smart, if they remain open.

If the cough proves troublesome at night, or in the early morning hours, a cold chest pack should be applied. It is just as well not to apply it at bed-time, but to have everything in readiness, and put it on just as soon as coughing begins in the night. The following method is simple and effective, and the necessary articles can be found in almost any home. Two small towels, about fourteen by twenty-eight inches, folded once lengthways, two pairs of men's woollen underpants and four or five safety pins, are all that is required. Proceed as follows: Dip the folded towels in cold water and wring them as

dry as possible, have the child sit up in bed with his night dress removed; place one towel over one shoulder, bringing the ends diagonally across the front and back of the chest, and arrange the other towel over the other shoulder, covering the remaining portions of the chest. Now apply one pair of pants to the front of the child's chest, placing the crotch just under his chin, cross the legs over the back, and bring the ends round the waist to the front, where they should be fastened with a safety pin. The second pair of pants is applied to the back in the same manner, placing the crotch at the nape of the neck, and crossing the legs in front. Make the pack secure by using safety pins at the neck and under each arm. Apply the pack as quickly as possible, be sure that every portion of the wet towel is covered by the pants; replace the night dress and snuggle the small patient under the warm blankets, and the result will be almost magical. It may be just as well to remind the little mother to put on a warm wrap-



The legs of the pants crossed at the back. The portions of the wet towels still showing will be covered by the second pair of pants, which should be applied in the same manner to the back.

per and slippers before she goes to attend to her child, else she, too, may soon be requiring chest packs. Mothers so often

forget themselves in their anxiety for their children. The pack may remain on the child until morning, when it should be removed, the chest sponged with cold water and rubbed with olive oil. The child's night dress and the articles used for the pack should be thoroughly dried, and put away for the next night. If the pack is being used a number of nights in succession, the small towels should be boiled and hung out in the sun every second day.

A word about handkerchiefs may not be amiss. Since many colds are infectious, and the germs are conveyed chiefly by the discharge from the nose, reason would teach us that care should be observed in the use of handkerchiefs. The child should use his own handkerchief and his alone, or better still, he may be provided with small pieces of old, clean calico, which may be burned. The spoons, cups, and other dishes used by the little patient should not be used by anyone else, until they have been well washed in hot, soapy water.

The child's diet, during the cold, should be simple and nourishing, consisting largely of fruits and such milk dishes as appeal to the appetite.

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### Do Your Children Cover Their Heads with the Bedclothes?

MOTHER used to impress on her children the importance of keeping mouth and nose outside the bedclothes. A scolding was in store for us if we were found with our heads under. She knew that the air of the bedclothes was poisoned air. We never dreamed that it was a not uncommon thing for many people to actually sleep with bedclothes over their heads.

This especially happens to children whose parents allow them to entertain fears of ghosts and other fears, and then refuse to give them comfort by letting the light burn until sleep comes. Such children cover up their heads in terror, sleep the night through with head covered, poisoning themselves with their own

poisons, and wake up with a swollen face that is foolishly attributed to sleep.

Most of us spend one-third of the time in bed. If everybody, children and adults, breathed pure air during sleep, the daytime bad air of factories, shops, stores, and dwellings, would be in a large degree neutralised.

Leave the windows open, put on blankets enough to keep warm and comfortable, put on a nightcap if necessary, and let the wind blow. Screens may stop the direct draught if it makes you nervous and wakes you up. Be sure that little children, especially, have good air to breathe while they are asleep. Make sure that throughout the night your lungs and your blood are supplied with the pure oxygen that carries the poison from all the cells of the body into the lungs to be expelled.

Some people do not know that cold air as well as pure air is a great tonic. It is all right to dress and undress in a warm room because it is more comfortable. It is all right to jump into a warm bed, for it is much more comfortable, but when the children are in bed and covered up warmly, mother should let the cold air in. Next to sunlight it is the greatest tonic in the world.—*Selected.*

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### Preparing the Child's Mind for the Dentist

"DON'T be afraid; the dentist won't hurt you."

Is that the way you talk to your child before taking him to the dentist? If it is, you are making a mistake. The dentist is sometimes forced to hurt his little patient, in spite of the greatest care. If you deceive the child by telling him it will not hurt, he will lose confidence in both you and the dentist.

Seek, rather, to stimulate the little one's manhood or womanhood. Explain why the work is necessary, and why it will hurt, then dwell on the bravery of bearing pain without flinching. A child will usually respond when its pride is appealed to.—*Sel.*



## “A Bundle of Possibilities”

**A** WEE babe—a bundle of possibilities. What a precious gift to a womanly woman! A true mother feels the responsibility of her position as guardian over such possibilities, and will improve every opportunity for best caring for her babe. What a difference there is in mothers! Here is one who says, “It is such a bother to nurse the baby. I have so much milk that my clothes are being spoiled, and then, too, it is such a tie; can’t I feed her on the bottle.” This mother is guilty of helping to fill the purses of artificial food makers; giving to the cow and a maid, probably inexperienced, the work which nature intends for motherhood; robbing the child of its natural food.

Here is another: She gives birth to a beautiful healthy baby, has an abundance of milk, but fails to follow advice to feed regularly. Result, in several weeks’ time Mrs. Somebody happens to notice that baby is not doing well, and advises that the child be taken to a doctor, who is shocked to see a poor, puny babe weighing less than at birth. Why did Mrs. Somebody notice the child’s condition?

—Because she had motherly observation which the other woman lacked. Should not mother instinct have told her that a babe should put on weight? One must not be satisfied unless the average weekly gain during the first six months is at least four ounces. If a change is made in an infant’s food, there is usually a period of stationary weight until the child gets accustomed to his new food.

Observe another mother: Her dependence for keeping a baby quiet is a “comforter.” Judging from what is seen of the care of the “comforter,” one need not hesitate in saying, “It is a nasty thing.”



It is seldom washed. It falls on the floor a dozen times a day, and then it is put into the child’s mouth to be cleaned. Many mothers are more considerate (?), as they put it into their own mouth first to moisten it for baby. It makes one shudder to see such a filthy habit. Many women are not very particular about the care of their teeth, and their mouths must be teeming with germs. It is no wonder

that disease is given to the helpless babe.

Another mother: Oh so worried about the baby. She has been crying since early morning, and it is likely that the household will be awakened, so the mother gets dressed and takes baby out in the garden to give vent to her cries. But she is not to be consoled by the constant pacing up and down. Her troubles would be over could she but speak, but she cannot. The doctor is sent for, and the whole trouble is interpreted. Baby had colic, and cried. Her legs became cold through exposure, and she cried still more. Mother dressed herself, being sure to put on her own shoes and stockings, but did not think it necessary to similarly clothe baby as she had heard that it "hardens" a baby to go without socks or leggings. A warm bath was ordered for the baby, which showed its gratitude by ceasing crying, and falling asleep a few minutes afterwards.

A baby's wardrobe should include warm leggings and mittens for the winter months, and even during the summer time, when the little one enjoys the freedom of bare legs, the mother should be watchful for cool changes, and treat the babe as she would like to be treated.

With an ignorant or careless mother, the journey through infancy and childhood is fraught with difficulties, just at the time when the foundation for healthy manhood should be established.

Mothers! You have a bundle of possibilities, hence your responsibilities.

E. M. H.

### Grandpa Feeds the Baby

"BABY sits at the table now and eats whatever we give him," said a fond father to an admiring visitor. "But we don't give him anything but a piece of bread and his regular milk," said the mother apologetically. "How about grandpa?" said the visitor who was wise to the ways of old people. "That is the rub," said the father. "A good many titbits find their way to baby's plate from grandpa, and it is pretty hard to stop it."

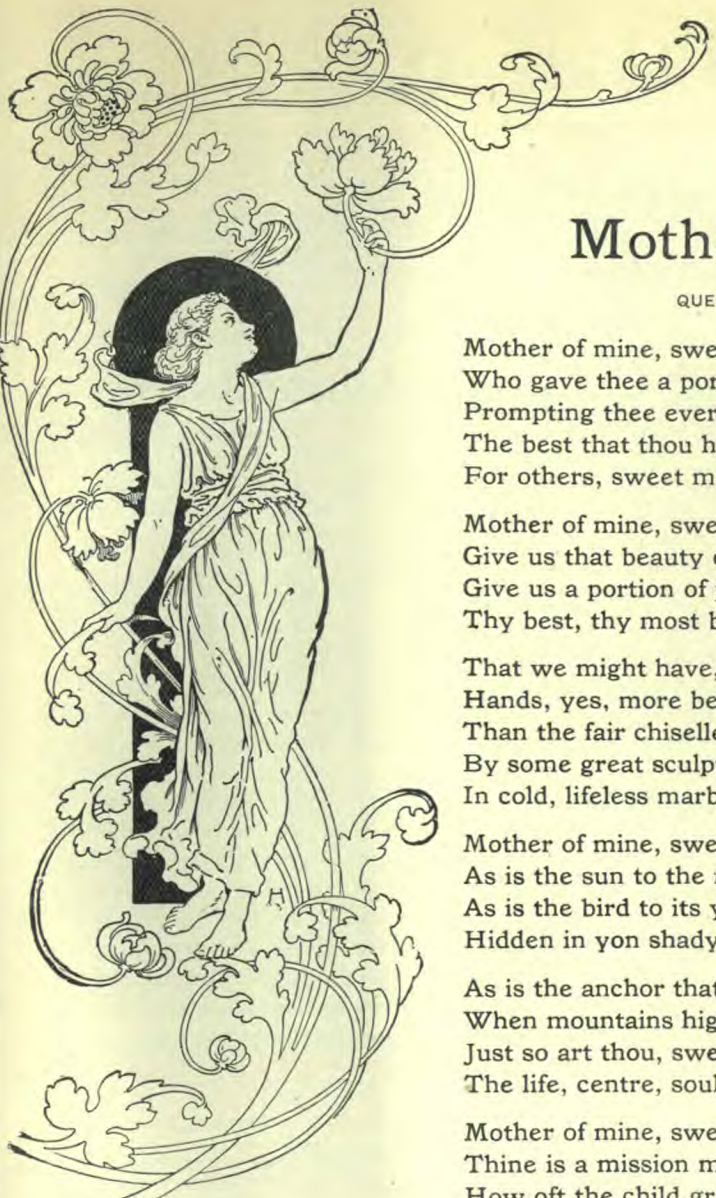
This is a point where a good many old people err. They delight in the love and friendship of the babies. They are relieved in a way from the responsibility of their care, and they like to have them have a good time and indulge them in things which would be far better kept away.

The gingerbread and small bits of meat and the pieces of doughnut which found their way to baby's plate from grandpa's, was enough to account for the restless night, the disturbed digestion, and later for the attack of bowel trouble which brought grave anxiety.—A. B. Stewart, M.D., in *the Healthy Home*.

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"IT is certain that true wisdom for ourselves as well as true love for those who are to come after us consists in recognising our physical weak spots and in making every effort to strengthen them."





## Mother Mine

QUEENIE HILL

Mother of mine, sweet mother of mine,  
Who gave thee a portion of love so divine,  
Prompting thee ever, unbidden, to give  
The best that thou hast, and unselfishly live  
For others, sweet mother of mine ?

Mother of mine, sweet mother of mine,  
Give us that beauty of face,  
Give us a portion of patience, to us  
Thy best, thy most beautiful grace.

That we might have, dear, a touch like to thine ;  
Hands, yes, more beautiful they,  
Than the fair chiselled hands  
By some great sculptor wrought  
In cold, lifeless marble and clay.

Mother of mine, sweet mother of mine,  
As is the sun to the flower,  
As is the bird to its young in the nest  
Hidden in yon shady bower.

As is the anchor that steadies the ship  
When mountains high dashes the foam,  
Just so art thou, sweet mother of mine,  
The life, centre, soul of the home.

Mother of mine, sweet mother of mine,  
Thine is a mission most blest.  
How oft the child grown to older estate  
Remembers thy gentle caress.

How oft when tossed on life's wide, restless sea,  
Something, yes, surely divine,  
Seems to uphold him and keep him from harm—  
Thy love, yes, thy love, mother mine.



## Accidents and Common Ailments

C. K. ABBOTT, M.D.

### Sprains

**S**PRAINS are of such common occurrence that everyone should be able to treat them with at least some degree of skill. Recovery with the least possible loss of time is fully as important in treatment as the relief of the pain. Sprains of the ankle are far more common than in any other joint, and perhaps next in frequency are those of the wrist. The condition present is the rupture of ligament by an excessive and usually unguarded movement. Pain is immediate, and congestion and swelling come on very quickly. It is perhaps needless to say that rest of the part is the first requirement in treatment.

That which is usually first resorted to is immersion or bathing of the part in hot water. This relieves the pain to quite an extent, but does not check or limit the swelling. Often the application of a liniment is all that is thought of. Sometimes the part is bandaged not only to secure rest, but to provide against excessive swelling. These are the methods in common use. While each one accomplishes one or more desirable results, none of them meets all the needs of the condition. In this connection we may well learn from the methods instinctively pursued by wild animals in like accidents. They seek a pond, lake, or better, a stream, and stand with the injured member in the water, often for an hour or more at a time. This treatment with cold water,

particularly running water, meets all the needs of the situation. It not only relieves the pain, but it limits the swelling and hastens healing by increasing the rapidity of the circulation and bringing to the part many more white blood-cells, which are also more active under the influence of the cold water than under heat. The persistent and annoying pain is due almost wholly to the swelling and consequent tension on the nerve filaments. For this reason, the relief under cold running water is more lasting after removal from the water than when treatment is had by hot water, since the cold removes the cause of the pain, that is, the swelling. The treatment may be carried out by placing the injured part under a cold-water tap, or it may be held over a bucket or tub and cold water poured over it from a dipper.

This plan of treatment may appear rather heroic, especially for delicate persons. But in such cases a little further reasoning will suggest the necessary modification. Let the part be immersed in hot water for a few minutes, and then pour cold water over it for an equal length of time, these alternations being continued until relief is obtained. Or the part may be several times immersed alternately in hot water and cold water, or even in ice-water. In all cases, at the close of each sitting, wipe the part directly from the cold water, wrap in a thin, cold compress, and cover with flannel applied closely and

pinned well so as to quickly bring on the heating-up process. The part should then, of course, be kept elevated as much as possible until the next treatment. The whole procedure may be repeated two or more times daily as necessary. Tight bandaging is not advisable. It limits the swelling for the time being, but does not remove the cause, and after removal of the bandage the swelling becomes worse than otherwise. Even an uninjured part, if tightly bandaged for a few hours, will swell on the removal of the bandage.

#### Fractures

A broken bone must of course be attended to by a physician or a surgeon. But before the physician arrives, much may be done to relieve the pain, and also to relax the muscles preparatory to setting. This is best accomplished by the use of the fomentation, both results following the application of heat. Flannel cloths should be wrung from hot water, and then wrapped quickly in dry flannel. The dry flannel cloth must be a thick one, like a new bed blanket, or else two thicknesses should be used, so that a burn will not result. As an additional precaution, the wrapped fomentation may be tested by applying it to the back of the hand or to the cheek. The fomentation is then wrapped about the fractured part, and in a few minutes another prepared. The heat should be kept up until a considerable degree of relaxation is secured, or until the physician arrives.

#### Burns

While we do not recommend the use of hydrotherapy in burns (at least only in exceptional cases), yet they are so frequently treated by immersion in cold water that a word here will not be out of place. It is true that cold water relieves the pain as long as the part is in the cold water, but on removal the pain becomes worse than it would otherwise have been. Probably the simplest and best treatment in the large majority of cases is the use of a watery solution of picric acid, and

fanning of the part until this and the exuded serum have dried. It may then be lightly dusted with stearate of zinc, and the dressing and bandage applied. Treated in this manner burns heal with surprising rapidity. These substances produce far better results than carron-oil, and should replace that preparation in the family medicine-chest.

#### Sore Throat

A simple sore throat may be very effectively treated at home. It is often accompanied by a similar condition in the larynx, and by hoarseness, sometimes lasting several days. Treatment may be carried out by a hot foot-bath and by fomentations to the throat. Both should be continued until the pain in the throat is relieved. This may require twenty minutes. If the patient has perspired because of these hot applications, a general sponge with cold water should be given, taking one part at a time, and finishing with the neck as the last fomentation is removed, and then the feet on removal from the hot water.

After this a heating compress should be applied to the neck, allowing it to remain all night or until another treatment. This is prepared by folding an ordinary cotton cloth in three or four thicknesses, forming a strip three inches wide and long enough to go one and one-half times around the neck. This is wrung from cold water, wrapped about the neck, and covered with a strip of dry flannel a little wider than the cotton piece. The latter is pinned so as to fit snugly. If left on over-night, the cotton cloth should be dry by morning. After one or two treatments by means of fomentations to the neck, the plan should be altered by applying a thick cold compress for one or two minutes between the fomentations, three of which with three applications of the cold compress constitute a treatment. In simple pharyngitis the writer rarely uses any other method, except the addition of some mildly antiseptic gargle to be used at intervals of three or four hours.

### Blood-Poisoning

Septicemia, or blood-poisoning, is a serious condition, but results from very trivial injuries. The causative bacteria may gain entrance through the prick of a thorn, a cut or a bruise, or even the scratch of a pin. As to whether or not these slight abrasions result in blood poisoning depends almost entirely upon the vital resistance of the individual. Once in the tissues and unchecked by the white blood cells, the bacteria multiply rapidly and spread along the lymphatic channels. The hand or other infected part becomes swollen, painful, and dusky in colour.

The cure of the inflammation depends upon prompt attention and thorough treatment. The condition, of course, demands the attention of a physician, but much or all of the treatment in many cases may be carried out at home.

If the infected part is a hand or foot, as it is in the majority of cases, provide two large buckets or small tubs, filling one with water as hot as can be borne, and the other with ice-water with blocks of ice in it. The part should now be immersed in the hot water for two minutes, then in the ice-water for twenty to thirty seconds and returned to the hot water. These changes should be continued for about

half an hour at a time, and the whole procedure repeated from two to four times a day as necessity may require. The extreme heat and cold stimulate the circulation and reduce the swelling. That which is of the greatest importance is the great increase in the number of white blood-cells brought to the part. It is by means of these and other similar cells that the germs are destroyed. It is impossible to reach the germs by antiseptics; in fact, any antiseptic strong enough to destroy the bacteria would likewise injure the tissues, and also prevent the germ-destroying action of the white cells by which the body protects itself against infection.

Where localised abscess appears, lancing will be necessary. Red lines extending from the infected part are an indication of spreading of the bacteria, and treatment should be frequently repeated, say every three hours, until these disappear. The hot water should be kept as hot as can be tolerated by the addition of more water from a teakettle or saucepan. Ordinary cold water is not sufficient; ice-water must be used. The efficacy of the treatment depends upon these extreme changes in temperature. The writer has seen scores of severe cases successfully treated by this method.





## Apples

GEORGE E. CORNFORTH

THE apple has been called the "queen of fruits." It has a wide range of colour and flavour to delight the eye and please the palate. Sweet and sour, mild and tart, the earlier kinds coming at harvest, the later varieties keeping till spring,—with every sort coming in between in almost unlimited quantities,—apples for pies and dumplings and apple juice and apple cake and apple jelly—truly the apple proves each year its right to the title. The apple-tree is a native of the temperate regions of Europe and Asia, and has been in cultivation since the time of the Greeks and Romans.

Apples are best eaten raw. They should be ripe and mellow, and be well masticated.

### FOOD VALUE PER OUNCE IN CALORIES

PRO.	FAT	CAR.	TOTAL
.5	1.3	16.5	18.3

### Baked Sweet Apples

Select sound, juicy sweet apples of a uniform size. Wash them, remove the blossom ends, and put into a granite baking-pan. Pour a little water in the bottom of the pan, and bake in a moderate oven till tender, adding more hot water if the water entirely evaporates before the apples are done. Serve hot or cold, plain, with cream, or with whipped cream.

### Baked Sour Apples

Select sound, ripe apples of uniform size. Wash them, and with an apple-

corer remove the core from the blossom end, not cutting through the apple. Put the apples into a granite baking pan, fill with sugar the cavities made by removing the cores, pour a little water into the pan, and bake till the apples are tender. When done, the juice should be nearly evaporated, thick and rich. Serve hot or cold, plain, or with cream or whipped cream.

### Cocoanut Apples

Select firm apples which will bake without breaking. Peel and core them, fill the cavities with sugar, put them into the baking-pan, add sufficient water, and bake till tender. When done, sprinkle shredded cocoanut over the apples, and return to the oven till the cocoanut is lightly browned.

### Walnut or Almond Apples

Prepare as for cocoanut apples, using chopped walnuts or chopped blanched almonds instead of cocoanut.

### Apple Sauce

Select tart apples. Wash them. If they are to be peeled by hand, the work can be more quickly and handily done if the apples are quartered first, then cored and peeled. If the apples are large, divide the quarters. Put them into a graniteware or aluminum saucepan, with sufficient boiling water to cook, and have the sauce of the right consistency when done; this will depend on the mellowness

and juiciness of the apples. Put the cover on the kettle and cook gently without stirring till just tender; then add the sugar. If preferred smooth, the sauce may be rubbed through a colander before serving.

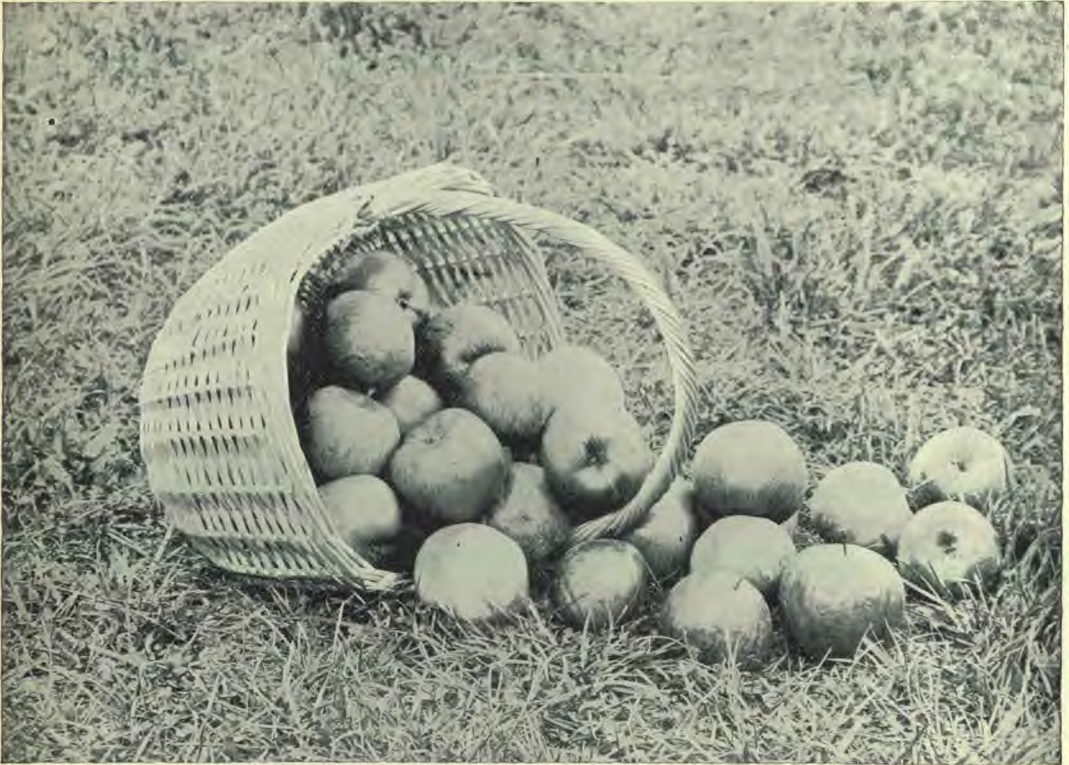
#### Dried Apples

In cooking dried fruit the thing to be done is to restore the fruit as nearly as

### The Mother's Privilege

Mrs. D. A. Fitch

IN defining the word "privilege," Webster says: "Some right or immunity not common to others." Every moment of a mother's life brings a privilege—an added one, if it may be so expressed. Girlhood is the time when preparation should be



"The Apple has been called the 'Queen of Fruits'."

possible to its original state by restoring the water which was lost in the drying process. This is best done by long soaking before cooking. Good evaporated apples make a very palatable sauce. Carefully look over and wash the apples. Soak one pint of the dried fruit in two and one-half pints of cold water overnight. Then bring to a boil slowly, and let simmer gently till thoroughly tender. Add sugar to taste.

made to faithfully perform the responsibilities of motherhood.

A six-year-old orphan girl found a home with her married brother. As she showed little inclination to do her best when taking a sewing lesson, her sister-in-law said, "Ethel, you would never have known me if my mother had not taught me to do my work well." "Now, I don't see why," said the child. The answer promptly came, "Your brother would



never have married me if I had not known how to work and do it nicely."

Thus admonished, the child set diligently to work, and mastered her dislike for sewing. It was joy to the heart of the mother of that foster-mother to know that her efforts of years gone by were thus appreciated, and to-day it is eminent satisfaction to know that not only her own children are faithful in their duties, but also that influence over others has been for good. That foster-mother's childhood was not one of idleness. Any healthy child, if influences and environments are correct, loves to work; but if necessary work is a drudgery to the mother, it will be to the child, because of inheritance and the example and the words of the mother. Children are ready readers of the mother book. This child learned sewing by piecing bedquilt patches, first by the now little-known but excellent "over-and-over" stitch, then the "running" and the "back stitch;" and when large enough to do so, she did the sewing on the machine. Now, after many years of wear, those uniform stitches still hold, and are a pleasant remembrance to her mother, and an inspiration to her children. Her principal use for dolls was to make their garments, fitting and sewing under the direction of a careful mother. She also learned the now

old-fashioned art of knitting; so when the wintry winds are howling around her eastern home, "she is not afraid of the snow for her household: for all her household are clothed with double garments." Prov. 31:21, margin.

Her first experience in culinary work was gained while she was so small that she had to stand on a stool in order to

work on an ordinary table. Her kneading was done on a neat little piece of board, such as anyone can obtain, or can make from the side of a smooth box. The rolling-pin and her potato masher were made from the waste ends of curtain fixtures, as they then were purchased, and her pie tins were shallow patty pans. Whatever mamma was making she also made, and all enjoyed eating the fruit of her labours in the form of tiny cakes, pies, and loaves of bread. She is now a housekeeper of whom any parent may justly be proud.

Some housekeepers think it time wasted to be orderly, or to teach children the housekeeper's excellent art. Suppose ten minutes are spent hunting for an article which might have been properly placed in thirty seconds; what is the gain or loss? One mother of large experience says: "If there is any order or systematic endeavour about me, it may be attributed to my love of ease, for it is certainly the

## Don't Worry!

DON'T worry! Reader, where's the use of worrying at all?

It's certain worry won't prevent the rain that's going to fall

From falling, nor entice the sun to shine at our behest.

Don't worry! And whatever comes, remember, God knows best.

Be merry; try to make this world a brighter, sunnier place;

Speak cheery words, and always wear a smile upon your face.

If life for you and those you love should darken into night,

And hide the flowers of happiness completely from your sight,

Then, taking God's own instrument, His magic telescope,

Behold the star-besprinkled sky, seen through the lens of Hope.

Don't worry; don't anticipate to-morrow's grief and care.

To-morrow, if it ever come, can for itself take care.

Just be content to live to-day, a true, a noble life;

So shall you be, whate'er your lot, a hero in the strife.

—FRANCESCA.

easiest and most restful way to get through life.

Dear mother, it is a solemn and essential duty you owe your children to teach them the value of order, promptness, industry, and tidiness in the home. If you will faithfully discharge this duty, the children will rise up to call you blessed. To fathers I would also appeal, for their privilege is not fulfilled until they have seconded the mothers' efforts. One of the finest housekeepers I know, tells me that her mother never had a place for anything, or anything in place, but her father instilled into her the love of exactness now so manifest. Children properly trained, but not overtrained, will honour their parents by both word and action; and the parents will ever rejoice in the fact that they have not hindered the prosperity of their sons and daughters.

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HERE is my work to do, not to worry over. My work, I say; but if I can know that it is not my work, but God's, should I not cast away my restlessness, even while I worked on more faithfully and untiringly than ever?—*Phillips Brooks.*

### "Domesticitis:" Its Cure

1. PUT your house in order. Order is a magnet; it attracts health, happiness, wealth. A place for everything, and everything in its place.

2. Reduce your belongings to FEW, FINE, and FIT. Beware of hoarding. When you get new, let go the old—you cannot keep both.

3. Mend and repair as you go. Never hurry, never procrastinate. What your hand finds to do let it finish. Hold one thing in your mind at a time; when it is ripe, send it out.

4. Let your word stand as a law unto yourself. Redeem your promises.

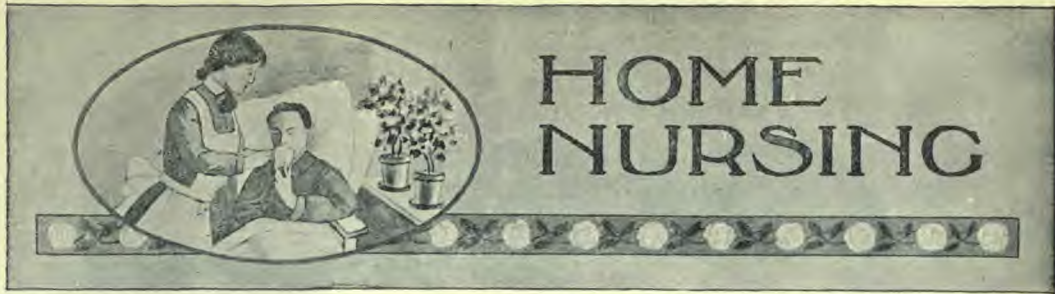
5. Regulate the work of your house. Allow one hour in seven for rest. Work and play honestly. Pause for rest.

6. Rise early. The first hour tunes the day.

7. Remember—a light heart, a clear brain, a fresh body, are health. Do not carry your cares to bed with you. Let the brain and body sleep together.

8. Live to-day with joy and thankfulness. Revel in your gift of LIFE.—*J. B., in Healthward Ho.*





## The Home Care of Consumptives

H. J. Achard, M.D.

**I**T is not possible to treat a patient properly for tuberculosis who is not fully aware of the nature and gravity of the disease. Rules made for his guidance will not be obeyed unless he knows what is the matter with him, and that their violation will invariably be followed by disastrous results. Again, unless a patient understands the serious nature of his disease, he will stop treatment as soon as he feels a little better, thus greatly reducing his chances of recovery.

No harm can come from telling a patient that he has tuberculosis, and explaining to him that it means a persistent, continuous struggle for his existence for a long period of time, perhaps ranging from two to five years. He will soon recognise that his welfare depends largely on his efforts, and will become a good patient, where otherwise he would be an indifferent one.

The mode of life of the patient demands unremitting attention. It is easily possible for a patient unwittingly to do himself more damage in half a day than can be repaired in a month.

All these difficulties have led some physicians to deny that there is any healing or cure possible for consumptives outside of the sanatoria where they are under constant observation. While I freely admit that sanatorium treatment offers the best chances, there are not only not nearly enough such institutions to care for all consumptives, but only a small

percentage of patients can avail themselves of the sanatorium advantages; the others must be treated at home.

Let us suppose, for the sake of example, a tuberculous patient with active, progressive disease, tubercle bacilli in the expectorations, losing weight and not strong enough to work, although he is by no means confined to his bed. The attending physician has made his examination, and has ascertained the extent to which the lungs are involved. He has inquired into the conditions of the bodily functions, appetite, digestion, elimination from bowels and kidneys, the presence or absence of fever, of night sweats, the amount of expectoration, and whatever else may guide him in ascertaining and treating the condition. If fever be present, the patient should be put to bed. Views differ as to the causation of fever in tuberculosis, some attributing it to the formation and absorption of toxins (poisons) from the tuberculous products, others to associated and different infectious microorganisms. That is, however, an academic question, and need not trouble us. The important point is that a fever patient must be put to bed, and must be kept there strictly. In his care the greatest possible cleanliness should prevail. The oftener the bedclothing and his garments can be changed the better.

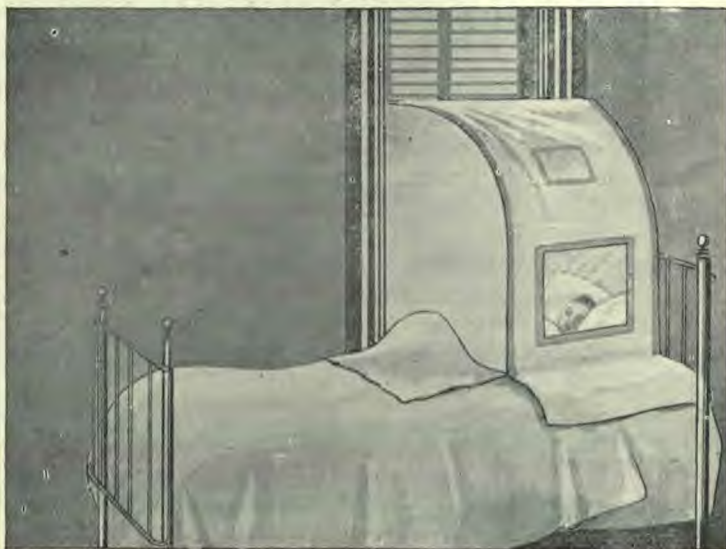
When the fever has been subdued, the patient may gradually be up and about. All this time the greatest care must be

taken that pure air is breathed, and a sufficient amount of good and proper food, properly prepared, eaten; also that the bodily functions are kept in good condition.

Not only must the needs of the patient be thus attended to, but the health of those living with him must also be considered. It is incumbent upon every consumptive, and every one who has charge of a consumptive, to be extremely careful with the infectious material discharged, the most important being the sputum. Any number of sputum cups have been recommended, have been prescribed, and are on the market at reasonable cost. The expectoration should never be deposited on the floor or on the walls, or anywhere where it could possibly dry and mingle with the dust; because in that case it will be disturbed by the breeze, and will be inhaled by those living in that room. It should always be deposited in a paper cup, or in old rags that can be burned, or in receptacles that can be made innocuous so that the expectoration cannot dry.

Another point that should be taken care of is this: consumptive patients in coughing scatter little tiny droplets which contain tubercle bacilli. Physicians are careful in examining consumptives to turn their face away. Anyone who has the care of consumptives should do the same; and any patient who is careful should have enough consideration to do this of his own accord. A consumptive can scarcely avoid having his hands contaminated with sputum, and he should be careful to wash them before touching anything that other people must handle or eat. It often happens in poor families

that the mother is consumptive. She must care for the baby, and also do the housework. She should be extremely careful to be absolutely clean in everything she does, in everything she touches, because it is only the clean and conscientious consumptive who is not dangerous to his surroundings. That is true. A clean consumptive is not dangerous to touch, is not dangerous to be near; but a careless, uneducated, vicious consumptive, who does not care what he does, who will



Dr. S. A. Knopf's window tent in position, with patient in bed looking through the celluloid window into the room, but breathing outside air only.

deposit his sputum anywhere, is of the greatest danger, and should be forced to be careful. For such a careless patient the sanatorium treatment is extremely necessary, and especially the institutional treatment.

The infection by the tubercle bacillus is only one cause of tuberculosis, it is only the seed. In order that the seed should grow, a favourable soil is required, which in our case means a predisposition for tuberculosis. This predisposition is very apt to be present in a body weakened by overwork, by insufficient or improper food, by late hours and night vigils, or by disease. If the predisposition exists, it should be remedied by proper treatment;

if it does not exist, it behoves us to avoid conditions which may create it.

To give briefly the principles of the home care of consumptives: Let them live as sensible and easy a life as possible, with plenty of fresh air, but without undue exposure; plenty of good food, well prepared and varied, but without stuffing; avoid improper exertion, mental and physical strain; take as much rest as is possible; pay proper attention to the rights of others by not scattering the infectious material, but by discharging it so that it can be destroyed and made innocuous. The safest guides for a consumptive are a conscientious and able physician and an efficient nurse; but all honour, also, to the faithful wives and husbands, sisters and daughters, brothers and sons, who take care of their dear ones and try to assist them in overcoming the dread disease and in regaining their health.

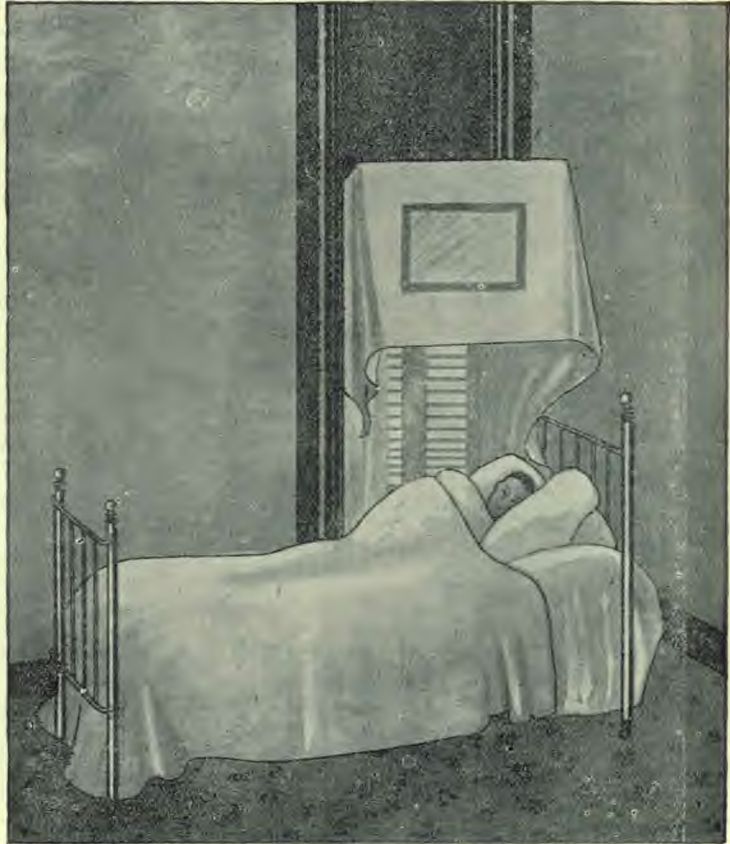
### How to Prevent Boils

Alfred B. Olsen, M.D., D.P.H.

A BOIL, also known as a furuncle, is an acute localised inflammation of the deeper tissues of the skin, and often results in softening of the structures, and consequent formation of a small abscess which burrows its way to the surface, and discharges an infectious material known as pus or matter. After entirely getting rid of the pus and destroyed tissue, the wound heals, leaving a small scar.

### Life History of a Boil

The most important predisposing cause is loss of tone, loss of vitality, and impoverished blood; in a word, a certain degree of ill-health. Lowered vitality means a serious depletion of the resistive forces, or natural defences of the body, which renders it more liable to the inva-



Dr. S. A. Knopf's window-tent raised when not in use.

sion of germs of one sort or another. The direct exciting cause or immediate agent in the production of the boil is a pus germ. The door of infection is usually a slight wound such as a scratch, pin prick, or some other seemingly insignificant wound of the skin, or possibly, in some cases, the opening of one of the fat glands of the skin. Now the microbes of disease are almost omnipresent, and often-

times abound on the surface of the skin, but as long as they remain on the surface little harm results, but when they get through the skin, and into the deeper tissues without being destroyed, they begin to multiply, producing various poisons known as toxins, which are destructive to living matter. As soon as the germs enter an attempt is made to destroy them, and thus prevent the formation of a colony of these intruders; but if there is not sufficient vitality in the living tissues to bring about the destruction of the invading enemy, the next best course is adopted, and that is, to shut off the offenders from the surrounding healthy tissues, and thus limit their growth and the harm they can do. To form a wall of protection against the death-producing germs countless numbers of white blood cells, which Metchnikoff has aptly termed "soldiers," are rushed to the spot from all sides, thus quickly surrounding the germs and preventing their spread among the neighbouring tissues. At the same time local tissue cells proliferate and multiply, thus assisting in the fight against the intruder.

But the germs having already gained an entrance, very soon their harmful effects are observed in the production of a hard, painful, more or less cone-shaped swelling, which is both red and tender. The living tissues which are invaded are soon destroyed, as well as a very large number of the white blood cells which have been brought in contact with the germs, and have laid down their lives on behalf of the body. The swelling enlarges, softens, and soon the presence of fluid is detected, and after a time, unless it is lanced, the abscess breaks and discharges a yellowish, infectious matter, at the same time bringing relief from pain. Later on the "core" sloughs away, after which healing takes place.

#### The Causes

Anything which materially interferes with health and diminishes the life forces of the body must be looked upon as the most important of the predisposing causes.

But there are other factors which require consideration, and chief among these is the question of cleanliness. It is a fact that soap and water does not agree with germs, and where it is used freely and vigorously so as to keep the skin in a clean condition there is less danger of germ invasion, even though there may be enfeebled health. Rigid cleanliness, not only of the face, but equally of the hands, neck, and, indeed, all parts of the body, is essential to success in avoiding boils.

Another important factor is an abrasion of the skin which is only too frequently brought about by scratching with finger nails marked for a funeral. Even though the skin itself may be clean such fingernails, with more or less distinct "bands of mourning," are always reeking with germs which are capable of causing boils or carbuncles, not to mention still more dangerous disorders. Itching is usually a sign of uncleanness either of the skin superficially or of the blood and tissues internally. But anything which scratches the skin and causes an abrasion, such as the roughened edge of a worn collar, is almost equally dangerous. This explains why boils in the region of the neck are so common.

#### The Treatment

It is sometimes possible to abort a boil, that is, to prevent its further development before the abscess is formed. Cleanse the threatened skin with soap and water, and the application of an antiseptic dressing such as a hot boric acid compress. Cover the compress with a piece of oiled silk or a piece of gutta-percha, and then apply a suitable bandage to keep it in place. Another excellent dressing consists of a piece of absorbent cotton or folded lint of proper size and thickness, which has been soaked in a solution of six ounces of glycerine to which five drachms of boric acid have been added. This dressing is also covered with some impervious material such as gutta-percha. Painting the reddened skin with tincture of iodine, diluted carbolic acid, or silver nitrate, may also abort the boil. Ordinary poultices and fomentations should be strictly

avoided since they almost always produce more harm than good by spreading the infection.

It is extremely necessary to bear in mind that the matter from a boil is always infectious, and consequently must be carefully destroyed so as to prevent further mischief. It is necessary to protect the surrounding skin, not only by keeping it clean, but also by the application of some one of the antiseptic measures mentioned in order to prevent further infection.

order, and every possible effort should be made to maintain activity of the bowels. Constipation means a varying amount of autointoxication which poisons the blood and lowers vitality. When a person is suffering from a crop of boils, a disorder known as furunculosis, it is well to administer a mild saline purge or saline enema, in order to keep the bowels open.

Naturally the diet is not an unimportant matter, for the strengthening of the vital forces depends very largely upon the



"Anyone who has suffered from boils requires plenty of fresh air and outdoor exercise."

#### Some Preventive Measures

Anyone who has suffered from boils requires a change of air if possible, and an active, invigorating life with plenty of fresh air and outdoor exercise. The natural defences of the body require strengthening. If the patient is suffering from some constitutional disorder, such as diabetes or Bright's disease, then it must be treated as required. Either disease makes a person more liable to boils. Tonic baths of all kinds are always in

quality and quantity of the food supply. It is a great mistake to rely upon alcoholic stimulants or the numerous medicinal so-called tonics which are advertised so freely nowadays. Plain, wholesome, nourishing food is the best tonic. Fruit especially should be taken freely, either fresh or stewed. If this is done, it is rarely necessary to give any further attention to the bowels, for the fruit itself is a mild, gentle laxative, and its wholesome salts and acids do much to purify the blood.

# Influenza

Charles Henry Hayton, B.A., M.D.

**I**NFLUENZA in its true medical sense is an infectious and contagious disease, caused by a specific bacillus, which finds access to the body through the mucous membrane of the nose and pharynx, and which generally manifests itself in epidemic form. The term is applied more commonly, however, to every form of mild indisposition connected with the respiratory tract. One speaks of a cold, and calls it an attack of influenza. All widespread epidemics of "colds" should be looked upon as attacks of influenza. How often factories have been closed, society, schools, and neighbourhoods quarantined, and commerce injured by these epidemics of influenza.

## History

Influenza has a history and a very sad one at that. More rapidly than any other disease has it spread throughout the country. Every known part of the world has been visited by its epidemics, and very few families escape.

It is carried mainly along the lines of human travel. The poisons are air-borne or may be carried by clothing and cling for some time to infected parts and people.

Generally beginning somewhere in the East, Russia for instance, it spreads locally through the country and then travels in a westerly direction, and does not spend itself until the whole globe has been well-nigh compassed. It attacks large numbers of the population. Few die, however, as it is a disease not attaining, *per se*, a very high mortality. The great number of deaths result from the serious complications it sets up, and the fatal results which so frequently follow attacks. In the epidemic of 1903, which swept over most of Europe, the deaths in England and Wales numbered 6,322.

## Symptoms

Adults between the ages of twenty and forty are more often attacked, young chil-

dren and the aged less often. Certain occupations tend to predispose one to the disease, indoor and sedentary occupations especially so. One attack seems to make people more susceptible to other attacks. The debilitated in general, and those who have any catarrhal condition of the respiratory tract, such as weak throat, winter cough, or asthma, are especially prone to the disease. It must not be forgotten that influenza hastens the progress of any pre-existing disease, so that a person with heart disease, Bright's disease, or chronic bronchitis should be very careful of exposure. In the extreme of ages, influenza is most serious.

The mucous membrane of the nose is the first to be attacked. The inflammation is then most likely to spread to the pharynx, then travel up the Eustachian tubes to the middle ear. A great number of people are deaf as a result of a previous attack of influenza. The air canals which open into the nose also become diseased, and serious results follow. It sets up a swelling of the tonsils and may travel down the throat to the lungs. Pneumonia is likely to follow, or if it finds its way to the stomach a gastritis results.

A running from the nose and eyes is first noticed, then constant sneezing, sore throat, bronchial cough, and thick sputum follow. Loss of appetite, headaches, backaches, and general feeling of discomfort and depression with slight fever are some of the common symptoms of an attack. These are due to the effect of the poison in the system. Every organ is more or less congested and inflamed, so that the body as a whole is affected besides the local point of infection. Oftentimes the influenza poison assumes a chronic form. One does not feel sick enough to be in bed, but one complains of poor appetite, tiredness, headaches, has a coated tongue, and is unable to attend to regular duties. Some people when



having these chronic attacks believe they have malaria, and not infrequently tuberculosis is suspected. Change of climate and of food will greatly improve these invalids.

#### Prevention

At the present time many look upon the fact of catching cold as a trivial matter, but when one realises that it is often a predisposing factor in influenza, it behoves one to take every precaution to abstain from colds.

The act of catching cold is a process that takes place through some irritation of the skin, sitting in a draught, or going out unduly clad. The skin reacts in such an unhealthy way that when increased demands are made upon it a cold results. The preventive measures therefore should be to harden the skin against such irritation by a systematic course of training. Fresh air and plenty of it in the sleeping-rooms, keeping the bedroom cold, cold sponges in the morning before dressing, or better still, a cold spray or plunge if possible, and then a good rub down with a coarse towel. This is a splendid tonic for the skin and also a hardening process through which the skin becomes immune to colds.

The selection of proper clothing is also a preventive measure in colds. Underwear made of light wool should be worn, especially during the winter months. This protects the body from the effects of the sudden changes in the weather. Exposure of any kind should be avoided, and

the body should be kept warmly clad. How often one sees his fellow-creatures going about during winter weather with low shoes and insufficient outer covering.

The upper portion of the respiratory tract, the nose, and the pharynx especially, should be kept in a healthy condition. Always breathe through the nose. If this is impossible see your physician and have the obstruction removed. Everything depends upon keeping the filtering functions

of the nose up to their highest efficiency. The dust that is breathed up the nostrils in the crowded and busy cities daily is a menace to health. With children special precautions should be taken against dust inhalation. The attention of parents and maids should be called to the dangers arising from this source. When there is a strong wind an infant should be carefully veiled when he is taken out.

#### Curative Measures

The mild, uncomplicated variety of influenza lasts but a short time, two to five days at the most. The fever is not high, but the prostration is enough to keep one in bed for a few days. Sustain the system with good, plain, wholesome food. A purge is in order, as this helps to drain the system of the toxic poisons. Drinking hot lemonade, with a hot foot bath, or better still a warm full bath, tends to eliminate poisons through the sweat glands and also through the urine. The aim in all the treatment is to prevent as far as possible any complication that may

## The Folk that Laugh

WILBURT D. NESBIT

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.

arise, and to rid the system of the bacterial poisons which have accumulated in the body. The complications are to be feared, for they are numerous. What are known as sequelæ often follow an attack. The commonest is debility, frequently extreme and of long duration. Rest is of great importance in the treatment, and one with an attack should immediately take to bed till the acute symptoms are over.

The convalescent period is often very slow, and it may be months before the full effects of an attack have passed away. A recurrence before full recovery is not uncommon. Relapses are often brought about by slight exposure before the symptoms have fully passed away.

The influenza bacillus is very easily destroyed. The milder antiseptics as five per cent lysol, saturated solution of boric acid, or ten volumes strength of hydrogen peroxide, are fatal to them. Have plenty of these around and disinfect all the eating utensils after each meal. It is only by keeping our health up to the standard

that the body is able to resist the influenza bacillus. A frugal but nourishing diet, total abstinence from alcohol, tea, and coffee, and a normal, regular, healthy outdoor life are the best preventives to resist the influenza attacks.

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### Mental Supports of Disease

THE physicians all over the civilised world to-day tell their patients that what they need is not medicine, but hygiene. What they partially mean by this, is that, instead of the violent attempt to fight disease with substances supposed to be antagonistic to it, healing may be wrought by a cheerful co-operation with the great vital laws of nature, which are always working towards restoration and perfect health. There is no physical poison deadlier than the spirit of resistance in its effect on the physical health. Anger, fear, distrust, and all forms of anxiety, are the essential supporters of disease.—*B. Fay Mills.*





AN IDEAL SPOT FOR OVERCOMING THE WORRY HABIT

*Sears, Photo., Melb.*

## GENERAL ARTICLES

# Scientific Immunity from Disease

ALEXR. HING

THE work that medical science is endeavouring to do to-day in helping the body forces in their fight with the germs of infectious diseases, is a subject that has considerable interest for every one, and in its history is indeed thrilling. In this great battle with the microbe certain names shine out with great lustre, a lustre of a far higher order than that surrounding the names of the great world-conquerors of all time; for he that saves life is greater than he that destroys, and in this respect the world owes a great deal of gratitude to such men as Jenner, Louis Pasteur, Koch, Metchnikoff and Von Behring, Sir Almroth E. Wright, and others.

Immunity from disease may be divided into two kinds, "inherited" and "acquired." Certain diseases that affect mankind do not appear to affect the lower animals; and most of the infectious diseases to which cattle, sheep, dogs, etc., are liable have no similar terrors for human beings. This is what has been termed "inherited immunity." When the rinderpest, for instance, was raging in South Africa in 1897, thousands of cattle died of it, but not a single human being contracted the disease. Similarly with the tsetse fly disease, which attacks horses; man is naturally immune from it. But scarlet fever or typhoid fever may rage through a community, sweeping off human beings by the hundred, while the

lower animals pass through the epidemic entirely unscathed. The rule that the lower animals are not vulnerable to infectious diseases to which man is liable, is not altogether absolute, rats for instance suffering greatly during an epidemic of plague. But wherever immunity of the kind described exists, it is known as inherited immunity, and is common to all the members of a race.

"Acquired immunity" is that which one attack of a disease gives against another. One illness from scarlet fever, for example, protects, as a general rule, against another attack of the disease, no matter how much the person may be exposed to infection.

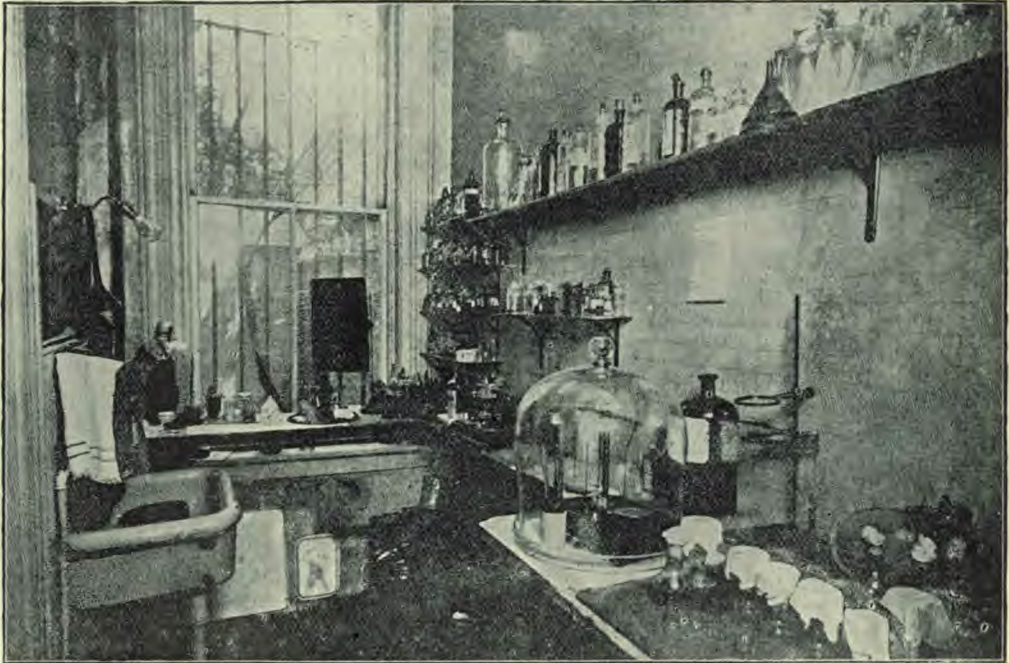
### The Body Defences

Now what is there in a subject's blood or body-tissues that gives it immunity from disease, either inherited or acquired? In its resistance against disease, it may be said, the body has enlisted in its service certain defences, chief among which may be mentioned the white blood corpuscles, opsonins, and antibodies. The first-named devour and digest the bacteria that enter the blood stream; the second prepare the bacteria for eating, and though little is known as yet about the opsonins, it is well known that whenever they are present in the system in large quantities, the white corpuscles feed greedily upon the bacteria, but do so to a proportionately

less extent when the opsonins are not so numerous. But important though the white corpuscles and opsonins are, the antibodies are of even greater importance. They have the power of destroying the bacteria directly, or of neutralising the toxins, or poisons, produced by them.

In regard to some diseases the antibodies exist naturally in the blood, but there are others in which they are not developed until the bacteria enter the

"anti-venom" for snake-bite. Some snake poisons are so powerful that but one-quarter of a drop will suffice to kill a person within a short time. If, however, a minute quantity, very much below that required to produce death, be injected into a horse, its system will form sufficient antibodies to neutralise the venom; and by injecting into the horse gradually increasing doses of the poison, its blood will in time contain antibodies in such quantity as



A Corner of the Pasteur Institute in New York.  
Emulsion being prepared for the treatment of patients.

*World's Work*

blood. Often the system cannot form the antibodies rapidly enough to cope with the onslaught of the bacteria and the toxins produced by them, and so the patient succumbs. It has therefore been the aim of science to assist nature by introducing more antibodies into the system, and so to cope with the toxins produced in such diseases as diphtheria, and with the venom of snake-bite.

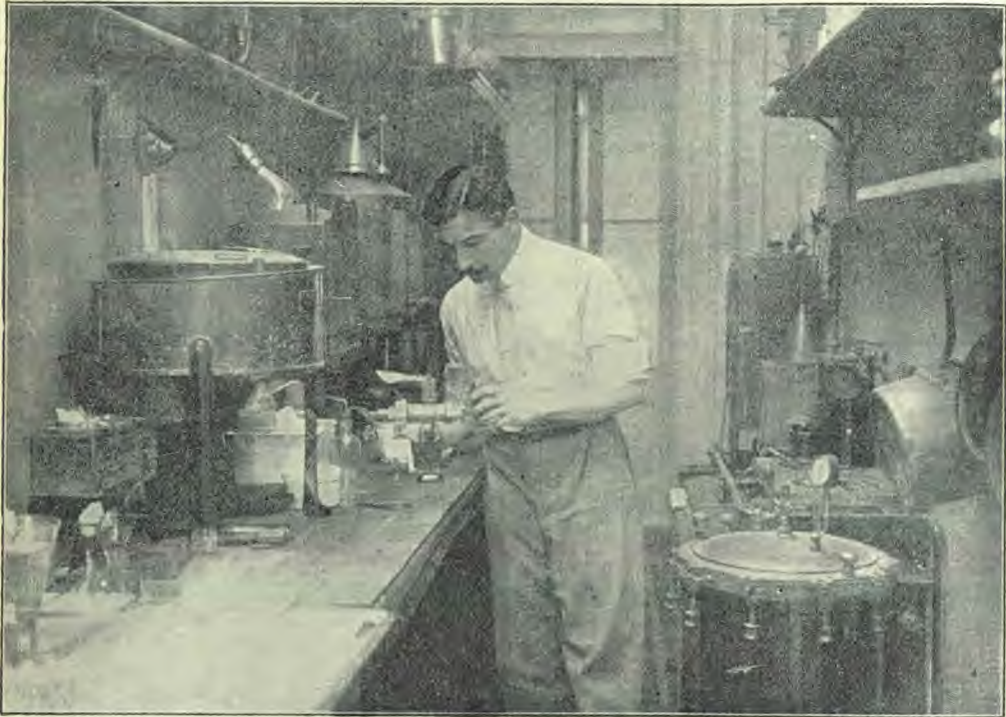
#### Preparing Snake-bite Anti-venom

The way antibodies are formed is well illustrated in the method of preparing

to render the animal entirely immune to venomous bites that before would have quickly caused death. The antibodies that have brought about this immunity exist in the liquid portion of the horse's blood, and it is from this part that the "anti-venom" serum is obtained, which if injected into a person before or within a reasonable time after being bitten, renders the bite harmless. The action of the snake poison is entirely chemical in its nature, as is also that of the anti-venom, the two neutralising each other as do an acid and an alkali in a test tube.

It was in 1897 that Calmette first prepared an anti-venom serum, and the discovery has since been used to advantage in the saving of many lives—an advantage of no mean importance when it is reflected that in India alone cases of snake-bite occur with such frequency that no fewer than thirty thousand people die in that country from this cause every year.

is now filtered, so as to free it from all bacilli, and with its retained richness in toxins, or poisons, is injected into a horse at intervals in gradually increasing doses. The animal's system responds, and antibodies are formed in its blood to combat the injected toxins. When the formation of the antibodies has gone on to a sufficient degree, some of the animal's blood is



Another Corner of the New York Pasteur Institute.  
Preparing virus for immunizing sheep from rabies.

*World's Work*

### Diphtheria Anti-toxin

The method of preparing anti-venom is well illustrative of the principle that underlies the formation of anti-toxin with which to treat that deadly scourge, diphtheria. This affection is due to a germ, the "bacillus diphtheriæ," which causes the disease by means of a toxin, or poison, which it secretes. The anti-toxin is prepared thus: Bacilli, taken from a case of the disease, are placed in some broth, which is kept at a suitable temperature; the bacilli thrive well, and form a toxin, which mixes with the broth. The latter

drawn off, the clot and the corpuscles separated from it, and the serum that remains is the "anti-toxin," which is used in the treatment of diphtheria.

This anti-toxin is frequently just the help that struggling nature needs in resisting the onslaught of the deadly diphtheria bacillus; for sometimes the patient's system cannot form the antibodies rapidly enough, or in sufficient quantity to counteract the effect of the toxins produced by the invading bacilli, and the subject would sooner or later succumb were not a sufficient quantity of

antibodies all ready to hand injected into his blood from without.

An anti-toxin serum for this disease was first prepared in 1884, by Von Behring and Roux, and the result of the discovery has been to cut down the mortality from diphtheria, which was once very high, to an appreciable degree. Thus at one time the mortality from this disease was rarely less than thirty per cent; now it is less than ten per cent, and in London alone it is estimated that the lives of more than one thousand children are saved every year by means of the diphtheria anti-toxin.

It has already been noticed in this article, in dealing with the subject of "acquired immunity," that one attack of an infectious disease protects, as a general rule, against another. This knowledge has been utilised by scientists, and to-day one may, if he is prepared to undergo some trifling discomfort, be rendered immune from such epidemics as typhoid fever, meningitis, pneumonia, etc.,—yea, he may become so invulnerable to these

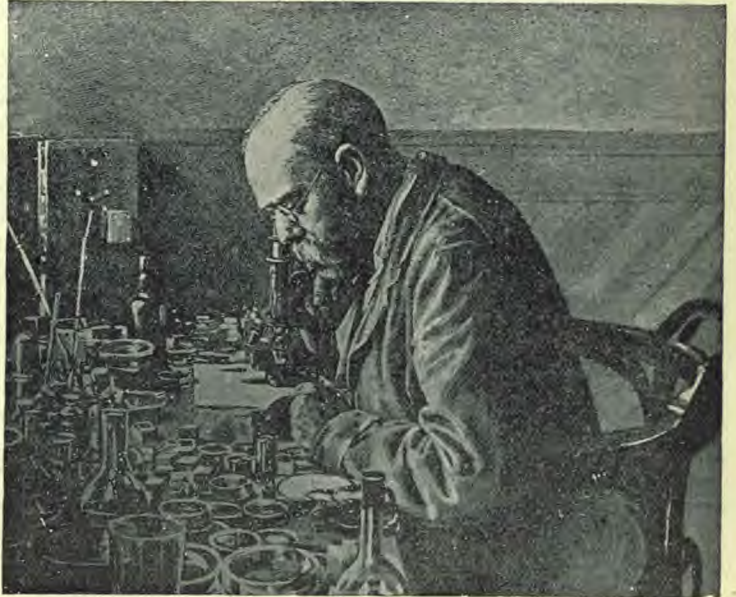
diseases that he may walk abroad without fear or alarm, though death, seated astride such dreaded epidemics, rages through the land striking down victims on every side.

The story of making "attenuated," or weakened, or even millions of dead germs prevent the work of living ones, is of an interesting nature; but as this article is already sufficiently long, it is not proposed to deal with this phase of the subject in this issue, but nothing unforeseen preventing, it will appear in the next number of LIFE AND HEALTH. The valuable discoveries and work of Louis Pasteur, the celebrated French chemist, in the field of preventive medicine, and the recent work

of skilled investigators in rendering thousands immune from attacks of typhoid fever, bubonic plague, meningitis, pneumonia, etc., will then be treated upon.

### Irritability the Waster

THOSE who are easily irritated lose an enormous amount of precious time and costly energy. In physiology, irritability is the property of responding to a stimulus. In botany, plants endowed with irritable



*Children's Encyclopedia*

Professor Koch at Work in His Laboratory

organs, when they touch any object, clasp it. This is all right in soulless plants or muscles or nerves; but it is all wrong in men and women who are supposed to decide for themselves what to respond to, or grapple with, and what to leave alone. He is the most miserable of all men who must respond to everything that touches him. He is the happiest of men who can quietly ignore much that invites him. How often we have spoiled the entire day, which seemed to be bright with promise, simply by letting ourselves become overwrought and upset, early in the day, by an unpleasant word or annoying action of another!—*Selected.*

# Mind Cure or Miracle—Which ?

G. D. Ballou

## THE MENTAL ATTITUDE

MAN was created to be happy, at peace and at rest with his environment and with his Creator. The mental conditions of confidence, trust, faith, call it whichever you will, were intended to prevail in his being. These favourable mental causes had a full, complete basis in his Creator, and a partial basis in his fellow-men and his natural surroundings. Out of this mental attitude flows everything, in thought and mood, that is hopeful, courageous, joyful, expectant, patient, and enduring. And as it is impossible to have full confidence in any being without learning to love that being, so love and goodwill and kindness and charity are found flowing together with all other good things from this fountain of life and satisfaction. A mind permeated and controlled by confidence, love, hope, courage, and goodwill, will know nothing but prosperity, for from such a being will flow a river of peace to water the desolate society of earth, and bring prosperity to every soul coming under its influence.

These favourable mental conditions tend only to life. There is no death in them, nor any sickness. The ills of life do not grow out of such a mental soil. You never knew a man to be so loaded up with courage that it made him sick to carry it around, nor so filled with goodwill and kindness that he grew pale and thin with the inward burden. Ah, no, this is the very foundation, the very atmosphere; yes, the very sustenance of life. Peace and rest, how welcome, how glad-some! How the memory of their presence in bygone days lingers like a hallowed benediction. How many a soul to-day, staggering under the burdens of existence, longs for a quiet, peaceful resting-place. If peace and rest could prevail once more, how many a fettered, halting, stumbling heart would go free,

and songs of gladness would take the place of groans and sighs.

### Adverse Mental Causes

Let us take leave of the sunny, prosperous, well-watered vale for a brief time, and see whence comes the sighs, and groans, and agony. The opposite mental emotions, like doubt and unbelief, are at the parting of the ways. Here is the root of the evils that to-day is harassing humanity. Want of a stable confidence in something leads to fear. As surely as confidence and courage lead to goodwill and kindness, so surely do doubt and fear lead to hatred and unkindness and wrath and emulations. And then in rapid succession the whole caravan of evil moods comes sweeping down the line and carrying all before it: Envy, jealousy, strife, care, anxiety, worry, discouragement, sorrow, remorse, despair; and such a brood of nameless troubles, many of them purely imaginary. What a motley host, and so ugly of countenance and contour. Here are the mental states that breed death. As all the possibilities of the oak are pent up in the acorn, so the first departure from confidence and trust, the beginning of doubt and unbelief, contains in embryo every evil mental state and all the direful after consequences that can follow. There can be no peace or rest where these adverse conditions prevail. Prosperity flees from such conditions as the gazelle before the hounds. Everything in this list is ticketed for death and destruction. There is neither hope nor courage nor joy to any son of man in whom these states of mind prevail. There is only one kind of sorrow that has life in it, and that is the sorrow that leads to amendment of life. If we add to this list pride, lust, and covetousness, we shall nearly complete the list of causes which lead down to ruin.



### A Cause of Disease

These adverse causes are like the leaks in a mill flume that let out so much water that there is not enough left to turn the mill at the end of the flume. The human body generates a full head of energy when in health, sufficient to keep every organ in the body in good, running order. We have heard all our lives that mental labour was far more exhausting than any amount of physical exercise could be. Here is a class of wearing mental exercises that is a hundredfold more exhausting than any

Many a time we have seen appetite for food and water disappear, and the patient spend months without proper sleep, until exhausted nature broke down, and a case of nervous prostration was fully developed. We have seen the stomach and bowels and liver disordered because so much energy was wasted on the bad mental moods that there was not enough left to carry on the vital functions of the body. Wrath and anger generate death-dealing poisons in the body. Let the angry mother nurse her babe after the fit of



Enjoying a meal after a strenuous day

legitimate use of the mind could be. Where even one of these, like envy, or jealousy, or fear, or anxiety, or remorse prevail, the body is suffering irreparable loss, and this loss will be distinctly seen and recognised by anyone of only limited experience. Even the face becomes an index of the mental state. Frequently we see some sensitively organised body suddenly prostrated by fear, or disappointment, or agony, over some great loss. Sometimes death or insanity comes suddenly. What, then, must be the chronic effects of worry and discouragement?

wrath, and she will have a sick child to care for, poisoned by its own mother's milk.

Pride leads to the abuses of the physical system. To the corset and lust are due most of the female difficulties and abdominal and pelvic surgical operations. To lust alone is the race indebted for a heritage that affects thousands of innocent victims annually beside the immense toll of guilty ones.

These adverse mental causes affect the use and action of physical causes until physical disease overtakes the victim.

Witness how the person with a load of worry breathes. Watch the long-drawn sighs. How long can a person keep well who breathes in that manner? We feel safe in saying that nine-tenths of all the ills of humanity are due to mental causes. This conviction was not original with the writer; there are others who have preceded us who announced this conclusion, and the writer finds many well-trained and experienced people who share this opinion.

#### The Remedy

And now we come to a consideration of our caption, "mind cure." The most sensible theory for the cure of diseases is first of all a removal of the causes. If your flume is full of leaks you'd better stop them at once. If confidence, courage, hope, and expectation can be brought in by any system of diversion, the evil results will begin to cease. You cannot banish the cares, and worries, and frettings, and leave the mind a vacuum. But you may bring in the favourable mental conditions, and the adverse causes of difficulty will disappear. The leaks being thus stopped, you will have bodily energy to spend in repairing the disordered organs of the body, and before you are aware, health will be on the return, and with it joyful prosperity.

(To be continued)

### Bread Germ—Free

EXPERIMENTS seem to show that bread is sterilised in the process of baking. In 1909 Doctor Auché proved that the bacilli of tuberculosis, when put into dough, always lost their virulence after baking. More recent experiments indicate that the bacilli of diphtheria, meningitis, pneumonia, dysentery, and other diseases are destroyed by baking. Cultures of the bacilli of all these diseases were put in the centres of unbaked loaves. In each case, after these loaves had been baked, an examination of the bread from the heart of the loaf gave negative results. A writer in *Pure Products* says that disease-germs have never been found within a loaf of ordinary baker's bread. Unless the outside of the loaf is contaminated after coming from the oven, bread, therefore, seems to be an aseptic food.

### How to Rest a Tired Head

TAKE a lively walk in the open air. Hundreds of people feel worried and worn out who are just exhausted as far as nerves and brain are concerned. If they can transfer a little of this tired feeling to their muscles, strange as it may seem, the nerves and brain will be rested.—*Selected.*





## CHILDREN'S HOUR

### THE LITTLE LAD'S ANSWER

OUR little lad came in one day,  
With dusty shoes and tired feet,  
His playtime had been hard and long  
Out in the summer's noontide heat.  
"I'm glad I'm home," he cried, and hung  
His torn straw hat up in the hall,  
While in the corner near the door  
He put away his bat and ball.

"I wonder why," his auntie said,  
"This little lad comes always here,  
When there are many other homes  
As nice as this, and quite as near."  
He stood a moment deep in thought,  
Then, with the love light in his eye,  
He pointed where his mother sat,  
And said, "She lives here, that is why!"

With beaming face the mother heard;  
Her mother heart was very glad.  
A true, sweet answer he had given—  
That thoughtful, loving, little lad.  
And well I know that hosts of lads  
Are just as loving, true, and dear;  
That they would answer as he did,  
" 'Tis home, for mother's living here."

—Susan Teall Perry.

### Claude's Captive

"I'VE been setting a trap," said Claude, coming in to supper, with a very bright face.

"Where?" said Aunt Ruth.

"Down by the big elm, just over the creek. Jason helped me to make it, and I've put a forked stick in it, with a nice bit of apple on its end. I'm sure I'll catch a squirrel before morning."

"Why do you wish to catch a squirrel, Claude?" said his aunt.

"Oh, Aunt Ruth, a squirrel is such fun! And in the attic is a cunning little cage, with a wheel on purpose for the little fellow to run up and down. It is a shame to have that cage and nothing to put in

it. I'll be real good to my squirrel, auntie. He shall have fresh water and plenty of nuts, and I'll make a perfect pet of him."

"But he'll be a prisoner," said Aunt Ruth.

"Oh, he'll soon get used to that," replied Claude, taking another slice of bread and butter.

Aunt Ruth said no more, but she secretly hoped that Claude would not succeed in catching his squirrel. For several days he said nothing about it, returning from his little trips to the elm tree with a disappointed look. One evening, however, he came flying with great leaps over the meadow, and as he drew near the house, he called out gaily: "Hello, Aunt Ruth! I've got him!"

"Let me hope, then, Claude, that you will not shut him up after the free life of the woods, in that cubby-hole of a cage. Put him in the loft over the granary—that will be a splendid place for him."

But Claude shook his head. He was proud of his captive, and meant to be good to him, and every day he fed him plentifully—or tried to do so—though oftentimes the nuts were untasted. The sharp little teeth tore out the bars, and the bead-like eyes fairly snapped with anxiety to be free. "Let me out! Let me out!" Mr. Squirrel kept saying with all his might.

Aunt Ruth would stop and take a pitying peep at him now and then, saying, "Yes, you poor creature, I would in a minute, if you were not my nephews' property—and perhaps I'll do it anyway."

She set her wits to work to see if she

could give Claude a lesson, and one day, not a great while after, the little boy, who had gone to one of the upper rooms of the house on an errand, found himself, to his surprise, locked in; somebody had turned the key on the outside.

He knocked, called, and listened; but no one came, and not a step did he hear. He glanced from the window. Aunt Ruth with her little velvet bag on her arm was tranquilly walking down the road to a neighbour's. A party of boys were going fishing.

"If this isn't a mean shame!" said Claude.

He looked around as he spoke. He



The Squirrel Enjoying Liberty

was in one of the prettiest rooms in the cottage, and as he began to notice things more particularly, he discovered that a basket of fine mellow pears and a plate of cakes were standing on the table. There was a china jug filled with cool water from the well. At another time Claude would have eaten the fruit and enjoyed it, but he now felt so angry that he scorned to touch it.

"I wouldn't have believed that Aunt Ruth would play such a trick on me," he said, as he sat silently down beside the window.

Presently Tim, the coachman, crossed the yard below, and stopped a minute to speak to Sally in the kitchen.

"That 'ere poor squirrel of Claude's is grievin' himself to death," were the words that reached the boy's ears.

"Tim! Tim!" cried Claude, leaning far out over the sill; "send Sally up here, won't you, please?"

Sally's slow, heavy steps came up the stairs. He could hear her panting with the exertion. When she reached the third landing Claude said very pleadingly:

"Unlock the door, Sally; there's a good, dear woman."

She needed no urging, and after an hour's confinement, Claude was at liberty.

He rushed down to the barn, set wide the door of the squirrel's prison, and let the little victim go back to the wood and trees.

That night his Aunt Ruth told him the story of a great painter named Leonardo da Vinci, who used to buy cages of birds in the markets just for the pleasure of setting them free. Claude's eyes sparkled, and he said:—

"Aunt Ruth, that's just what I mean to do when I grow up." — *Maritime Baptist.*

### Bobby and the Champion

IN all his seven years Bobby had never been so excited; but then, what little boy wouldn't be, if his own big cousin was the champion football player who was coming with the great college team to play the next Monday? The papers told about him and printed his pictures, and everybody talked about him, and felt sure his team would win. To have the champion stay at his house, and be his very own cousin, made Bobby feel about as important as a champion himself.

In fact, he acted a great deal more important than did the big, clear-eyed, good-natured cousin when he came. Bobby watched and admired everything that he

did, from the way he walked to the way he tied his necktie, and before the first day was over, they were the very best of friends. *THE END*

After breakfast, Bobby and Cousin Ned went down to the place where the other boys of the team were staying, and together they went out to the place where the great game was to be that afternoon.

ently he heard him say, "No more, thank you; it's ever so good, but we're under orders to eat just so much, and no more, when we're in training for games like this afternoon."

Bobby was so surprised that he forgot to eat. To think that a great, big, strong football champion had to be careful about what he ate!



Training for the Match

How proud and happy Bobby was as he walked down the street with the crowd of fine, strong, young fellows! How nice it would be, he thought, to be grown up like them, and to do just as he pleased. "Nobody'd tell them how many pancakes they could eat," he said, resentfully to himself. There had been crisp, brown pancakes for breakfast, and Bobby was still indignant because his mother had not let him eat as many as he wished.

At dinner time, my! but they were hungry. Bobby was too busy eating to notice Cousin Ned for a while; but pres-

"It was hard for all of us at first," said Ned, "but it has been good for us, too."

"It is fine temperance training," added Bobby's father, "for when a boy can eat what is good for him and give up the rest, I should imagine that he could give up anything else that was going to hurt him in any way."

The game was a great one, and, of course, Ned's side won, as Bobby had been sure it would. Bobby remembered it all his life. And he remembered something else, too. He remembered that to be strong and useful, and able to do great

things of any kind, a boy must have a strong body and a clear mind, and that meant doing without many things that he liked. But what did they matter when they made such a big difference in the end?

### The Difference

"I WISH I had some of those apples that are lying on that grass," said one boy to another.

"Then why don't you get them? wishing won't bring them to you."

"But they are not mine, and I dare not take any of them."

"What a baby you are!" said the

other boy. "Mr. Giles won't care if you take a few. He has more apples than he knows what to do with."

"That may be, but I wouldn't take one of them without asking," was the reply. "I'm going to ask him now if I can have a few. Come with me."

"No, I don't want to do that; he'll think we are 'goody-goody' kind of boys, to ask for a few apples."

But when Roy politely asked Mr. Giles, he said: "Of course you may have some. I like a boy that's got principle enough in him to come and ask for what he wants instead of taking them. Have all you want, and you are welcome to them."—*Selected.*



### MAKING A CAKE

It's very difficult to make  
Even a little loaf of cake.  
You search for bowls and spoons and things—  
It seems as if they all had wings.  
And then you pour and beat and stir,  
And make the egg-beater go whir-r-r-r!

The cake came out all nice and brown,  
With just the middle tumbled down.  
It's mother's birthday,—her surprise,—  
And baby helps, at least he tries!  
And so, although my arm does ache,  
What do I care? We've made a cake!

—*Youth's Companion*

### Now

IF I were to give you a motto to go through life with—one that would stand you for a warning and counsel in any strait in which you might find yourselves, I would give it in this one word "NOW."

Don't waste your time, your strength, and your opportunities, by always mean-



ing to do something—do it! Only weakness comes of indecision. Why, some people have so accustomed themselves to this way of dawdling along from one thing to another, that it really seems impossible for them to squarely make up their minds to anything. They never quite know what they mean to do next; their only pleasure

seems to consist in putting things off as long as possible, and then dragging slowly through them, rather than begin anything else. Don't live a single hour of your life without doing exactly what is to be done in it, and going straight through it from beginning to end. Work, play, study, whatever it is, take hold at once, and finish it up squarely and cleanly, and then do the next thing without letting any moments drop out between. It is wonderful to see how many hours these prompt people contrive to make of a day; it's as if they picked up the moments that the dawdlers lost. And if you ever find yourself where you have so many things pressing that you hardly know how to begin, let me tell you a secret: take hold of the very first one that comes to hand, and you will find the rest fall into file and follow after like a company of well-drilled soldiers; and though work may be hard to meet when it charges in a squad, it is easily vanquished when brought into line.

You may have seen the anecdote of the man who was asked how he accomplished so much in life. "My father taught me," was the reply, "when I had anything to do, to go and do it." There is the secret—the magic word "NOW!"—*Sel.*



# CHATS WITH THE DOCTOR



[Send questions for this department to the Editor, LIFE AND HEALTH, Warburton, Victoria.

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.

## 129. Eczema; Bunions

“Callola” (N.S.W.) writes: “My anxiety is over an ‘itch’ which myself and the children have. It appears with small, red, itchy pimples on any part of the body. The pimples, if squeezed, contain a tiny drop of watery moisture. The itch appears to be contagious, and we have been troubled with it for some length of time.”

*Ans.*—The disease is evidently “eczema;” it possesses all the characteristics of that disease, itchiness, pimples (vesicles) which excrete fluid, redness, and contagiousness. Eczema, however, as a rule, is not contagious except when due to micro-organisms, and in that case it is said to be “auto-inoculable;” *i.e.*, the micro-organisms from an infected part, when transferred to an “apparently” healthy part of the skin, may produce another patch of eczema. If the skin, however, were perfectly healthy, the micro-organisms would not produce the disease. Jamieson states that the arms of nurses who carry babies suffering from eczema of the nates, may become irritated, and eczema may be induced by scratching. Generally speaking, however, there must be a predisposition to the disease, and where the predisposition does not exist, it is not contagious. No specific micro-organisms have been shown to be constantly associated with eczema; but still the results of anti-parasitic treatment leave us in no doubt but that they are very active agents in the disease. The

predisposition which allows the germs to produce the disease, seems to be in the skin itself, and not to be constitutional. Persons affected with eczema, even of a most troublesome kind, are frequently in perfect health in every other respect. Nervous affections, worry, mental strain, and nervous shock often form the predisposing cause. The trophic nerves, those that attend to the nutrition of the skin, are thus prevented from fulfilling their purpose, and the skin is thus made liable to be attacked by the germs causing this disease. Sometimes a chill will bring on an attack, but this is probably due to nervous depression caused by the chill. Reflex nervous irritation from the womb, the stomach, the intestines, etc., often seems to be the exciting cause. Sometimes eczema is the result of the irritation caused by indigestible food in the stomach, or by worms in the intestinal canal. Eczema is often associated with asthma; in fact, these two affections often depend on a common cause. Undoubtedly, the most common complication of eczema is dyspepsia. These facts should be remembered in the treatment of eczema. We would advise the avoidance of meat foods, tea, coffee, cocoa, all fried and rich foods; these all lessen the alkalinity of the blood, and irritate the skin through the increased excretion of acid secretions. During the more acute stage a lotion made up as under will prove useful:—

Calamine and oxide of zinc, of each one ounce; two teaspoonfuls of liquid



carbolic acid; and lime water half a pint. Shake thoroughly, and apply to the skin with a piece of soft muslin. Later on, an ointment may be applied such as—

Zinc ointment, ointment of subacetate of lead, compound mercurial ointment, and vaseline, equal parts of each.

“Callola” also asks, “Is there any cure for the somewhat common trouble of bunions on the feet.”

*Ans.*—Around many of the joints there are little sacs containing fluid for the protection of the joint. Injury or continued pressure will cause these sacs to become inflamed; over the knee joint “housemaid’s knee” is produced, over the big toe, and sometimes the little toe, “bunions” are produced. The sac becomes thickened over the big or little toe, and thus quite a hard lump is the result. The irritation is generally caused by badly fitting boots or shoes. It is advisable to soften the skin with hot water, bathing once or twice daily, covering at night with a soft pad of lint saturated with a strong solution of soda or bicarbonate of soda; this will soften the hard skin. The bunion should then be protected from pressure by the wearing of well-fitting boots with plenty of toe room, and by covering the bunion with some soft material, as buckskin saturated in oil; adhesive plaster over absorbent cotton; cotton wool saturated with flexile colloidion; or lanoline and cotton wool. It is well to draw the toe into proper position by the application of adhesive plaster.

### 130. Ulcerated Mouth

“Narrogin,” W.A., asks for treatment of ulcerated mouth.

*Ans.*—The teeth should be attended to; all roughness due to decayed teeth should be remedied by the dentist; bad teeth should be extracted or filled. The digestion should be kept in good order by simple dietary, and the mouth and teeth cleansed several times daily with a mild antiseptic, such as “Euthymol,” “Floriline,” or other of the well-known dental preparations. Very good results

are obtained by thoroughly cleansing the mouth twice daily with boiled water, in which a small quantity of permanganate of potash is dissolved. The ulcers may be touched with a much stronger solution. It should be remembered, however, that the mouth cannot be kept clean and free from the micro-organisms that cause ulceration apart from healthy digestion and thorough attention to the teeth.

### 131. Lime Juice

“Enquirer” asks if lime juice may be used on shipboard instead of lemon juice.

*Ans.*—As lemons are not always procurable, lime juice is largely used for its antiscorbutic properties, and, we believe, with good results; it is, however, rather acid. The sweet lime (*citrus limetta*) is a variety cultivated in the south of Europe, and has a pulp of a less acid nature.

### 132. Sterilising Cream

“Enquirer” also asks, “It is recommended to sterilise milk before using, but what about cream? How should it be sterilised, or is there little or no risk with cream?”

*Ans.*—Mostly, it is necessary to sterilise both milk and cream; but we believe that when we can be certain that the cows are perfectly healthy, and the milking cleanly performed, sterilisation of milk and cream is not only unnecessary, but inadvisable. Milk and cream undoubtedly are more digestible and nutritious in their natural state, but, unfortunately, it only falls to the lot of comparatively few to be supplied with the untainted article; and, consequently, most people must sterilise their milk and cream to avoid the many diseases which may be communicated by their use. Scalded cream is already sterilised, but it may become contaminated in transit from one vessel to another, or from one place to another. It should, however, be remembered that it is not necessary to bring milk or cream to the boiling point in order to destroy

diseased germs. The diseased germs mostly met with are destroyed by a temperature of 175 degrees F. If milk or cream be kept at this temperature for twenty minutes, it can be taken with safety. The jug containing the milk or cream may be immersed in boiling water, and kept in a warm place for half an hour. This will prove effective, and at the same time will preserve the digestibility and nutritive value of the milk and cream.

### 133. Two or Three Meals—Which?

“Enquirer” asks, “Can a working man do his eight hours’ hard labour on only two meals?”

*Ans.*—We believe he can. Some people have an idea that an empty stomach means starvation, and that as soon as it becomes empty it must be filled again, and they never feel comfortable unless the stomach is full. Strength, however, does not depend on what is in the stomach, but on the stored-up foods in the tissues, especially the muscular tissues. These are nourished from the blood, and the blood from the stored-up food in the liver. The stomach may be empty five hours after a meal is taken, but the liver and tissues will retain stored-up food for days, and even weeks, without a fresh supply from the stomach. Most meals require four or five hours for complete digestion (stomachic), after which a period for recuperation of the stomach is necessary. The great time for rest is during the sleeping hours, and sleep is more profound when the stomach is empty. Most of the ancient nations lived on two meals, the third meal is a modern institution. The number of meals taken in the day is largely a matter of habit. The man who is accustomed to five meals in the day will, for a time, find some discomfort in reducing them to three, and the one who takes three will, for a time, miss the third meal. We have met quite a large number of individuals who for years have subsisted on two meals a day, and almost all have testified to better health. We

believe it better to omit the evening meal than breakfast, for this ensures a more restful sleep. It must be remembered that digestion is very slow during sleeping hours, and, consequently, a supper often means, not only a restless night, but a bad taste in the mouth in the morning.

### 134. Intestinal Flatulence

A correspondent asks “if the expulsion of gas from the bowels is necessary for the power of expelling waste matter, or is it a sign of decaying food; and how can this be so if it is digested satisfactorily by the stomach?”

*Ans.*—The stomach digests but one kind of food, the nitrogenous, or albuminous, elements of the meals. Some foods interfere with the stomachic digestion, and thus cause acidity, flatulence, etc. Much food, especially fats and carbohydrates (starches and sugars), are passed from the stomach into the bowels for further digestion, and, if this is not carried on satisfactorily, intestinal indigestion is the result; the passing of gas is one of the evidences of imperfect intestinal digestion. Animal food is especially liable to decay in the intestinal tract. Animals who live on flesh food have very short intestinal tracts, and, consequently, do not suffer from decomposition of their food. Vegetable-feeding animals have a long intestinal tract, as it is necessary to obtain the full nutriment of the vegetable foods. Man, like the vegetarian animals, has a long intestinal tract; if he indulges in animal foods, the digestible part is quickly assimilated, and that part which is indigestible has a long way to travel before its expulsion, and, consequently, a long time in which to undergo fermentation, etc. Hasty eating of meals, deficient mastication, and wrong combinations of food are fruitful sources of intestinal indigestion.

### 135. Meat (Flesh) Foods and the Bible

“Enquirer” asks some questions in relation to Bible authority for excluding flesh foods from our dietary.

We would advise him to send the questions to the Editor of the *Signs of the Times*, who will be glad to answer them fully in that journal.

### 136. Eczema of Scalp

"Wanganui" asks for treatment of "eczema of the scalp." "It forms a dry crust on the scalp, looks like 'dandruff,' but is very thick. When removed with almond oil it quickly reappears."

*Ans.*—This is a case of "Seborrhœa of scalp," due to a condition of over-activity of the sebaceous glands. It is a local disease, and requires local measures. The scaly masses must be removed by the rubbing in of olive or other suitable oil; bread poultices, etc., and then some application applied that will destroy the germs which cause the disease. If inflamed, it would be a good plan to use the calamine lotion mentioned under "Eczema" in this issue. When the inflammation subsides, use a lotion of sulphur, about one ounce to half a pint of boiled water. Shake the lotion thoroughly, and rub gently in with a little brush, taking care to touch the hair as little as possible. In severe cases, apply twice daily. The lotion forms a crust by uniting with the secretion from the scalp; this should be removed, and the sulphur re-applied. Instead of the lotion, an ointment of sulphur, a small teaspoonful to an ounce of lanoline or vaseline, may be used.

### 137. Best Foods for Children

"Kingsleigh" asks for best foods for two children aged two years. "They are now taking any kind of vegetable, and always broth (mutton) once a day, or beef tea."

*Ans.*—We would certainly advise that the mutton broth and beef tea be omitted, as they are valueless from a nutritive point of view. They are certainly stimulants, but the stimulating qualities are due to harmful products in the mutton and beef. Beef tea and mutton broth

contain quite a large proportion of uric acid and allied products (see last issue of LIFE AND HEALTH under "Rheumatism"). The tasteless meat left after the abstraction of the broth contains all the nutritive elements, the broths contain only the waste products. Growing children require a large proportion of nitrogenous food, and this cannot be better supplied than by the free use of milk. Other suitable foods are: well-cooked oatmeal, rice, sago, plain, unsweetened biscuits. There is no better food for children than granose biscuits or granola. These can be easily combined with milk. Ripe oranges, grape juice, scraped apple (using the sweet mature fruit only), bananas, and other easily digested fruit should also be given twice daily. There can be no objection to well-cooked potatoes, cauliflower, young, tender French beans and marrow, but these should not be given at the meals in which fruit forms a part. Fruit we believe, however, to be preferable to vegetables.

### 138. Convulsions in Babies

"Korumburra" asks for "Cause and treatment of convulsions in babies."

*Ans.*—Sometimes convulsions are the result of brain or spinal disease. They may be the beginning of epilepsy or sign of the onset of some acute disease, such as pneumonia, pleurisy, meningitis, etc., but mostly they are due to undigested food irritating the alimentary canal. The child should be placed at once in a tub of hot water, just as hot as the nurse can hold her elbows in. Cold, wet cloths should be kept over the head and neck. The bowels should be opened by a full enema of warm water. Sometimes the continuous inhalation of chloroform is found necessary, but this should not be resorted to except under medical supervision.

### 139. Irritation about Private Parts

"Traralgon" complains of above. Probably due to womb trouble or piles. A thorough examination by a medical

practitioner is necessary to reveal the cause. Daily vaginal injections of Condy's fluid and hot water (tablespoonful to quart) will give relief. After a thorough cleansing of the parts with hot water and coal tar soap apply freely a five (5) per cent carbolic oil (or stronger). This should be done twice daily.

#### 140. Nose and Throat Trouble with Deafness

"Mooroopna" complains, "I am continually clearing my throat . . . of a dry, itching sensation, sometimes causing me to cough until a dry retching starts. My nose is always 'stuffed' up, causing me to breathe a great deal through my mouth. I am hard of hearing, sometimes more so than other times, and head noises in one ear very frequently. My general health is not good, as I suffer a great deal with constipation, and palpitation of the heart after least exertion."

*Ans.*—The trouble is probably catarrh of throat and nose, and this affection is kept up by imperfect digestion. All recognise the fact that a furred tongue is a sign of stomach trouble, but it is not equally known that what will cause a dirty tongue will also prevent a nasopharyngeal catarrh from clearing up. The catarrh also affects the Eustachian tube, a small canal leading from the throat to the ear by which equal atmosphere pressure is maintained on both sides of the drum of the ear. When this equal pressure is not maintained the drum, being more or less bulged inwardly, does not catch the vibrations of sound so readily, and more or less deafness is the result.

The digestion must be attended to. Avoid boiled milk, tea, coffee, cocoa, pastry, sloppy foods, and all foods cooked with butter, lard, dripping, or oil. Butter should be taken sparingly. Scones and cakes should be avoided. Granose biscuits, granola, whole wheat bread, zwieback should be partaken of freely. Eggs should be very lightly cooked, poached or placed in boiling water and kept some

distance from the fire for seven or eight minutes. Rice cooked in various ways is an excellent food, and is easily digested. For the nose and throat make a powder by mixing equal parts of common salt, borax, and baking soda. Take one teaspoonful of this and add to half a tumbler (small) of warm water. Gargle the throat thoroughly; pour some into the palm of the hand and sniff up both nostrils. This should be done twice daily.

Another correspondent asks if we recommend certain advertised ear drums. We have not met anyone who has reaped the least advantage from such devices, and consequently do not recommend them.

#### 141. Ovarian Pains

"Mooroopna" also complains of pains in lower part of abdomen, sometimes absent for weeks at a time, but is very bad after heavy washing or carrying a weight.

*Ans.*—There is probably some displacement of the womb. A medical examination is necessary to ascertain what the real trouble is.

#### 142. Massage for Constipation

A correspondent asks for directions as to how to massage the abdomen for the relief of constipation. We do not see how anyone can massage his own abdomen satisfactorily. The movements necessary are spoken of as "deep kneading" and "percussion." In deep kneading the object is to act upon the muscles. Dr. Kellogg writes: "There is no procedure in massage which requires so much skill, discretion, and anatomical knowledge as deep kneading." The art can only be learned by watching a skilled masseur. Correspondent would do better by systematic exercise of the abdominal muscles, such as frequent stooping with the knees kept stiff; lying flat on the back and raising the trunk into the perpendicular position; in the same position raising the legs at right angles to the body. These exercises may be employed morning and night for, say, ten or fifteen minutes.

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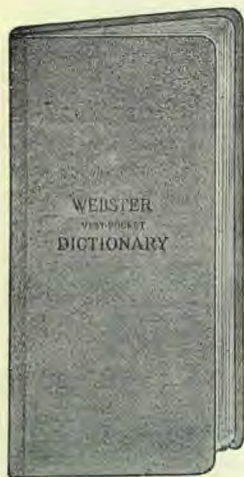
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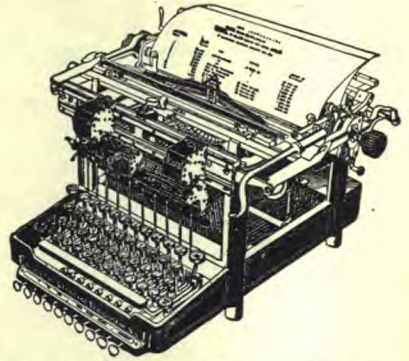
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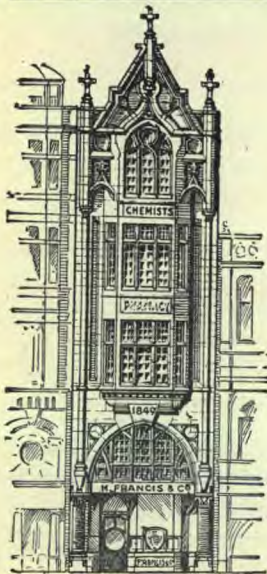
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