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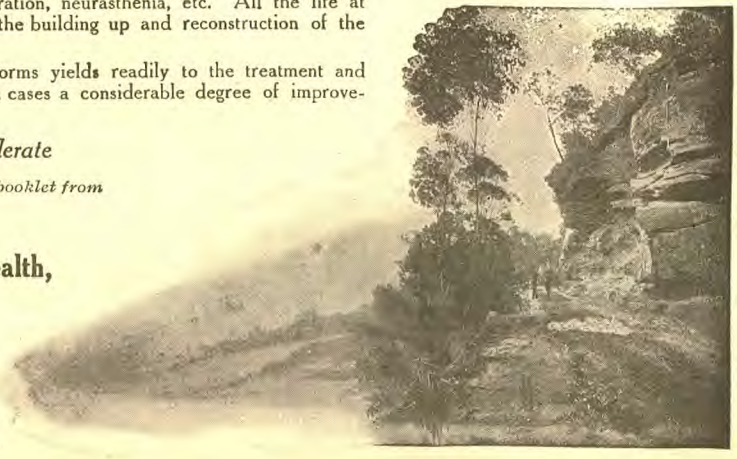

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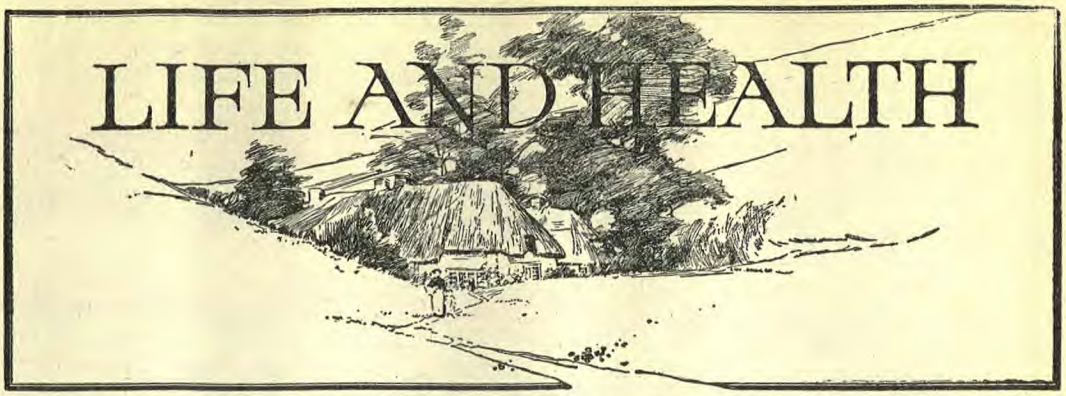

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Editor: CHARLES M. SNOW Associate Editors: W. HOWARD JAMES, M.B., B.S. EULALIA RICHARDS, L.R.C.P. & S., Edin.

Danger in the Duster

IT is now known that particles of dust floating in the air within doors or out of doors are the ever-ready transportation agencies for many of the disease germs that find lodgment in the human system. It has also been demonstrated that the ordinary and homely feather duster is one of the most energetic disseminators of this dust germ menace. This has come to be recognised to such an extent that the United States War Department has now ordered the use of all feather dusters to be discontinued in its offices and buildings.

When one comes to realise that dusting with a feather duster never effectually removes dust, he begins to wonder why it is that this inefficient means of dusting has maintained its existence so long. Dust removed from any article of furniture by the feather duster is made a greater menace than it was before. The feather duster merely throws off into the buoyant air these particles of germ-laden dust to be breathed by all the occupants of the room in which the dusting is done. These particles of dry dust are almost as light as air and remain floating in the air for a long time. When they finally settle, the room needs dusting again. The best duster is a soft cloth, and if a little raw oil has been sprinkled over the cloth and worked into its fibre the dust which is removed from articles of furniture and from woodwork is captured in the fibre and prevented from circulating in the air. The modern suction cleaners that have within recent years been placed upon the market are a splendid time-saving and life-preserving invention.

The beating and shaking of rugs, while destructive to the fabric of the material itself, is a dangerous pastime for those who indulge in it, and especially so for those who are troubled with throat affections. If dusting of this kind must be done, the one who does the work should always wear a sponge or several thicknesses of cloth over the mouth and nostrils. Even this, however, is not a perfect preventive of the contraction of disease from germ-laden dust.

Personal Responsibility for Disease

IT is far more important to know the cause of a disease than to know its name or the remedy for it. Knowing the remedy and the name will not prevent the recurrence of the trouble. To know the remedy is important for the immediate present; to know the cause is important for all the rest of the life.

When Jesus healed the impotent man at the pool of Bethesda, He pointed out to

him the cause of his disease, and then said, "Go thy way, sin no more, lest a worse thing befall thee." True medical science will do likewise, calling attention to the cause of the disease and assisting the system to eliminate its poisons.

One well known physician states the case in this way: "The human family is perishing for lack of knowledge. Unless great reforms are brought in, nothing short of extinction awaits the race. Already in France, one of the most highly civilised nations in the world, the death-rate greatly exceeds the birth-rate. This has created alarm. There is a tendency in the same direction in England and other countries."

Deaths due to alcoholism alone have increased three times faster in Great Britain during the past twenty years than the rate of the population's increase. The loss of child life at the present time is appalling. A very large proportion of those born into the world alive die before they reach the age of one year. In Bible times it was almost an unheard-of thing for a child to die before its father. It is recorded of Haran, the brother of Abraham, that he "died before his father Terah." Gen. 11:28. But today it is almost an unheard-of thing for all the children to survive the parents. Two out of every five children die before reaching the age of five, and only six out of a hundred reach the age of sixty.

This sad commentary on the vitality of the race calls loudly for reform. The Bible says, "My people are destroyed for lack of knowledge." The need of that knowledge which will help us to live is far more emphatic today than it was the day that was written. The first and most essential duty now of the medical practitioner is the duty to teach the people how to avoid disease. To apply remedies is not sufficient. The Chinese have the correct idea, whether they live up to it or not. They pay their physicians for keeping them well. When they fall ill, the physician loses his wages. It is to the physicians' advantage to keep the people well, and while many of their ways of trying to do it are grotesque or even ludicrous, they have the right idea. Physician, teach the people how to avoid disease, how to live so that they may live longer.

But neither are we blameless; for we seldom do as well as we are taught to do. For instance, we have had demonstrated to us that alcohol is the most efficient agency in the world for shortening life—not that it is a more deadly poison than some others, but it has within it that which makes it appeal to the human family more strongly than any other poison that has its power to destroy. And yet the race goes on using it, knowing that it is cutting off its own life. Physicians have told us for years that certain combinations of foods would result in trouble for us; but many of us continue to make those combinations, and then call on the doctor to help us out of our difficulty, just like the little girl who, on being warned that a second piece of cake would make her sick, replied, "Pass the cake again and send for the doctor."

We know that pure air and sunlight are two of Nature's best physicians; and yet many of us shut out the air and the sunlight from our homes, and then go to great expense for a health holiday in the mountains or at the seashore to recuperate from the bad effects of our mode of living at home. Let us mend our ways.

We know that meat is filled with the poisonous products of decay; and yet the majority of the human family make it one of the principal articles of diet, and then wonder why their own systems are filled with poisonous waste substances which the organs of elimination are unable to thrust out. Do we do as well as we know?

We know that the system can tolerate only a certain amount of sweets; but the majority of individuals overload their stomachs with these substances, and wonder why their stomachs are irritable, their livers sluggish, their complexions bad, and their brains dull. Let us reform, and knowing what is right and best, do it, and thank our instructors for showing us the way, and congratulate ourselves for having the courage to follow where they lead.

High Blood Pressure

THE force or tension by which the blood circulates through the body produces "blood pressure." This force is primarily generated by the muscular contractions of the heart; the elastic coats of the large arteries store and convert this intermittent flow of blood into a continuous stream; the small arteries by contracting and dilating act as sluices or taps to supply the tissues. In the tissues we have minute microscopic capillaries, tubes without muscular or elastic coats; these nourish the tissues just as perforated pipes in a garden moisten the soil. By the lymphatics, tubes similar to the capillaries and the veins, the tissues are drained.

"Galen," writes Osler, "first grasped the fact that life depends upon the maintenance of a due pressure in these irrigation fields; many canals dispersed throughout all the parts of the body convey to them blood as those of a garden convey moisture, and the intervals separating those canals are wonderfully disposed by nature in such a way that they should neither lack a sufficient quantity of blood for absorption, nor be overloaded at any time with an excessive supply."

In abnormal conditions of health the small arteries do not so readily contract and expand, or the blood is so altered in composition or viscosity that it cannot find its way adequately into the tissues; and nature, in order to overcome this increased resistance, increases the blood pressure by increased development of the muscles of the heart, and thus there is increased blood pressure. By suitable apparatus the amount of blood pressure can be accurately estimated. The blood pressure varies in individuals, and even in the same individual according to his varying conditions. The normal blood pressure is from 120-140 mm. of mercury up to the age of forty-five or fifty and after this age from 140 to 160. A permanent blood pressure of 160 or more would be considered high. In debilitated conditions from any cause the blood pressure may be permanently low. Where the blood pressure has remained high for a considerable time, the blood vessels themselves lose their elasticity and power of contraction and dilation. These blood vessels are liable to rupture, as in the brain, producing apoplexy.

One of the great advances in modern medicine has been the recognition of blood pressure. There are many men and women in our midst who are apparently in the best of health, mentally and physically, who work hard and eat well but have a permanent blood pressure of 180 or more. This is especially so with those who smoke, drink, and live largely on flesh foods. One is often surprised at apparently healthy men dying so suddenly of pneumonia, apoplexy, or other disease; but frequently these men have had high blood pressure for years without knowing it. Big eaters and especially those who drink and smoke, after they have attained the age of forty-five or fifty, in the majority of cases have a high pressure. Many a man has had his life prolonged by being refused for life insurance through high blood pressure. By eating less, especially of animal foods, living a quieter and more temperate life, by abstaining from tobacco and alcohol, he can reduce his blood pressure and lessen his dangers from disease of heart, kidney, and of the blood vessels.

Overeating, the eating of unsuitable foods, and constipation all alter the constitution of the blood and prevent it from so readily gaining an entrance into the tissues which it has to nourish. Very slight alterations in the blood may be followed by disastrous results. One writer in dealing with the reaction of the blood states that a difference equal to that between tap and distilled water in the reaction of the blood stream would actually produce death, and it would require a very delicate test to discern this difference.

Dr. Haig, in dealing with the subjects of rheumatism and gout, shows that animal foods lessen the fluidity of the blood and greatly interfere with its circulation in the capillaries. This is especially so in the muscles and around the joints, and results in the deposition of waste products such as uric acid, more than can be removed by the drainage—the lymph canals and the veins. The same conditions that produce gout and rheumatism also bring about high blood pressure; for if the blood be less fluid it will take more force to carry it through the capillaries. We believe there is much yet to learn in regard to waste products; in the past the sole attention has been given to those from nitrogenous foods, but undoubtedly other unsuitable foods or excess of food, especially when constipation exists, will increase the amount of waste products in the blood and thus increase blood pressure.

Pathé Photo

HOLIDAY MAKING AT LOCH ARD GORGE, VICTORIA

Dr. T. Clifford Allbutt, recognised as a leading authority on blood pressure, writes: "Russell Burton-Opitz and later investigators have shown that the viscosity of the blood varies considerably, but depends mainly on the number of corpuscles; on the other hand, we know also that the arteries may contract persistently over areas large enough to maintain a considerable rise in blood pressure. In health, wide constrictions are neutralised by dilation elsewhere, as in the splanchnic (abdominal) area; but we may suppose that the splanchnic may itself be the area of constriction or the compensatory mechanism may be liable to get out of gear, or become 'labite.' The proximate cause of such arterial constriction may come from without, as a product of *distempered metabolism* or an intoxication by refluent *waste products;* that some such poisons exist, poisons which act upon the vaso-motor centre or widely upon the vessels themselves, has long been suspected, and is now supported by some proofs." In constipation and intestinal indigestion the metabolism, the changes brought about in the food, is abnormal, "distempered."

High Blood Pressure in Children

Dr. Allbutt then deals with high blood pressure in children, and from his descrip-

tion of the symptoms it is very clear that excess or improper food is the cause of producing poor alimentary digestion and allowing the absorption of abnormal waste products, thus causing high blood pressure. "Children so affected," he writes, "are usually pasty-faced, dark under the eyes, sickly, headachy, and at one time sluggish and moody, at another fretful and excitable. Their tongues are sticky and dirty, the breath is foul, the bowels are irregular, and the epigastrium and abdomen tumid. In these cases the rules of treatment, empirical as they are, are promptly efficacious. The diet must be restricted, particularly in respect of fats, sugars, meat, and strong broths. Even milk may be given too liberally in these cases, especially in its natural state; for a child of ten years thus disordered, one pint of milk prepared in one way or another, is sufficient for twenty-four hours. Indeed, the quantity of food must be restricted in all directions, for the mother is too apt to stuff the child, or the schoolboy to stuff himself. During the ailment, three or four rusks and a cup of milk are enough for breakfast; a little light broth with a biscuit may be given in the forenoon, and at dinner some plain food with but little potato, and a light pudding. Full plates of farinaceous or stodgy puddings are to be forbidden, as flatulent and clogging to the digestion; light steamed bread puddings, a little blanc mange, junket, and the like, are to be preferred. Tea is to be as breakfast, rusks or dry toast being better than thick slices of bread. Butter is to be given scantily; fruit, raisins, currants, jam, cakes, not at all. Some milk food will make a sufficient supper. The temperature in these cases sometimes rises a little in an irregular way; where this is so, the food should be even more sparing for the time, and but little of it solid. When feverish the patient may remain in bed; otherwise he is better about, gentle exercise out of doors being allowed."

Dr. Allbutt continues by advising certain drugs for lessening the decomposition of food and the production of undesirable by-products. The doctor speaks of his treatment as being empirical, but to our mind it is not so, for by attention to the food and digestion the accumulation of undesirable but obscure waste or by-products is lessened; and these clearly produce the condition of high blood pressure. The causes of high blood pressure as given by the same authority also bear out this idea. His writings throughout on this subject show the importance of reformation in diet.

Again he writes: "Hyperpiesia (high blood pressure) often establishes itself in the adult without betraying its presence. Indeed, high pressure in the cerebral vessels may give rise, for a time, to a sense of well-being. A man of middle life may report himself to be in excellent health, when for a skin eruption perhaps or for life insurance, he comes to a physician; yet the wary practitioner may discover an arterial pressure of 160-190 mm. Hg. The radial artery may be already a little thickened, and the left heart enlarged. If the man who had regarded himself as healthy, would submit to a long, close, and troublesome medical treatment, and much irksome management of his diet and habits, it may still be possible to restore the health more or less completely. On the other hand, to continue in this disorder for some years will lead to death by apoplexy or by heart failure, even if life be not cut short sooner by an acute pneumonia. The patient may, then, get rid of his plethora and his cardio-arterial strain if he will pay the price. But at a somewhat later stage the outlook is not so hopeful; the circulation—heart and vessels—may have acquired a permanently abnormal set, and a restoration to the normal balance be no longer practicable."

Reform in diet and habits may for a time reduce the feeling of "well-being," but in a few weeks the artificial and only apparent good health will give place to something more substantial and lasting and permit the patient to live out his full term of life.

High blood pressure in the brain, brought about by overeating, alcohol, to-

bacco, flesh foods, tea and coffee (Dr. Allbutt gives all these items in the list of foods and drinks increasing blood pressure), may produce a feeling of well-being, but this continuous abnormal stimulation ends in diseased blood vessels and ill health with consequent shortening of life.

Under *treatment* Dr. Allbutt writes: "In early and late stages of hyperpiesia the method of cure is in principle the same. In many instances the rise of arterial pressure is due to excess of food, positive or relative. The subjects of this plethora, large eaters as they may be, may not be fat, nor ruddy; often they are so, but not a few are even lean and sallow. In others, however, the intake has not been more than many persons dispose of easily—individuals vary widely in their capacity for disposing of excess of food—but has been more than the individual capacity. Many of these persons, of gouty stock, are wont to regard themselves as gouty. Moreover, treatment directed against the supposed gouty habit, especially a *spa* treatment, often answers to expectation. If a man be fat, he must gradually reduce his intake till he brings himself back near the normal weight of his earlier years—say to his weight at forty. To bring the food down gradually, even to half the quantity habitual to the individual, has in many cases the happiest results. It is found that confinement to bed for a couple of months during the severer reduction of the alimentation is efficient in moderating pressure. Alcohol alone does not seem to lead to atheroma (fatty degeneration of the interior linings of the arteries), yet in conjunction with other causes—as, for instance, with lead poisoning—it has a strong contributory influence. The same may be true of tobacco. Alcohol therefore must be cut out. Some persons find in whey a pleasant and harmless drink; tobacco must be strictly moderated, especially if there be any cardiac arrhythmia (irregularity).

"As regards the chief classes of food temperance should be observed, especially no doubt in respect of the nitrogenous, and of those which contain purins (caffein, xanthin, and uric acid). But in most cases the main purpose is the restriction of the whole intake. . . . As in eating, so in the swallowing of liquids, many persons are prone to excess. Thirst, like the appetite for food, acquires strength by indulgence; and the practice of moderating the consumption of fluid is often a good one. Coffee and tea, which raise arterial pressure, should be used discreetly." [To use them discreetly is to use them not at all.—ED.]

In regard to common salt Dr. Allbutt writes: "It is generally desirable in cases of high pressure to regulate the taking of salt; sometimes even to withdraw the salt for two or three days."

Exercise is of great value in the treatment of high blood pressure, for in this way blood vessels are dilated in the muscles and the waste products are washed away. When a healthy man begins to exercise, the arteries retain their calibre, blood pressure increases, breathing becomes quicker, and more work is thrown on the heart but suddenly; if, for instance, the radial artery be examined, it will be found to dilate to twice its size and "second wind" is established and exercise is easily performed. High blood pressure has been relieved in the lungs and all parts of the body and thus all its functions are more easily performed.

In the diseased, however, exercise has to be regulated according to the condition of the heart and blood vessels. Gentle cycling on level ground, the climbing of small hills, and golf may be all that can be engaged in. Exercise requiring sudden efforts as tennis may have serious results on the heart or rupture brittle blood vessels. Hydrotherapy, massage, and the use of high frequency current are all useful in the treatment of high blood pressure. There are other conditions that may have to be treated in cases of high blood pressure, such as syphilis, lead poisoning, and results of typhoid fever. Waste products must be kept out of the blood as much as possible, especially in those over forty-five. Dr. Allbutt writes: "Every person from the age, let us say,

of forty-five, would be wise to have the arterial pressure measured every four or five years; oftener, if it be found above the mean for the period of life, or if morning depression of spirits, disturbed sleep, constipation, biliousness, or other vague feelings of disorder suggest that the exchanges and discharges of the body are falling short of perfection. Upon him who comes of a family in which gout or apoplexy has appeared such counsels are the more incumbent." W. H. J.

Tumours and Cancers

TUMOURS, cancers, and growths are terms that are frequently confused by the lay mind. Tumours and growths may be of but little concern as far as the health or life of the individual is concerned; but cancers are among the most dangerous diseases to which the human frame is subject. Cancers are generally tumours, but they are of a malignant nature; they grow rapidly and quickly affect the general health.

Any unnatural growth may be considered a tumour. Abnormal lumps of fat from the size of a pigeon's egg up to almost the size of a hen's egg are frequently found in almost any part of the body where fat exists, and may shift from place to place by their own weight; they have no appreciable effect on the general health and only cause anxiety because of their size and the deformity produced; they may cause a certain amount of pain through pressure and dragging on the adjacent parts. Fatty tumours can readily be removed and often with a local anæsthetic.

Frequently tumours consist of fibrous tissue; a frequent seat of these is in the womb. Fibrous tissue is found all over the body binding the different parts of the body together. In the womb they may cause considerable trouble and pain by displacing the organ and by pressure on the adjoining sensitive nerve structures.

Frequently tumours consist of glandular tissue; these may develop to quite a large size. They are very prone to occur in some constitutional diseases, such as Hodgkinson's disease and tuberculosis. Lumps around the neck, running in lines, are frequently evidences of one of these complaints.

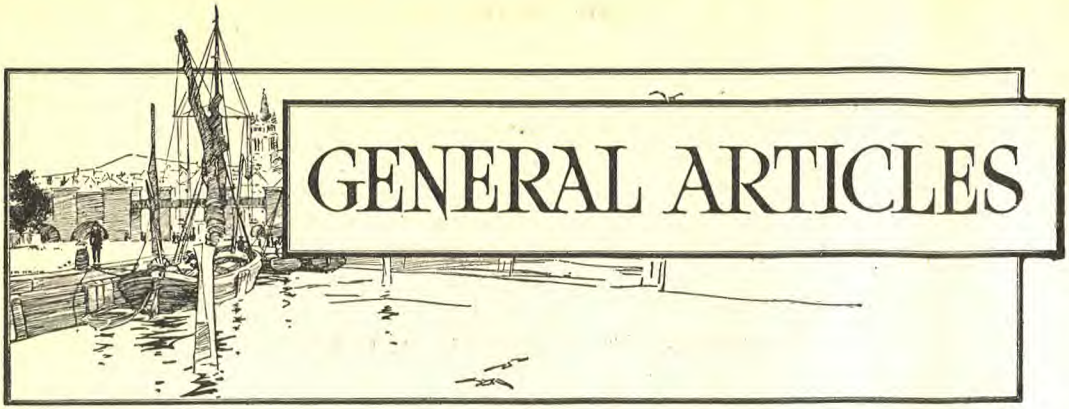
When glands are enlarged, however, they may be the result of some local infection. A lump in the groin, for instance, may be due to some sore on the foot or leg; lumps about the throat are mostly due to septic conditions of the throat. Glands, it should be remembered, intercept poisons in the lymphatic system and destroy them; when this work is excessive they increase in size. When the glands are overcome by the infection, they may infect the body generally and thus should be removed. Sometimes tumours are composed of bony matter. These are often found about the jaws; they are hard and cause a great deal of disfigurement.

Cancers are composed of what is known as embryonic tissue of large primitive cells which grow rapidly. They invariably cause enlargement of adjoining glands. A cancer on the tongue, for instance, would be accompanied by enlarged glands under the jaw, and a cancer in the breast will be accompanied by enlarged glands in the arm pit.

Cancers are distinguished from mere tumours by rapidity of growth, the enlargement of the neighbouring glands, and by loss of weight and general ill-health. Cancers generally are tumours, enlargements, but often they simply have the appearance of rough, uneven, discharging wounds.

In the stomach one of the first indications is dyspepsia with severe pain, and this is quickly followed by loss of weight, together with a sallow face and very anxious expression of the features. One

(Concluded on page 208)



Foot Ease

CHARLES H. LERRIGO, M.D.

WHEN Asa in the thirty-ninth year of his reign was diseased in his feet he "sought not to the Lord but to the physicians"; and, says the next verse tersely, as reaching a logical conclusion, "Asa slept with his fathers."

Common as are the troubles of feet, people seldom seek the physician with them until driven by extreme conditions. Perhaps Asa's fate deters them.

But anyone who can think back to the early days on the farm when he cautiously rubbed his chilblains and longed to stretch those cold nubbins of feet out to the ruddy glow, yet was held back by a sure knowledge of the burning and itching inevitably to follow, knows very well that there is great need of foot knowledge and foot sense.

To begin with this very subject of chilblains (medical name, Pernio). This may or may not be a serious condition. In the healthy individual who only by persistent exposure manages to get a patch or so on the heel which readily heals when opportunity is given, it is of slight importance.

But look out for the child with whom chilblains is an every-winter condition in spite of all your care. There certainly is some fault in his general health. He should be carefully attended, given lots of rest, sleep in the open air if practicable, nourishing food in abundance, moderate exercise, and possibly tonic treatments. In all such cases the general circulation is feeble, so be very careful that it is not restricted by tight garters, tight hose or tight shoes. Woollen hose, a roomy comfortable shoe, and no garters whatever should be the rule.

For local treatment of chilblain good results are obtained by bathing the affected parts with peroxide of hydrogen diluted with an equal amount of hot water and applied hot, then dusting over a bland powder, such as talcum.

Ingrowing toe-nail is a close second to chilblains for foot agony. Of course this calls for a sensible shoe, but it also clamours very loudly for some way to keep that sharp sword of a nail from driving into the sensitive toe.

Occasionally a nail is so perverted that it will yield to nothing short of surgical measures. But I have seen many aggravated cases cured by simple means.

If there is proud flesh around the nail you will be able to do nothing until it is cleared away. Get some powdered burnt alum (you can powder and burn it yourself if necessary) and apply closely, working it as far in as possible. A few applications will kill the proud flesh and shrink the tissues so that you can raise the offending nail.

You will then soak the foot for an hour in very hot water containing a tablespoonful of bicarbonate of soda to the quart. This helps to soften the nail. Then clip

all surplus edge square across the top. Follow this by scraping the surface of the nail as thin as possible along the middle, all the way from the little half-moon to the edge—scrape it until it is thin and pliable. Then insert a little cotton under the cutting corner and change it each day until the nail has grown well out.

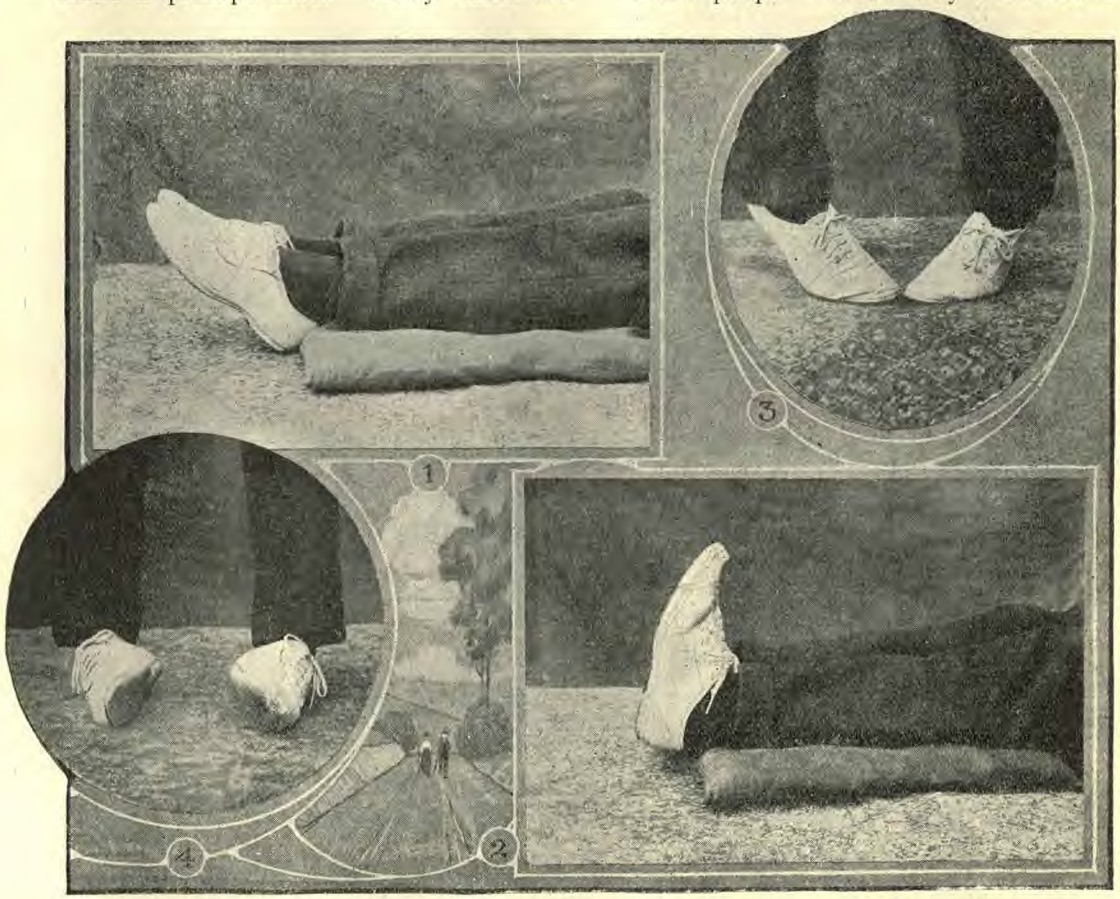
One of the most annoying of foot troubles is intense itching, which has a most aggravating way of attacking in force just as you get warmed up for your first comfortable sleep. Sometimes this is accompanied by chafing between the toes which is very painful.

The remedy for this is a strenuous cleanliness and as much ventilation as you can give to the foot. Going barefoot would make a prompt cure. Many cases are greatly helped by wearing low, loose shoes in hot weather. You see the tender skin is irritated by the decomposition products of sweat and scaling epidermis. Frequent trimming of toe-nails is necessary, for long nails can conceal great quantities of decaying matter and furnish lodging for any number of bacteria.

A great essential is a pair of clean hose every morning, and be sure that they are washed with a mild soap and thoroughly rinsed. It is worth a special effort to have enough shoes so that you may not have to wear the same pair two days in succession. The extra pair should be well aired on their off day.

These precautions will relieve any ordinary case of itching feet.

Some people wonder why their corns



1 AND 2, FOOT FLEXION EXERCISE; 3, HEEL RAISING; 4, SIDE ROLLING, AS DESCRIBED IN ACCOMPANYING ARTICLE

and bunions will not yield to ordinary treatment. It may be because they persist in wearing ill-fitting shoes but quite often it is because they suffer with a foot deformity which needs correction.

The weight of the body is normally distributed throughout the foot by a springy arch. If it came down flat there would be no such thing as springing or jumping or even tiptoeing. Fortunately, this arch is very elastic and not easily destroyed, although it may, by reason of sagging ligaments, relaxed muscles, or ill-fitting shoes, lose much of its function.

Faulty arches often cause symptoms akin to rheumatism; no doubt many cases are this day being treated. The likeliest subjects are those who stand much in one position, especially if of heavy build. Motormen, waiters, and nurses are among the greatest victims. The farmer is perhaps not so susceptible in these days of riding tools, but the farmer's wife, who still does her work standing on her feet, is often found among the unfortunates.

There are many arch supporters on the market, intended to correct this trouble. Their use very often gives relief. But if you are young and hope to build your arches up again don't use them. Use special exercises instead.

You can work these exercises out for yourself. Begin by sitting on the floor with a cushion supporting your leg above the ankle and stretching the foot out as far as possible thirty times. Then bring it into as complete flexion (bending it upward) as possible thirty times. Then the same movements turning the foot in and after that turning it out. In this exercise many unthought of muscles will wake up.

After you progress a little you can follow with exercises standing up.

Turn your toes in, heels out, rise gently on your toes and press slowly out. Repeat twenty times. With feet parallel raise the inner side of the foot throwing the body weight on the outer border. Repeat twenty times.

Walk slowly fifty steps with weight resting on outer side of foot.

These exercises all tend to strengthen the muscles of the foot and to restore the fallen arch. They can be supplemented by occasionally walking without bringing the heel quite to the ground and by walking with the toes turned in rather than out. Shoes that will help should be straight on the inside, and the inner side of the broad heel should be a quarter-inch higher than the outer so as to throw the body weight on to the outer side of the foot.

If I had to give a blanket prescription to cover foot troubles in general it would be:—

Hose: One dozen pairs. Light for summer and warm for winter. Exact fit. Wash carefully in soft water with Ivory soap and rinse thoroughly. Apply fresh pair each morning.

Shoes: First quality, material and workmanship. Roomy toes—straight inside—broad heel. Sufficient quantity to change at once when wet and allow a day's airing after each day of wear.

Lastly. Don't forget that the foot will give you a better measure of service if you serve it with a better measure and that two pairs of shoes worn alternately will last much more than twice as long as one pair worn continuously.

Tumours and Cancers

(*Continued from page 205*)

of the great characteristics of cancer of the stomach is a deficiency of the normal acid; there is often vomiting, and the vomit has the appearance of coffee grounds.

Cancers of the lip and breasts are of a more innocent nature than elsewhere; they may be removed without ever recurring. Generally cancers recur, grow again after removal. Undoubtedly a large consumption of flesh foods tends to the development of cancer. Cancers are much more liable to occur after the age of forty-five or fifty. Cancers in the womb are more common at and after the climacteric period—"the change of life." The cause of cancer is unknown. W. H. J.

Lengthening Life's Brief Span

Why Do We Grow Old? Can Science Make Us Young Again?

HORACE G. FRANKS

A WELL-KNOWN poet, in a moment of longing, certainly expressed the feelings of many of this earth's mortals when she said :—

> Backward, flow backward, O tide of the years!
> I am so weary of toil and of tears,—
> Toil without recompense, tears all in vain,—
> Take them and give me my childhood again.

This poignant appeal sums up what has, almost from time immemorial, been the desire of mankind; and hitherto it has remained merely a desire. But of recent months medical science has claimed to have discovered the "magic philtre" which will suddenly change those who are in the mellow autumn of life back into the freshness and exuberance of spring. In other words, the doctors who are fathering this wondrous plan give us a vision of an old man emerging from the operating room with less wrinkled brow, a straightened walk, and a deep voice; with his silver hair changing back to brown with the passing days; with the eyes fast losing their dullness and the shaking hand hourly recovering its old-time steadiness and power; with the hollowed cheek rounding once more and gradually gathering the fresh bloom of youth, combined with all the fervour and enthusiasm and energy and wisdom which mark the prime of life.

It has been demonstrated of late years that the transplantation of certain glands from one body to another results in an increase of vigour and endurance,—that, indeed, the surgical operation puts "new life" into the old frame.

It is now believed that the internal secretions (hormones) of these glands have a powerful effect in increasing mental and physical vigour. Therefore, concluded scientists, if working glands from healthy bodies (living or dead) were transplanted into the bodies of aged people, the blood would be reinvigorated and the energy of youth regained.

THE CENTENARIAN IS VERY RARE TODAY

But this is too much like pouring new wine into old bottles. The fires of youth *may* blaze up at first, but the final effect is more likely to be that death will be hastened instead of postponed.

Prevention Better Than Cure

Nevertheless, it is a fact that old age can be pushed farther into the

future. How? By acting on the advice of the old maxim that prevention is better than cure. By healthful living and careful attention to the needs of our bodies we can postpone the feebleness and the decrepitude which usually accompany old age. We cannot stem the tide of time, but we can stay its ravages to some extent. It is neither good theory nor good practice to insult and defy Nature for sixty years and then expect Nature to assist the doctor to give us another chance by making us young again. There is no second probation in physical matters even as there is none in the spiritual world.

One Longevity Secret

Careful dieting is one of the chief factors in longevity. When Professor Metchnikoff, one of the world's leading pathologists, died at Paris in 1916 he left behind him in the Pasteur Institute six white mice. As they were all over three years old, they had long passed the ordinary span of mouse-life; yet they were still "young and frisky." Shortly before he died the professor stopped before their cage and remarked to one of his pupils: "I am afraid my mice are going to survive me." And they did. But their survival under the scientist's care was sure proof that old age—or the results of old age—could be postponed by the proper regulation of the diet.

Metchnikoff himself died when he was seventy-one; but he did not die of old age. By following his own scientific principles he had kept young, and would probably have been living today but for the heart trouble which was a characteristic of the family.

Regulation of the habits, therefore, is far more likely to ensure a long life than transplanting glands. This eternal-youth idea is neither scientific, logical, nor Christian. Man is mortal, and no surgeon's scalpel or doctor's physic can perform the miracle of changing mortality into immortality or even transforming a feeble centenarian into a supple and athletic youth. By suitable diet, exercise, and conduct the system can be preserved and the inroads and ravages of disease stayed, and thus can the body be kept reasonably young; but to say that the aged can be rejuvenated by the transplantation of a gland from a younger body is like declaring that an old tattered and frayed overall can be metamorphosed into a resplendent wedding-dress by patching it with a small piece of partly-used silk. The past cannot be made future or even present, for Time, like the rolling tide, will neither wait nor hurry for any man. We can help Dame Nature in her pleasurable task of keeping us young; but we cannot recall Father Time and ask him to do his work over again. As Longfellow says:—

> Whatever poet, orator, or sage
> May say of it, old age is still old age.

The best we can do is to put off the "old-age" period, for prevention of premature old age is possible while a cure for old age is impossible. And prevention includes temperance in eating and drinking, faithfulness but moderation in exercise, cleanliness internally and externally, liberality in the use of fresh air, and entire absence of worry and anger. Such a recipe will be of much greater value to you who are "getting on in years" (and that means all of us) than the surgical prescription of the man who would interfere with the course of Nature and the plans of the Creator.

A Dainty Dish

BEAT the white of an egg to a stiff froth after adding a pinch of salt; put into a buttered cup, and allow to stand in a steamer until the egg has set.

It may be served in two ways: either stir the yolk through it, or drop the yolk on top. Place in the oven a moment, and butter the top lightly.

A dainty dish for a very delicate stomach. Can be swallowed readily by patients suffering from quinsy.—*Mrs. David S. Morse.*

Dangers at the Soda Fountain

W. PEABODY BARTLETT, M.D.

WHEN the would-be careful mother orders a plain chocolate or vanilla soda for her child, explaining to a friend, "One never knows the ingredients in these fancy drinks at the soda fountains, and it is always best to be safe," she believes she is really careful, thoughtful, and clever.

But where there may be now and then one danger in some impure flavouring syrup, or in the ice cream, there are from five to five hundred to five million dangers lurking at the soda fountain that have nothing whatever to do with the ingredients of the summer drink.

All classes and conditions of people come to the soda fountain for cooling drinks. Some are healthy, others are consciously or unconsciously infected with various diseases. At the end of the day gather up the stirring spoons, the glasses, the holders, the remaining "straws," and put them under a powerful microscope.

Bring along a scientist—one who knows all about germs—and let him give you his report. The many kinds of germs are too numerous to detail. They lurk in the glasses from which the public drink, they lurk in the stirring spoons, the spoons with which they eat the ices, the handles of the metal holders for the glasses, and even in the unused straws.

"But the waiters are so very neat!" you demur, "they wear clean white coats, they are constantly wiping off the marble counter, they are constantly washing the glasses and spoons and dishes, how can there be germs? And as for the 'straws,' they are made of waxed paper, done up in dust-proof boxes. How can germs get on them before they are used?"

It sounds like a good argument. It is not—especially in regard to the glasses and spoons it is a fallacy, and straws are not always wrapped. Ask your doctor, or a trained nurse, if standing under a cold shower constitutes a bath. They will promptly tell you it does not. Cold water will not remove dirt. It needs hot water, extremely hot, for glass and silver, with plenty of soap.

These stirring spoons and glasses are stuck in an apparatus which, by pressure, forces a shower of cold water over them. They are rinsed, but they are *not* cleansed.

The careful surgeon would no more think of cleansing his implements in cold water than he would of amputating the wrong limb.

An ice cream soda is served with a long spoon. The consumer eats the ice cream with the spoon and drinks the liquid. The glass is given a cold shower, the spoon is thrust into a dish of cold water, and they are ready for the next patron!

How do you know anything about the man, woman, or child who drank out of the glass you are using just before it was rinsed in cold water and given to you? Or about the spoon that some other person put in his mouth five minutes before?

A doctor stepped into a chemist's shop to make a purchase. He saw one of his patients at the soda fountain drinking. The doctor stared at him, then flushed with anger. Going over to the man he whispered something in his ear. The patient stammered, flushed, then turned pale.

He seemed to hesitate.

"Do it!" demanded the doctor.

The patient finished his drink and smashed the glass on the tiled floor, paid

for the drink and the glass and walked out. The doctor followed him.

"You remember what I told you?" he said angrily, "you know you have individual cups and towels and all that at home. And you walk in here and drink from a glass that some innocent person may use five minutes later. It is criminal, it is the worst sort of crime. Hereafter, if you must have a drink of soda, bring along a waxed paper cup and get it in that, then destroy the cup."

The doctor knew his patient was suffering from a disease that was infectious. But he also hit upon the right idea. Paper cups!

But the straws? Have you ever noticed how they are placed in a vase? And time and time again the waiter, in picking out with his fingers, leaves that end uppermost in the glass for you to put in your mouth. Then he presses the remaining straws back evenly with the palm of his hand!—the same hand that has been handling glasses and spoons used by people throughout the day and some of these people, there can be no doubt, carried about with them various germs of disease.

"Walking typhoid" cases, people who have the germs but are not really sick, and the tubercular ones, children with scrofula, and with all sorts of diseases, nameable and unnameable.

How do you know but that the spoon you put in your mouth and the glass you drink from, the handle of the holder you clasp, were all used by some diseased person five minutes before? If so, the chances are they left germs. And cold water will not remove them.

You may not become infected. But if you have an abrasion of the skin on the hand or an abrasion of the lip, there is grave danger. The child may have a cracked lip and later you wonder where he could have contracted typhoid or even worse diseases.

These are the real dangers.

The pure food laws have eliminated impure flavouring syrups. The dangers from them are so small as not to be grounds for worry, but there are certain medicated soft drinks sold at soda fountains that should be avoided. L. F. Kebler, chief of the division of drugs in the Government Bureau of Chemistry at Washington, in an official report on habit-forming agents, names medicated soft drinks as one habit-forming agent. Many drinks that are made up of caffeine, cocoa leaf, cocaine, kola nut, and similar things are dangerous, he reports, as they lead to drug habits, and should be avoided.

Many people could not be bribed to drink from a common drinking cup in a public place. These same people go happily up to a soda fountain and order a drink, quite unconscious of the fact that almost the same unhygienic conditions exist here. They think by refraining from ordering supposedly dangerous mixtures they are safe.

The danger is not in the contents as much as it is outside, on the rims of the glasses, in the bowls of the spoons, on the handles of the holders and the tips of the paper straws.

Smiles for the Sick Room

Father—"You children turn up your noses at everything on the table. When I was a boy I was glad to get enough dry bread to eat."

Tommy—"But, pa, you're having a much better time of it now you are living with us, ain't you?"

"Some un sick at yo' house, Mis' Carter?" inquired Lila. "Ah seed de doctah's kyar eroun' dar yestiddy."

"It was for my brother, Lila."

"Sho! What's he done got de matter of 'm?"

"Nobody seems to know what the disease is. He can eat and sleep as well as ever, he stays out all day long on the verandah in the sun, and seems as well as any one; but he can't do any work at all."

"Law, Mis' Carter, dat ain't no disease what you brothe' got! Dat's a gif'!"—*Everybody's.*

Exercise for the Ageing

G. H. HEALD, M.D.

THE tendency with increasing age is to diminish exercise and to continue eating freely, to work the muscles less and the stomach more. Those who live to an advanced age have been fortunate enough to do the opposite—that is, keep up a fair amount of physical exercise and gradually diminish the quantity of food eaten.

This seems all unnatural, and the ordinary person—to his misfortune—rebels against it. The gradually increasing stiffness makes exercise more irksome; often a condition of affluence or at least of comfortable means makes physical exercise unnecessary as a means of livelihood; the electric tramcar and motor-car take away the necessity for walking; and physical exertion is apt to be undignified, anyway. Not often do we see the vigorous old walker of a score or more years ago. But the advance of age does not make much change in the power to consume food. If a healthy hunger is no longer present, calling loudly for simple nutritious foods, there is a cultivated capacity to extract satisfaction from indulgence in artificial and highly-spiced foods.

So between a physically inert life and a heavy tax on the digestive organs, the average man of forty-five and more is helping to contribute to an early demise. He is planning to cheat the insurance companies out of part of their premiums by giving up promptly. The insurance companies have realised the significance of such habits on longevity, and have begun a campaign of education, the important features of which are physical exercise and simplicity of diet. They are showing how after middle life tissue changes are slower, requiring less food, and how moderate outdoor exercise prevents to some extent the slowing up of the machine, keeping the parts well lubricated, as it were.

It is said that stiffening joints tend to cause old men to neglect physical exercise.

"I am well convinced that old people frequently fall prematurely into senile decay for want of a reasonable sufficiency of active exertion, and that stiffening of the joints, relaxation of the muscles, weakness of the heart, and hardening of the arteries, while perhaps ultimately inevitable physiological alterations, may be

THIS SEPTUAGENARIAN FINDS WALKING A SPLENDID EXERCISE, FOR HE IS TRAMPING FROM ONE END OF GREAT BRITAIN TO THE OTHER.

long postponed by a continued interest and participation in such outdoor work and activities as are possible without over-exertion: for example, walking, gardening, riding, and driving."—"*A System of Physiologic Therapeutics*," *by John K. Mitchell, M.D.*

The fact is, if exercise is carefully continued through life—not in a spasmodic way, not in spurts or great athletic events,

not by straining the muscular and nervous and circulatory systems almost to the breaking point, for short periods, but in a conservative and sane manner—the body will continue supple until a more advanced age. If for various reasons the ageing man finds that he is becoming stiffer, that it is irksome to take exercise, it is a sign—the handwriting on the wall—that he should at once begin systematic exercise; and the more irksome it is, the more faithfully he should perform it.

Calisthenics are notoriously unattractive, and too often the one who begins a course with enthusiasm soons finds an excuse to give it up. The more's the pity, for in that enthusiasm and in that exercise is a potential fountain of youth! Gardening has its advantages, but is confined to a few months in the year. The amateur gardener starts bravely enough as the days lengthen in the spring; but with the heat of summer the spirit of work lags, and finally the exercise may consist in manipulating a rocking-chair or a hammock in the shade!

Books, and especially personal courses on physical culture, have the advantage that they tend to renew the flagging interest from time to time and thus accomplish some good. Swimming is a most excellent exercise, especially for the young. In the old, if there is high blood pressure and active kidney disease—as is often the case—a full cold bath is liable to prove harmful rather than beneficial. But if there is no contra-indication of the kind, swimming, because of the exhilaration, the stimulus to vigorous exercise, and the tonic effect, is one of the best of exercises; and it is one which a swimmer will not readily forego if he is anywhere within reasonable reach of a good and safe swimming place.

A Bible Study on Diet

S. N. HASKELL

THE Lord desires His people to enjoy health always. This desire is expressed in the following words: "Beloved, I wish above all things that thou mayest prosper and be in health, even as thy soul prospereth." 3 John 2.

I

Health

Gen. 43:28; 47:9. Old age of itself does not bring poor health. Jacob enjoyed good health at the age of one hundred and thirty years.

Gen. 49:33. When Jacob died at the age of one hundred and forty-seven years, he was able to help himself; for "he gathered up his feet into the bed," just before his death.

Deut. 34:7. Moses died at the age of one hundred and twenty years; but "his eye was not dim, nor his natural force abated."

Joshua 14:10, 11. At the age of eighty-five years, Caleb had full health and strength.

Deut. 28:22, 27-29, 60, 61. The Egyptians and other nations around Israel suffered with many diseases.

Ex. 15:26; Deut. 7:12-15. Obedience to the requirements of the Lord will shield His people from the diseases of those nations that do not serve Him.

Ex. 16:3-26. Israel clamoured for flesh, and God gave them one meal of flesh. Then the Lord provided them with a vegetarian diet which would have preserved them from disease.

Num. 11:4. The mixed multitude lusted for flesh and influenced the children of Israel to complain and say, "Who shall give us flesh to eat?"

Num. 11:4-6. They despised the food from heaven because it was not flesh.

Num. 11:31-33. God gave them flesh, but with it came disease and death.

Ps. 78:18; 106:14, 15. The result of their clamouring for flesh brought "leanness into their soul."

1 Cor. 10:6. "Now these things were our examples, to the intent we should not lust after evil things, as they also lusted."

II

The Diet Question in the Writings of Moses

Gen. 1:26. The original bill of fare embraced nuts, grains, and fruits.

Gen. 3:17, 18. After man had sinned by eating that which was forbidden, God added "the herb of the field," or vegetables, to his diet.

Gen. 9:3. After the flood, man was permitted to eat flesh.

Gen. 9:4. The following restriction was given: "But flesh with the life thereof, which is the blood thereof, shall ye not eat."

Lev. 7:26, 27. This requirement was made very emphatic. "Moreover ye shall eat no manner of blood, whether it be of fowl or of beast, *in any of your dwellings*. Whatsoever soul it be that eateth any manner of blood, even *that soul shall be cut off from his people*."

Lev. 17:10-12. No stranger, sojourning with them, was to be allowed to eat blood.

Acts 15 : 28, 29. To abstain from blood is one of the necessary requirements of the Christian Church.

Lev. 10 : 17, 18. In some of the offerings it was necessary for the priest to eat a portion of the flesh ; but this flesh was always to be sodden, that is, placed in cold water and boiled slowly till the blood had all come out.

1 Sam 2 : 12-16. The sons of Eli, young priests who were the sons of Belial, refused to take the flesh which had been sodden. They demanded "raw" flesh that they might "roast" it. By roasting the flesh, the blood was retained in it, thus giving flavour to the flesh.

There are many at the present day who, like the sons of Eli, prefer flesh cooked in a manner to retain the blood. Very little flesh would be eaten if God's requirements were followed. It is the blood which gives the flavour. Flesh sodden,—put over the fire in cold water and cooked slowly,—is almost tasteless.

1 Sam. 2 : 17. Those who disregard the plain instructions which the Lord has given upon diet, whether they be priest or layman, by so doing cause the people to think lightly of the requirements of the Lord.

Lev. 7 : 23-25. Another restriction was placed on the diet : "Ye shall eat no manner of fat, of ox, or of sheep, or of goat."

Lev. 3 : 17. "It shall be a perpetual statute for your generations throughout all your dwellings, that ye eat neither fat nor blood."

If there is any disease in an animal, it is sure to be in the blood ; and in healthy animals the blood contains the poisons of the broken down tissues.

III

The Results of Eating Flesh

In the first part of the Book of Genesis is given the ages of ten generations before the flood, and in comparison the ages of ten generations after flesh diet was permitted.

Ages Before Flesh Was Eaten

Adam	lived	930 years
Seth	,,	912 ,,
Enos	,,	905 ,,
Cainan	,,	910 ,,
Mahalaleel	,,	895 ,,
Jared	,,	962 ,,
Enoch was translated at		365 ,,
Methuselah	lived	969 ,,
Lamech	,,	777 ,,
Noah	,,	950 ,,

Notice that Noah lived twenty years longer than Adam ; the age was not shortened by the flood. The seventh generation lived thirty-nine years longer than Adam.

After a Flesh Diet Was Introduced

Shem	lived	600 years
Arphaxad	,,	438 ,,
Salah	,,	433 ,,
Eber	,,	464 ,,
Peleg	,,	239 ,,
Reu	,,	239 ,,
Serug	,,	230 ,,
Nahor	,,	148 ,,
Terah	,,	205 ,,
Abraham	,,	175 ,,

Shem was brought up on a vegetarian diet, and lived to a fair age ; but by the second generation the age dropped to 438 years ; and the seventh generation after the flood, instead of being the longest, as in the case before the flood, it was the shortest,—only 148 years. This marked shortening of the life after eating flesh, proves conclusively that a flesh diet is not the best diet for the human race.

Gen. 9 : 20 23. After eating flesh, even Noah became drunken and lost all sense of decency.

Prov. 23 : 20, 21. Solomon classes drunkenness and flesh eating together.

1 Sam. 2 : 22. We find licentiousness in the sons of Eli, who would have the flesh with the blood in it

IV

Prohibition in Diet

Gen. 2 : 16, 17. The only restriction placed on our first parents in Eden was in the matter of diet. Man never was allowed to follow his own inclinations in diet. God has always prohibited certain articles of food.

Gen. 3 : 1-6. By disregarding the command of God and eating that which was forbidden, sin and death came into the world ; and by continuing to disobey God's instruction on diet, diseases of all kinds have been brought on the human family.

Lev. 11 : 4-8. While God allowed man to eat flesh and bear the consequences by shortening the life, yet some kinds of flesh were prohibited. God strictly forbade man eating the beasts that were scavengers and unclean, as the swine, etc.

Lev. 11 : 9-11. While eating the flesh of any fish shortens life, all fish that do not have fins and scales are strictly forbidden. No one can eat oysters, mackerel, lobsters, clams, eels, etc., without disobeying a plain command of God. Fish without scales and fins are scavengers in the water, and are not clean food for man.

1 Cor. 3 : 16, 17. God will destroy those who defile their bodies.

1 Cor. 6 : 19, 20. Our bodies are the purchase of the blood of Christ, and we should glorify God in our bodies.

1 Cor. 10 : 31. "Whether therefore ye eat, or drink, or whatsoever ye do, do all to the glory of God."

Rom. 12 : 1. "I beseech you therefore, brethren, by the mercies of God, that ye present your *bodies* a living sacrifice, holy, acceptable unto God, *which is your reasonable service.*"

CHATS WITH THE DOCTOR

NOTICE TO SUBSCRIBERS: All questions for this department must be addressed to the EDITOR, "LIFE & HEALTH," WARBURTON, VICTORIA. Subscribers sending questions 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. To avoid disappointment subscribers will please refrain from requesting replies to questions by mail.

390. Goitre

GOITRE is an enlargement of a natural gland situated on each side of the windpipe. This gland is one of those known as "internal glands" whose secretion is of great importance to the general health. One of the great developments in modern medicine is the recognition of the importance of the products formed by these glands. Diabetes, for instance, is due to the pancreas not forming sufficient internal secretion to enable the muscles to utilise the sugars circulating in the blood, and these sugars are consequently passed out in the urine. The breasts enlarge in pregnancy in order to supply milk for the child and again dwindle in size at the time of weaning. In many cases of simple goitre, especially those occurring in young people and adolescents, there is a demand for more thyroid secretion in the system, and the thyroid gland enlarges in order to supply the deficiency. Treatment by internal administration of dry thyroid often materially reduces the size of the goitre. Two to five grains of dry thyroid (thyroideum siccum B.P.) may be given each night in tablet form or as a powder. Sometimes it is necessary to give the above two or even three times a day. The pulse should be watched, and if accelerated more than fifteen or twenty beats a minute the dose should be lessened or the remedy discontinued. In some cases the enlargement disappears rapidly. It should not be given where there is frequent pulse, palpitation, tremor, or nervousness. It should not be given in exophthalmic goitre (Grave's disease) where thyroid treatment would increase palpitation and tremors. In the latter variety the eyes are frequently very prominent. An ointment composed of five to ten grains of red iodide of mercury to the ounce of benzoated lard is helpful when applied externally and the neck exposed to the sun. The thyroidal secretion contains iodine. Iodine preparations increase the penetration of heat and other rays of the sun. Enlargement of thyroid is sometimes due to some undefined peculiarity in the drinking water, especially in mountainous districts. Many cases may occur in the one district on this account. In these cases the water should be boiled before drinking. When the thyroid treatment does not cure, the gland should be operated on. The operation is very successful and the relief is permanent.

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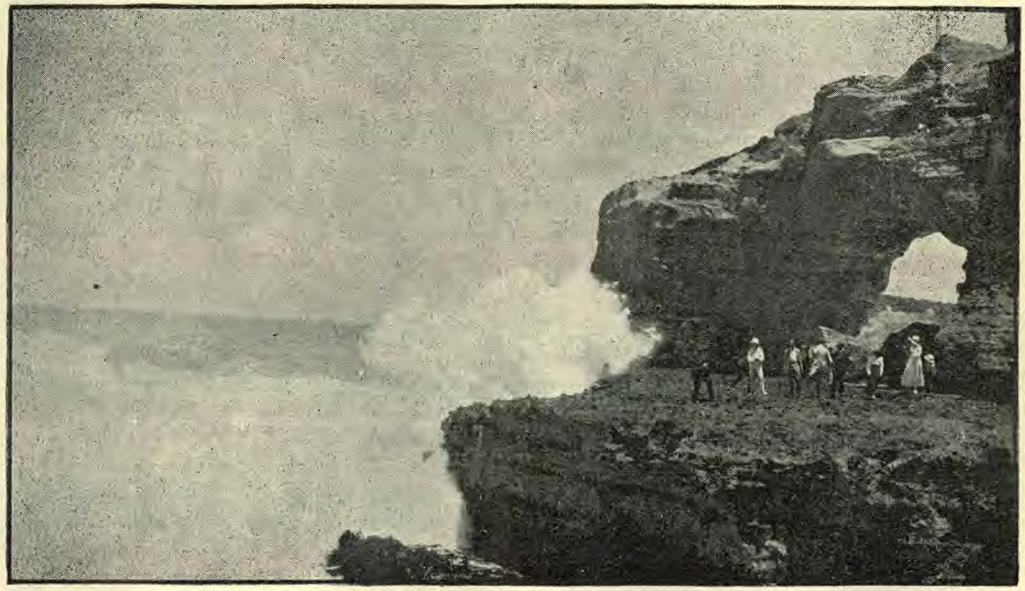
391. Diet in Extreme Weakness

"M. H." writes: "For nearly two years I have suffered from extreme weakness, faintness, and sinking feelings at the heart, always a rapid pulse, swelling of ankles when upon my feet, scalding raw pain in chest and stomach, and much pain under right shoulder, side and back, nausea, giddiness, and much itching of

nose and eyes. I am forty years of age. What is the best diet for me?"

Ans.—The best diet is that which is found to agree with the digestion. There is no food equal to fresh milk, if the cow is healthy; a couple of quarts a day can readily be taken by most people. If there is any doubt about the purity of the milk it should be sterilised, although this renders the milk more constipating. Eggs are also an excellent food; they may be swallowed without cooking or well beaten up with milk. Granose biscuits are excellent, but should be thoroughly masticated before swallowing; they agree well as a gruel made with hot milk and slightly sweetened; in hot weather they may be taken with cold milk. Granola makes a good nourishing food if properly prepared. Wash and cut up dates, mix with the granola, pour double the quantity of boiling water (slightly salted) on granola, and allow to stand for twenty to thirty minutes in hot place without any stirring. Stirring always makes granola heavy. When only small meals can be taken, four or five should be taken in the day. Sponge the body daily with cold water and rub thoroughly with a warm coarse towel. Sleep in a well-ventilated bedroom and live out of doors as much as possible. If pale and anæmic, iron in some form may be necessary. The scaly preparations are good, such as citrate of iron and ammonia—as much as will go on a sixpenny piece—after meals. Iron is an important salt of the blood, and as such is not an ordinary drug. A medical examination is necessary in this case in order to prescribe satisfactory treatment.



Pathe Photo.

MARBLE ARCH NEAR PORT CAMPBELL, VICTORIA

392. Injury to Jaw

"E.W.A." writes: "About six months ago I was eating a cocoanut and somehow strained my jaw, so that when I close my teeth together, and then open them, my right jaw clicks. It isn't painful, but very aggravating. I can move my jaw up and down as long as I like without any effect, but as soon as my teeth close, then my jaw clicks."

Ans.—The cause is chronic injury to some part of the joint, ligament, cartilage, or bursa. Massage after hot and cold applications is the best treatment. No serious trouble, however, can result from the injury.

393. Phosphates and Aspirin

"Anxious" asks how to obtain phosphates from bran and what effect Nicholas' "Aspro" has on anyone. "Is there any alum in them?"

Ans.—Phosphates are infinitely better taken in the food as provided by Nature, the artificial separation of the constituents of the grain food to a very large extent destroys them. Aspirin should be used only under medical advice. There is no alum in the preparation mentioned.

394. Granose Biscuits for Children

"L.H." (Gisborne)" asks how much granose biscuit should be given each day to a child of six and a half years.

Ans.—There is no better food for children than granose biscuit, especially when milk is also taken freely. The amount of granose biscuit depends, however, on the amount of other food taken. A couple of biscuits with each meal would be a fair quantity for a child of age stated.

395. Falling Out of Hair

"Miss C. H." has tried the treatment recommended in LIFE AND HEALTH for the above, but the trouble still continues. She suffers a good deal with headaches.

Ans.—Shampooing of the scalp once a week is useful. Hebra's solution of soft soap and spirit with a little antiseptic is excellent, such as—

℞ Thymol 40 grains
Spirits of wine (rectified) 2 ozs.
Hebra soft soap (Saponis Viridis) 2 ozs.

Massage the scalp well every day.

"Miss C. H." has dandruff (seborrhœa) and this must be treated. If the head is dry use the following lotion daily:—

℞ Hydrargyri Perchloridi grs. i
Euresolis ℥j (one dram)
Acidi Formici m 20
Olei Ricini ℥½ (half dram)
Rectified Spirit up to 4 ozs.

If the scalp is oily use the following:—

℞ Resorcini ℥j½
Hydrg. Perchl. grs. 1½
Acetoni ℥j (one ounce)
Spirits of Wine (rectified) up to 6 ozs.

The general health must also receive attention.

In loss of hair where there is no dandruff the following prescription is useful:

℞ Tincturæ Cantharidis 2 ozs.
Strong acetic acid 1 dram
Glycerini ½ oz.
Spirits of Rosmarine 1 oz.
Rose water to make 8 ozs.

396. Nervous Breakdown

"Mrs. J. A." asks for treatment of above.

Ans.—Much depends on the cause and the general constitution of the patient. Sleep, rest, and a good supply of nourishing food are the main factors. Sleep should not be secured by drugs, as these only increase the nervous exhaustion. A hot bath, a prolonged tepid (98° F.) bath (twenty minutes), fomentations to spine, hot general sponge, or a hot water bottle to abdomen are useful treatments at bedtime. Vary the remedy. The evening meal should be light. A few weeks in a sanitarium is the ideal thing in these cases. All mental work, worry, household management, etc., should as far as possible be put on one side. Fresh milk and uncooked eggs are excellent foods in these conditions. Either the galvanic bath, cold mitten friction, or salt glow should be taken daily. The general sponging of the body daily with cold water is good home treatment. A complete change of climate will do much good in most cases.

397. Uses of Tobacco

"R. M." asks: "Can you please let us have a list of the scientific uses to which tobacco (either green or cured) can be put? I have had the question asked by a man who will not drink, but can see no harm in smoking."

Ans.—The only use we know of is for the destruction of slugs, aphis, and other pests of the gardener. Nicotine, the alkaloid of tobacco, is deadly poison to all animal tissues. There are many poisons used in the treatment of disease, but tobacco and its alkaloid are acknowledged

by all medical authorities to be useless. Tobacco has antispasmodic properties, but has too many drawbacks to be used for this purpose. Tobacco has a decidedly injurious effect on the heart, the nervous system, and the digestion.

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398. Chronic Cough and Neuritis

"Mrs. M. S., New Zealand," states she has had a chronic cough for forty years or more and suffers from hot stinging pains on the tops of her feet and down into her toes.

Ans.—The chronic cough is probably due to some throat trouble such as long uvula, pharyngitis, diseased condition of larynx. Possibly it may be due to bronchial trouble, enlarged glands in chest, or ear trouble. An examination is necessary to find out the cause. The local neuritis in foot and toes may be due to badly fitting boots, exposure to cold, or it may possibly be of rheumatic origin. Vigorous alternate application of hot and cold water, finishing with massage, is the treatment most likely to relieve; it should be persevered in for a month and taken night and morning.

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399. An Anaemic Child

"Infant" writes concerning her girl six and a half years of age: "She has been treated for worms but still grinds her teeth. There is a discharge from nose, sometimes slightly watery, and charged with a little blood or becomes caked in nostrils. Often constipated and sometimes has a temperature. Gets a dry cough which is relieved by glycerine. Gums and inside of eyelids are red. Has a ravenous appetite. Just now hair is falling out. Is very active and learns easily. Is thin, pale, and not tall for her age. Excreta often charged with mucus. Has had many gastric attacks."

Ans.—This is clearly a case for dieting. She "eats no meat but drinks beef tea and meat soups,"—i.e., she takes the poisons in the meat and wastes the nutritious parts. She would be better without any flesh preparation or meat of any kind. Do not use sugar with her porridge. The milk should not be boiled, as thus prepared it is constipating. Keep at a temperature of 160° for twenty minutes if you are not sure the milk comes from a healthy cow, otherwise give it to the child without any cooking. The boiling of foods in milk is a mistake. "Infant" has given a list of foods and has requested us to cross out the unsuitable ones. We would not advise the following: Meat soups, tripe, cabbage, cocoa, marmite soup, plain boiled lollies, cod liver oil. The following in the list are most suitable: Vegetables, raw lettuce, celery, prunes, dates, fruit, stewed and raw, granose biscuits, granola, oatmeal porridge, raisins, tomatoes, melsitos. Avoid all foods cooked in or with fat of any kind (including butter). Raw cream is the best form of fat. Scalded cream and good butter may be used in moderation. Allow no food whatever between meals; avoid even fruit except at meals. See that she drinks water freely between meals. Use jams sparingly. Use wholemeal bread and granose biscuits instead of white bread. She should exercise out of doors as much as possible. Keep the skin active by hot baths twice a week followed by cold shower or sponge. Keep the legs well covered. The modern fashion of allowing children to go about with bare knees tends to throat and other troubles.

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400. Bronchial Asthma

"Mrs. E. M. (Tasmania)" suffers from bronchial asthma.

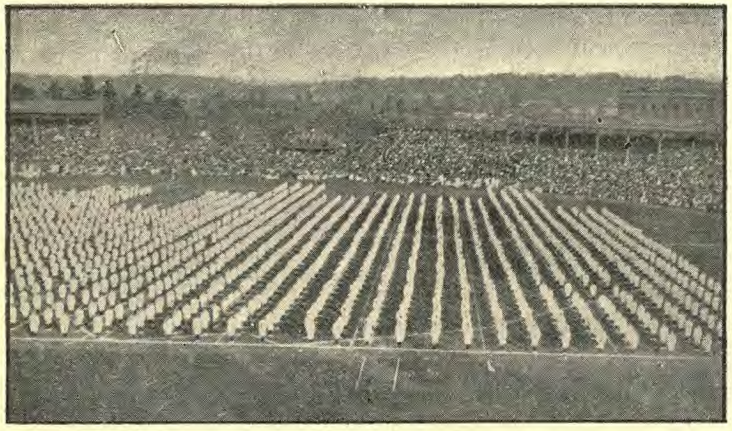
Ans.—The prescription given by her physician is an excellent one and should give relief. There can be no objection to rubbing methylated spirit over the throat and chest if it gives relief. It is important to keep the digestion and bowels in good working order. As a rule a change of climate is advantageous. A warm dry climate relieves bronchial trouble and lessens the asthmatic troubles. It is only by experimenting, however, that one can select a climate; what will suit one case will be injurious to another.

401. Constipation

"Cobdogla" asks for recipe for making wholemeal gems and bran muffins, and states that she is taking two or three teaspoonfuls of dry bran after each meal and now needs no medicine for the bowels and finds that boiled wheat once daily acts similarly.

Ans.—The following recipe is given in "Science in the Kitchen" for Graham gems:—

Graham Gems.—Into two cupfuls of unskimmed milk which has been made very cold by standing on ice, stir gradually, sprinkling it from the hand, three and one-fourth cupfuls of wholemeal flour. Beat vigorously for ten minutes or longer, until the batter is perfectly smooth and full of air bubbles. Turn at once into hissing hot gem irons, and bake in a hot oven. If preferred, the batter may be prepared, and the dish containing it placed on ice for an hour or longer; then well beaten and baked. Graham gems may be made in this manner with soft water instead of milk, but such, in general, will need a little more flour than when made with milk. With some ovens, it will be found an advantage in baking these gems to place them on the upper grate for the first ten minutes or until the top has been slightly crusted, and then change to the bottom of the oven for the baking.



CHILDREN'S PHYSICAL CULTURE DISPLAY BEFORE THE PRINCE OF WALES AT MELBOURNE

Joslin's "Treatment of Diabetes," pages 531-532 has these recipes:—

Bran Biscuits for Constipation.—The following rule was given me by Dr. F. M. Allen:—

Bran	60 grammes
Salt	¼ teaspoonful
Agar-agar, powdered ...	6 grammes
Cold water	100 c.c. (½ glass)

Tie bran (coarse bran for cattle and not bran for the table) in cheesecloth and wash under cold water tap until water is clear. Bring agar-agar and water [100 c.c.] to the boiling point. Add to washed bran the salt and agar-agar solution (hot). Mould into two cakes. Place in pan on oiled paper, and let stand half an hour; then, when firm and cool, bake in moderate oven thirty to forty minutes.

The bran muffins will naturally be far more palatable if butter and eggs are added. This may be done providing the patient allows for this in the diet. If the patient is not upon a measured diet, then considerable latitude can be employed in making the bran cakes.

Bran Cakes for Diabetics

Food	Amount	Protein grms.	Fat grms.	Carbohydrate grms.	Calories
Bran ...	2 cups				
Melted butter	30 grms.	—	25	—	225
Eggs (whole) 2	30 grms.	12	12	—	156
Egg-white (1)	25 grms.	3	—	—	12
Salt	1 teaspoonful				
Water		—	—	—	—
		15	37	0	393

Tie bran in cheesecloth and wash thoroughly by fastening onto the water tap, until the water comes away clear. The bran should be frequently kneaded so that all parts come in contact with the water. Wring dry. Mix bran, well beaten whole eggs, butter, and salt. Beat the egg white very stiff and fold in at the last. Shape with knife and tablespoon into three dozen small cakes. Each cake contains: Protein, 0.5 grm; fat, 1 grm; calories, 11.

402. Chronic Indigestion

"E. P. H." complains of chronic indigestion and states that it is due to not chewing her food on account of loss of teeth, eating between meals, and overfeeding, and writes: "I am losing weight. I was 8 stone 5 lb. last October and now I am only 6 stone 8¾ lb. I have had a lot of trouble, having lost my husband at the war and have been anæmic for years. I suffer very severely from flatulence after every meal or even after a drink of milk or water. I never seem to get rid of belching. My tongue is never clean. I am sallow with dark rings under the eyes."

Ans.—We would recommend the following menu for one week:—

Breakfast.—Gluten gruel made with half milk and half water.

Dinner.—Granola made as directed

under "Extreme Weakness" in this series of "Chats." Take with a little raw cream.

Tea.—Granose biscuits and stewed fruit (not too acid).

The diet may then be gradually improved. Melsitos with granose biscuit is easily digested. Avoid bulky foods. Take zwieback (doubly-baked bread but not browned) instead of bread. Do not take wholemeal or white bread until there is a decided improvement in the digestion. A small quantity of hot water may be taken with each meal. Avoid foods cooked with or in fat. The only vegetables that should be taken are cauliflower, marrow, pumpkin, French beans, and green peas; the two former are the most digestible. Do not take fruit and vegetables at the same meal. Masticate all foods thoroughly. Rest in the recumbent position for half an hour before and half an hour after meals. Do not take soups, broths, tea, coffee, or cocoa. Apply cold wet compresses to the stomach (renewing every three minutes) for the first quarter of an hour while resting before meals. After meals apply a hot india-rubber bottle to the stomach with only a little hot water; it must not be too heavy. Sponge the whole body with cold water once daily and thoroughly dry with a coarse towel till warm.

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403. Cystitis

"Outsider" writes: "My urine has a vile smell and I cannot retain it long; it is not high coloured. My age is thirty-one." "Outsider" desires some information re diet and asks, "What is the objection to the use of cheese?"

Ans—The diet mentioned by "Outsider" is suitable; cheese, however, is better avoided. Cheese in ripening produces small quantities of fatty acids which are always very irritating to the stomach. Cheese is more digestible when finely grated, but this does not remove the fatty acids but allows the gastric juice to digest the casein more readily. Fruit and easily digested vegetables, such as cauliflower, French beans, green peas, spinach, and marrow, are of special service in cystitis. The juice of an orange two or three times a day prevents excessive acidity of the urine. The urine becomes alkaline when the water is retained in the bladder through enlarged prostate, but the above diet does not increase that alkalinity. This alkalinity is due to decomposition. This water should be drawn off by regular use of sterilised soft india rubber catheter. Oatmeal, granose, and granola are good foods in cystitis. Avoid foods cooked in or with fat and all indigestible articles.

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404. Involuntary Blushing

"Glenorchy" writes: "Having heard that several friends of mine, following advice given in your journal to their questions, had found relief, and in two cases permanent cure in their ailments, I would like to ask advice from you. I suffer from involuntary blushing. The least bit of excitement or embarrassment causes a flush to break out on my face which lasts for several seconds. Also my face gets burning hot and highly coloured. This generally happens late in the day, more especially if I am in a warm room, and lasts several hours, and even if I am able to go into the fresh air it takes at least an hour before going away."

Ans.—This blushing is evidently due to a specially nervous temperament. "Glenorchy" should live as much out of doors as possible, and sleeping on a sheltered verandah or balcony is advisable. The digestion must be kept in good order and the bowels regulated by the drinking between meals of cold water, and suitable dieting. Avoid hot rooms and especially avoid anything that restricts breathing. Corsets are especially harmful. Avoid reading or working with head bent, especially after meals. Take hot footbaths containing a little mustard at bedtime and wear warm woollen stockings and thick soled boots. Wash face with hot water adding a little vinegar or alcohol. Massage to the face is also good. Apply to face at night:—

Borate of soda	10 grains
Glycerine	3 drams
Distilled water	half a pint

The face may be powdered with talcum and boracic acid (two parts of former to one of latter) and add little essence of verbena.

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405. Constipation in Child Six Months

"Mrs. H. S." asks for advice in regard to her son, six months of age, who requires an injection every day to get his bowels opened.

Ans.—Gradually lessen the quantity of fluid used in the enema. Give a couple of teaspoonfuls of juice of a ripe sweet orange two or three times a day. Give also two meals of granose biscuit daily. Break a third of a biscuit up in warm milk and strain through a fine strainer. Give water to drink between the meals. A little stewed apple occasionally would be helpful.

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406. Neuralgia of Leg

"J. U. M." writes: "I have had a strange sharp pain every now and again which seems to come from the centre of the right thigh just below the hip joint. I feel it when walking, running, or stretching, as though the muscle was knotted or tightened in some way."

Ans.—Keep the bowels regular by appropriate dieting. Drink freely of water between meals. Take fruit with meals of which vegetables do not form a part. Use hot fomentations (four) at night, finishing with a cold sponge and rubbing with a stimulating liniment such as that of turpentine; mustard liniment and capsolin are good applications.

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407. Catarrh of Nose and Throat

"Kiwi" writes: "Could you let me know the best treatment for catarrh of the nose and throat? Is it necessary to refrain from or to use any special foods or drinks such as meat, tea, coffee, or cocoa, or is the disease not affected by such? Should one take any medicine for purifying the blood?"

Ans.—Catarrh of nose and throat depends very much on the condition of the general health, and especially that of the digestion. Constipation and all foods rich in fat or sugar quickly increase the severity of the catarrh. No medicine is required to purify the blood; the best method is to eat such food that will not keep the blood impure. Impurities are removed through the bowels, the kidneys, the lungs, and the skin, and all these organs of elimination can be kept active by right living. Flesh foods, foods cooked with or in fat, and sweets, all make a poor quality of blood, give increased work to the organs of elimination, and hinder recovery of diseased tissues, especially those of the nose and throat. In this way tea, coffee, and cocoa are injurious to catarrhal conditions. The skin should be kept active by daily sponging with, preferably cold, water; the bedroom must be well ventilated to secure the air as fresh as possible; and outdoor exercise should be taken. A dry even climate suits catarrhal conditions the best. For the recovery from catarrhal conditions the general health must be attended to. Local applications are of secondary importance, and depend largely on the condition of the parts. A normal saline solution (a teaspoonful of salt to a pint of boiled or distilled water) should be used morning and night for the cleansing of the throat and nose. The pure chloride of sodium (common salt) can be obtained from the chemist, and rain water, if it be boiled, will be suitable. Want of success in local applications we believe is often due to impurity of the salt and water used. If the tonsils are inflamed and unhealthy, they should be painted twice daily with some antiseptic and astringent paint such as:—

℞	Tinc. Iodi Fort.	℥ii	(2 drams)
	Acidi Tannici	℥ii	(„)
	Glycerini	℥i	(1 ounce)

Avoid close rooms, late hours, suppers, and always make the evening meal light. Granose biscuit and stewed fruit make a good evening meal, which should be taken at least three hours before retiring.

THE HOUSEKEEPER

The Food Requirement of the Body

GEORGE E. CORNFORTH

THE body is much like an engine: while it is growing, it requires a large proportion of building material, or building food, as metal is required to build an engine; but after the body reaches its growth, only a small amount of building food is needed to keep the body in repair, but plenty of fuel food—starch, sugar, and fat—is needed to support body activity, just as fuel is required by an engine when it is working; and the harder it works, the more fuel it needs; but not much metal is required to keep it in repair.

Carbohydrates and fats are the natural and convenient source of heat and energy for the body. Protein can be used by the body as fuel, but there are two objections to taking a larger amount of protein than is needed for building and repairing tissue:—

1. Only the non-nitrogenous part of the protein can be used as fuel, and this leaves the nitrogenous part to be gotten rid of by the kidneys. This involves a waste of energy, and no doubt puts a strain upon those organs, which causes them to wear out prematurely. No doubt the large amount of meat consumed by the majority of people is partly responsible for the alarming increase in kidney disease.

2. The portion of protein which is not digested and absorbed, readily undergoes putrefactive changes in the intestine. This putrefaction produces poisonous substances akin to ptomaines, which are absorbed and require elimination by the kidneys. This also puts extra work upon these organs. Also the absorption of these poisonous substances produces auto-intoxication, and is a predisposing cause of gout, rheumatism, migraine or sick headache, hardening of the arteries, and nervous troubles.

There is no doubt that vitality, endurance, and resistance to disease are better maintained on a diet in which the fuel foods predominate, and which supplies sufficient protein to repair broken-down tissue.

Only about one-eighth of our food should consist of protein, another eighth of fat, and the rest, or three-fourths, should consist of carbohydrates,—starch and sugar, mostly starch. Or, to put it another way, a person doing sedentary work requires about two ounces of protein, two ounces of fat, and twelve ounces of carbohydrate a day. Of course, the amount of food required increases with the amount of work done, but the proportion of the three different kinds remains about the same. This does not mean, for instance, that two ounces of beans, or two ounces of milk, both of which are protein-containing foods, will supply sufficient protein for a day, because beans and milk are not wholly protein. A table of food values will show that beans contain about 22 per cent of protein, that is, one ounce of beans contains 22/100 of an ounce of protein;

therefore about nine ounces of dry beans would be needed to supply the required amount of protein for one day, if the protein in the diet were obtained only from the beans. Milk contains 3.3 per cent protein, therefore about sixty ounces, or two quarts, of milk would be required to supply the necessary protein for one day if no other food eaten contained protein. A larger proportion of protein than one-eighth is required during growth, and also in convalescence from wasting disease.

To be a little more definite, one or two eggs, a glass of milk, a helping of beans, one-fourth cup of cottage cheese, or three or four nuts, will furnish a sufficient amount of building food so that the rest of the meal may consist of the fuel foods and bulky foods, bread and butter, vegetables, salad, and dessert, or the dessert may be omitted.

One author says: "It is known that a relatively small and easily obtainable quantity of nitrogen is sufficient to repair the waste in the average individual, but the food required for producing energy is very significant in amount." "It has taken many years for us to realise fully that animal energy in all its forms is derived primarily from carbohydrate material, secondly from fats, and thirdly from proteins only in so far as they yield combustible, non-nitrogenous bodies."

Power to do work—power which we all must have—is called energy. Energy cannot be obtained from nothing. If we wish to get work, or energy, from a motor car, we must give it petrol, through the burning of which energy is imparted to it. If we wish to get energy from a steam engine, we must give it fuel, through the burning of which the power to do work is imparted to the engine.

But there is a definite relation between the amount of fuel consumed and the amount of energy produced. A certain amount of food is capable of producing a certain amount of energy. It has been found desirable to have a unit to measure the energy value (or nutritive value) of food. This unit is called a calorie. It is a heat unit. The heat unit is used to measure the nutritive value of food, because the amount of heat produced by the burning of food outside the body is an indication of the amount of energy produced by the oxidation of the same amount of food within the body. A calorie is, approximately, the amount of heat required to raise the temperature of two quarts of water one degree Fahrenheit.

The fuel value of food is determined by the use of an instrument called a calorimeter. In this instrument a weighed quantity of food is burned in an enclosed space so that all the heat produced by the burning of the food is communicated to water surrounding the space. By noting the rise in temperature of the water the amount of heat produced by the burning of the food is computed. To determine the energy value of the same amount of food *within* the body, the average amount which is lost in digestion, or which fails to be utilised before its escape from the body, is deducted from its fuel value outside the body. This gives the *physiological fuel value* of the food.

The following is accepted as the energy value of food in the body:—

1 oz. protein yields ...	116 calories
1 oz. carbohydrate yields	116 calories
1 oz. fat yields ...	264 calories

Knowing this, it is possible to calculate the food value of a given amount of any food by referring to a table which gives the chemical composition of food.

For example, to find the nutritive value of bread, we get the percentage composition of bread, which is:—

Protein	9.3 per cent
Fat	1.2 per cent
Carbohydrate ...	52.7 per cent

This means that one ounce of bread contains 93/1,000 ozs. of protein, 12/1,000 ozs. of fat, and 527/1,000 ozs. of carbohydrate. Therefore, to reduce from per cent to calories we multiply as follows:—

9.3 × 1 16 = 10 79
1.2 × 2.64 = 3.17
52.7 × 1.16 = 61.13
Adding, we get 75.09

Therefore one ounce of bread yields :—

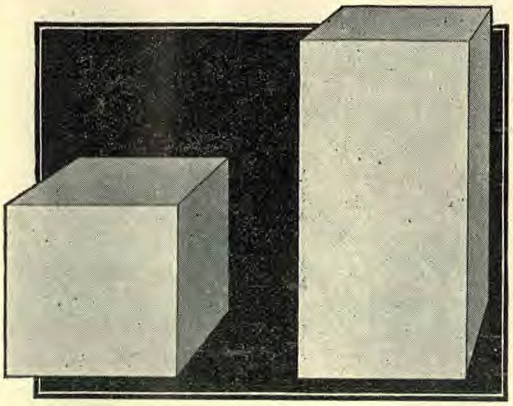
Protein	Fat	Carbo.	Total
10.79	3.17	61.13	75.09

And a pound loaf of bread contains 75.09 × 16 = 1201.44 total calories.

Or we can find the nutritive value of a custard made from 1 cup milk, 1 egg, and 2 level tablespoons sugar, as follows :—

1 egg	=	79.5 calories
1 cup milk	=	161.6 calories
2 tablespoons sugar	=	77.6 calories
Total		318 7 calories

To find the number of calories in a meal or in the food for a day, simply add



4 x 4 x 4 in. = 64 cu. in. Surface, 96 in.

2 x 4 x 8 in. = 64 cu. in. Surface, 112 in.

together the number of calories in all the different articles eaten.

Of course the amount of food required is different under different conditions. A child needs less food than a young adult, and an old person also needs less. The amount of food required varies with the amount of skin area, since the greater the skin surface, the greater the amount of heat radiated from the skin. And a tall, slim person has a larger skin area than a short person who weighs the same. This is illustrated by the accompanying diagram.

A person weighing 150 pounds and doing sedentary work requires about 2,100 calories; doing light work, about 2,300 to 2,500 calories; doing hard work, about 3,000 to 3,500 calories.

Table of Food Values

	CALORIES IN ONE OUNCE			
	Protein	Fat	Carbohy.	Total
White flour ...	13.2	2.6	87.1	102.9
Graham flour ...	15.4	5.8	82.8	104.0
Cooked rolled oats	2.7	2.8	11.5	17.
Cooked whole wheat	1.1	.9	17.5	21.
Cooked rice ...	2.0	.02	20.4	22.42
White bread ...	10.7	3.4	61.6	75.7
Graham bread ...	10.3	4.8	60.4	75.5
Baked beans ...	6.3	5.1	17.1	28.5
Baked soy beans	13.2	21.3	13.0	47.5
Cooked dried Lima beans	5.3	6.5	19.1	30.9
Peanuts baked like beans	12.9	44 4	12.3	69.6
Brazil nut meats	19.7	176.4	8.1	204.2
Pecan nut meats	12.8	188.0	15.4	216.2
Almond meats ...	24.4	144.9	20.1	189.4
Peanut butter ...	34.0	122.8	19.8	176 6
Corn flakes ...	10.8	1.4	91.6	103.5
Shredded wheat ...	12.8	4.5	87.6	104.9
Eggs	16.2	31.7	—	47.9
Milk	3.8	10.6	5.8	20.2
Thin cream (18 per cent)	2.9	48.9	5.2	57.0
Granulated sugar	.0	.0	116.3	116.3
Cottage cheese ...	24.2	2.6	5.0	31.8
Ice cream ...	2.5	33.7	25.7	61.9
Dairy butter ...	1.2	224.4	.0	225.6
Olive oil ...	.0	264.1	.0	264.1
Potatoes ...	2.6	.3	21.3	24.2
Sweet potatoes ...	2.1	1.8	31.8	35.7
Green peas ...	7.8	9.0	16.9	33.7
Spinach ...	2.4	.8	3.7	6.9
Fresh tomatoes ...	1.0	1.1	4.5	6.6
Lettuce ...	1.4	.8	3.4	5.6
Celery ...	1.3	.3	3.8	5.4
String beans ...	9.0	2.9	2.2	6.0
Radishes ...	1.5	.3	6.7	8.5
Cooked beets, sliced	2.7	.3	8 6	11.6
Canned corn ...	3.2	3.2	22.0	28.4
Cooked green Lima beans	4.6	8	16.9	22.3
Cooked squash ...	1.0	1.3	12.2	14.5
Ripe olives, as purchased	1.6	55.4	4.1	61.1
Apples, as purchased	.3	.8	12.5	13.6
Apples, edible portion	.5	1.3	16 5	18.3
Bananas, as purchased	.9	1.1	16.6	18.6
Bananas, edible part	1.5	1.6	25.7	28.6
Grapes, as purchased	1.2	3.2	16.7	21.1
Grapes, edible part	1.5	4.2	22 3	28.0
Grape juice ...	.0	.0	23.8	23.8
Peaches, as purchased	.6	.3	8.9	9.8
Peaches, edible part	.8	.3	10.9	12.0
Plums, as purchased	1.0	.0	22.2	23.2
Plums, edible part	1.2	.0	23.3	24.5
Prunes cooked ...	.6	.3	25.8	26.7
Apricots, as purchased	1.1	.0	14.6	15.7
Apricots, edible part	1.3	.0	15.5	16.8
Dates, as purchased	2.2	6.6	81.9	90.7
Dates, edible part	2.4	7.4	91.0	100.8
Dried figs ...	5.0	.8	86.1	91.9
Raisins ...	3.0	8.7	88 3	100.0
Blackberries ...	1.5	2.6	12.7	16.8
Grapefruit, edible part	.9	.5	11.8	13.2
Muskmelons, edible part	.7	.0	10.8	11.5
Watermelons, edible part	.5	.5	7.8	8.8
Oranges, edible part	.9	.5	13.5	14.9
Lemon juice	—	—	11.4	11.4
Pears ...	.7	1.3	16.4	18.4
Raspberries, red ...	1.2	.0	14.6	15.8
Strawberries ...	1.2	1.6	8.5	11.3

System in Dishwashing

PRACTICALLY every woman in the country washes dishes.

Few of them do it right.

There is system in washing dishes as well as in running a business office or factory, and the more system the less work.

Dishwashing is a task better suited to two workers than one; so teach friend, husband, or small son or daughter to lend the second hand, and it will cut the time and work involved in half.

First gather the utensils—a deep pan, a draining pan, and wire drain rack, washing soda, soap, soap shaker, mop, wire brush or chain dishcloth for pots and pans, towels of linen for the glass, plain dish towels. The most important factor in dishwashing is hot water—in plenty.

Expert dishwashers proceed as follows:—

While one worker collects the dishes and puts away the left-over food, the other washes the pots and pans, getting the heaviest and most unpleasant task over first.

Pans and pots in which eggs, potatoes, or sticky cereals are cooked should be put to soak as soon as emptied, and when the meal is finished they are ready for easy washing.

Keep a little washing soda dissolved in water, in a jar near the sink, and use with hot water to clean greasy pots and dishes, using the wire brush or mop. Dry with a heavy towel.

Meantime, the china, glass, and silver are collected, scraped, and sorted, and set conveniently near the washing pan.

Begin with fresh hot water and good suds, with a tablespoonful of household ammonia, or of washing soda solution added. Wash the glasses first, put in the drainer and scald, drying at once, while wet and hot, with a linen towel. In washing thin glasses or glass jugs, put a silver spoon in each before scalding, as that prevents breaking.

Silver comes next; wash in very hot soapy water to give a good polish. Keep spoons, knives, and forks in separate groups, tips pointing the same way. They are thus already sorted to put away or for re-laying the table.

Cups, saucers, and less greasy dishes follow the silver. Then the plates, then vegetable dishes. Rinse all greasy dishes well with clear hot water.

Finish by scrubbing sink, tables, and drainboard with small brush and soap or cleaning powder. Wash out sink strainer, towels, and mop with hot water, and pour hot soda water down the drain pipe to remove grease. Hang the cloths to dry in the sun, and air the kitchen to remove cooking odours.

If preferred, the dishes may be rinsed in hot water and then left to drain. In a short time they will be dry and ready to put away. Indeed, this method is more hygienic, and for that reason is much to be preferred to the use of wiping towels.

SAVAGES think that by eating the bodies of their enemies, they can add their enemies' strength and courage to their own. Many civilised people think that by living on the flesh of the ox, they can absorb the strength of the ox. But they forget that the ox did not so get his great strength. His food was from the vegetable kingdom. Would you be strong and healthy also? Then go and do likewise. Corn is better than pork, and it does not contain either tapeworm or trichinæ. Whole grain and vegetables and fruit are better than beef, and they contain no tuberculosis, lumpy jaw, or anthrax. The diet which the Creator provided in the beginning is far better for the human family than that which the majority live upon to-day.

Witch-Hazel Cream.

White wax, 1 oz., almond oil, 3 oz., spermaceti, 1 oz., lanoline, 1 oz., rose water, 3 oz., witch hazel, 1 oz., tincture benzoin, 1 drachm. Melt wax, spermaceti, and lanoline, add almond oil (previously heated) and beat; add witch hazel and rose water in small quantities at a time, stirring carefully, lastly add benzoin, drop by drop. Half this quantity may be made if preferred.

QUIET TALKS WITH MOTHERS

Some Things to Remember about Children

EMMA GARY WALLACE

WE may grow tired of the monotony of routine, but let us remember that were it not for routine, we should waste half our lives deciding what to do next.

Breast milk is the ideal food for the child. It is always ready, never needs measuring, or special preparation, is free from germs, and is never sour. Statistics show that ten bottle-fed babies die to one fed on the breast. Artificial food has to be modified skilfully to suit the age and strength of the child. The same breast milk possesses the singular property of agreeing equally well with a three-weeks or a three-months-old baby, nourishing each exactly as it should be.

Plain nutritious food encourages breast milk and the mother who has little should not be discouraged. If she avoids indigestible foods such as salads, highly spiced viands, pickles, pastry, strong tea and coffee, vinegar, and alcoholic beverages, using plenty of water, cocoa, gruel, milk, and wholesome food, the supply may often be increased.

Do not feed baby every time he cries. He may only want a drink of cool water.

Artificial Feeding

In all artificial feeding, scrupulous care must be taken of materials and utensils used. It would indeed be the exceptional mother who would not be surprised to go into the laboratories of the leading baby food manufacturers. Here the most careful of precautions are taken from start to finish in preparing the foods. Chemists test, analyse, and experiment. Sterilisation is thorough. Half-way methods are not tolerated in any part of the process.

It is but fair to the child who has to be fed artificially to do it in as nearly a perfect manner as possible. Condensed milk cans should be cut open, the contents drained out into a sterilised glass jar with a tight-fitting cover. This jar should be placed in cold storage at once. Hot water will dissolve the milk adhering to the can and it may be used as part of a feeding, so that not a particle need be wasted. Sometimes food cans are opened, left to stand about in the varying temperature of cupboard or pantry, and the mother wonders why the child does not thrive or becomes ill.

Other canned foods are removed from their tin containers at once because chemical change is likely to take place from contact with the air. The same applies to foods for infant use.

Powdered foods contained in glass bottles with metal screw tops will nearly always be found to have a little paraffined disc in the top of the cap to protect the contents. Keep this in place until the food is used. Each time the bottle is opened, either shake the required amount into a measuring spoon or dip a dry, clean spoon into the bottle. Never use a wet one. It takes a minute, perhaps, to screw the cap on firmly, but it is time well spent. An open or carelessly closed

bottle cannot keep the food dust and germ proof. Follow all directions exactly. It is not safe to guess at measurements when preparing milk modifications. A sixpenny measuring graduate will give the liquid ounce measurements and is a great convenience.

Sugar of milk should be used in place of ordinary sugar. Its chemical properties are not the same as those of cane or beet sugar. It is much more nearly identical with the sugar of breast milk and less likely to cause fermentation and gas. Do not buy sugar of milk in bulk. Purchase it, too, in a sealed package.

Well to Know

The lime water so often directed to be used in baby's milk will leave a milky deposit upon the inside of the bottle. This does no harm unless it collects impurities. This cannot be washed off with water. It can be dissolved by using a weak solution of muriatic acid. After this, the bottle must be rinsed and scalded. Always sterilise the bottle before using the first time.

When about to take a journey it is safer to fill odd bottles with the prepared food, discarding them as used. A wide-mouthed bottle of boric acid solution may be carried in the travelling bag and the nipples dropped into this after they have been rinsed off.

Castor oil is never relished by children, and something is due them in the way of care if they have to take this heavy oil. If a moment's reflection is given to the matter, it will at once be remembered that oil is less disagreeable when very cold than when warm and that oil and water do not readily mix.

Acting on this knowledge, give the child a drink of cold water, or if old enough, have it hold a little piece of ice in its mouth a few minutes. Have the spoon cold and thoroughly wet. Put a few drops of orange juice into the spoon, add as much oil as is to be taken, and a few more drops of orange juice. Instruct the child to swallow quickly. If a good brand of tasteless castor oil has been used there will be no trouble as the oil has been coated with the orange juice and has slipped off the cold spoon readily. After the medicine is given, direct the child to lie down quietly for half an hour. It is the stirring about that often causes the stomach to reject the medicine.

If any medicine is repeatedly vomited, the doctor should be sent for at once, as some of the contagious diseases begin in this manner.

When Baby Takes Cold

"Prevention is better than cure," is a saying so often repeated that we are in danger of losing its full meaning. If, for example, baby gets a cold and by care recovers from it, is she not just as well off as before?

No, most certainly not! Any condition which is an unhealthy one and calls for treatment is very sure to leave the patient either weakened or more susceptible to attack, or both. It is much safer to keep baby well, than to run the risk of restoring her to perfect health. Even then there is the inevitable setback to be overcome.

Perhaps the commonest affection of autumn and winter months is the one known as "a cold." A cold is a shock to some portion of the skin or a sudden closing of the pores caused by a lowering of temperature, or an infection.

Colds are more or less contagious and baby should not be allowed to sleep in the room with any one suffering from cold, nor to get the breath of any one so affected. Great care should be taken that even the tiniest infant has a handkerchief devoted solely to its use. In a handkerchief used by an older person and a child, may lie grave danger.

The sheer head-coverings offered for sale are often altogether inadequate to protect a baby's head with its scant covering of hair from searching winds and cold atmosphere. An inner lining of soft wool, or silk and wool is easily made, which may be removed when it is necessary to cleanse the outside.

Sometimes the baby is dressed for its ride before the mother or nurse puts on

her own outside wraps and so begins to perspire freely before it goes out of doors, or is placed on cold pillows in a cold carriage which has stood in vestibule or on a piazza. Naturally, the child begins to sneeze and the mother insists her little one cannot stand the outside air.

The carriage should be kept where it will be at ordinary house temperature, and the pillows ought to be kept warm with baby's coat, leggings, hood, etc. As soon as the child is dressed it should be taken into a cool room or directly out of doors.

Floors are sure to be draughty. Better put a thick comforter in a roomy box or basket, or let baby play on a bed or sofa. Many a child has contracted a cold by kicking the clothes off in the cooler night temperature, or by being allowed to lie wet and partly uncovered. Teach the little one to evacuate the bladder before putting it to bed and arrange coverings so that they are held firmly in place. A child should not be allowed to lie wet. If the room is well-ventilated, the covering light but warm, and the food right, there should be little trouble with undue restlessness.

The day temperature of the living rooms should be equable, from sixty-eight to seventy degrees, and the child should not be clothed to the point of free perspiration, otherwise the opening of a door, the passing through a cold hall, or the opening of a window may suddenly check the perspiration and result in a cold. The temperature of the bath and the room in which the child is bathed also should be properly gauged.

Children who are illy nourished, nervous, or anæmic are especially liable to colds because their resistance is lower than it ought to be. Such children are very sensitive to colds in the head and to congestive troubles of the respiratory tract. The remedy lies in proper building up of the system and in exercise in pure, dry air, rather than in a damp, windy temperature.

At the first indication of head cold, the bowel tract should be cleared and the interior of the nose freely moistened with a little bland oil such as albolene or melted vaseline.

Where the breathing is heavy, a counter-irritant applied to the chest in the form of camphorated oil and turpentine (three parts oil to one of turpentine) or a little capsicum vaseline and sweet oil, with a brisk clearing of the bowels will be helpful until medical aid arrives. A neglected cold may lead to bronchitis, pneumonia, or other equally serious conditions. Time and the right treatment are now important factors. They may mean the prevention of much suffering and possibly of loss and heartache. Do not neglect a cold!

Colour in the Nursery

White Is an Eye Menace for the Baby

A. M. HUGHES, M.D.

WHITE was first adopted for the nursery because it is an emblem of purity, and it is quite in keeping with the coming of an innocent little one to the home. Later, when we began to learn about germs and their relation to health, the use of white in the nursery was continued because it so easily shows soil and we knew that everything about a nursery must be kept clean.

White may be the most appropriate colour for babies, but it is not good for their eyes. It is probably the worst colour, because it results in such a degree of eye strain.

From the time the baby is born and wrapped in his long, trailing white garments until he is several years old at least he is ordinarily surrounded with white and dressed in white. Children of the well-to-do seldom wear anything else than white. The children of even the poorer have at least some "best clothes" of white.

Baby finds that white garments are but a fraction of the white glare that surrounds him. He is given white celluloid toys to play with, he is taken out for an airing in a white enamelled carriage and his little home, the nursery, has the woodwork finished in dazzling white enamel, with a white ceiling or either white or light tinted walls. There are white curtains at the windows and if there is a nurse, her garb is crinkly, dazzling white.

What wonder is it then that the poor baby blinks his weak little eyes and digs his chubby fists into them, and turns his head painfully away from the glaring light that surrounds him. White is not for babies and should never be used either in the baby's sick room or the "well room." Neither should baby be dressed in white nor should his nurse or his dolly. His carriage or furniture should not be of white. A baby's eyes are exceedingly tender, no bright light is ever allowed (or should ever be allowed) to shine directly into the eyes of an infant, and the constant strain that the light from white

LET THE CHILDREN PLAY IN NATURE'S GREEN-TINTED NURSERY

draperies and white enamelled wood work brings to the eyes of the growing child will do much to ruin his eyesight and make it necessary for him to wear glasses early in life.

From various parts of the world the leading physicians and eye specialists are sending their agreement as to this matter, and declare that thousands of people who now suffer from impaired eyesight find themselves in this condition because in their babyhood days their weak eyes were constantly confronted by glaring white.

Personally, I believe that there would be twenty per cent decrease in the number of people wearing glasses if parents and others who are responsible for the upbringing of children would banish white from the nursery and put in its place bright colours that would not only save their eye-strain, but delight them.

Altogether too many nurseries are decorated in white—a snow-white cot, white paper, relieved perhaps by fairy tale or Mother Goose frescoes, white ceiling, white clothes, and everything else white. It is really cruel to the little tots to decorate their nurseries in this manner, and, aside from this, white is quite without meaning to children. On the other hand, all colours have some meaning to little ones. Children seem to love green; it is one of their favourite colours when very little. Somewhat older they prefer the brighter colours, of course. But the green is soft and comforting. They are also interested in blue, yellow, and pink.

My advice, and it is based on experience, is to make the nursery bright and cheerful, with many soft colours that interest but do not harm the little one. I know of a nursery that is finished in a soft green with a frieze of pictures done in greens, yellows, and browns. The children never wear white clothes except when being taken for a visit. Their little dresses and rompers and knickerbockers are made in blue, pink, olive, and slate colours and their baby carriage is of brown stained wicker-work with a green lining to the shade. They have plenty of toys but none of them are painted white. The furniture in the nursery is of green-stained oak to match the tinting of the walls and the children's mother will not allow the nurse to wear plain white except upon state occasions when there are guests in the house whom she wishes to take up into the nursery to see the children. These nurses wear slate greys and blue print dresses, and a bright ribbon or band on their hair because this makes them appear more cheerful.

It costs no more to decorate your nursery in soothing colours and tints than it does to have it enamelled in glaring white, and it is easier to keep clean. It is also easier to keep the children's clothes clean and the nurses' dresses when they wear colours, but after all this is only a small and unimportant item. The main consideration is the baby's eyesight. Constant surroundings of glaring white will do more to give a child poor eyesight than almost anything else in the world during his babyhood and all thoughtful parents should abolish white from the nursery.

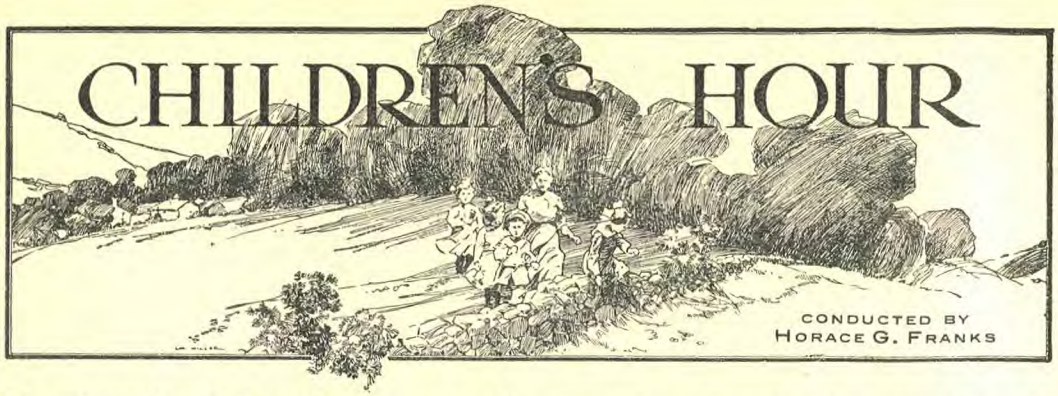
THERE is something better for us to engage in than the control of humanity by humanity. The physician should educate the people to look from the human to the Divine. Instead of teaching the sick to depend upon human beings for the cure of soul and body he should direct them to the One who can save to the uttermost all who come to Him. He who made man's mind knows what the mind needs. God alone is the one who can heal.—*Ministry of Healing*.

SCIENCE BAFFLED.—Young man: Is it true, doctor, that smoking cigarettes tends to soften the brain?

Physician: There is a belief to that effect; but with all our boasted modern scientific appliances, it can never be verified.

Young Man: Why, doctor?

Physician: Because so few persons with brains ever smoke them.



The Speed and Leaping Powers of Animals

THE speed with which animals could run and the height which they could leap have long been a matter of interest and, consequently, investigation. Naturalists of a century ago were firm in the conviction that the greyhound was the fastest living animal, some maintaining that he could run a mile a minute. Modern observers, however, have found that no hound can keep up with a trained racehorse; in fact, no living animal can outfoot the well-trained horse.

A first-rate horse, running his best, and not handicapped with a rider, can run a mile in less than a hundred seconds. A fleet hound such as is used in coursing has to add fifty seconds to the record of the horse. A rabbit is nearly as fast as a hound, while an antelope is considerably faster. Some travellers, however, think that a gazelle would have no trouble in escaping from the fastest horse, but their contention is disputed by others.

A racehorse in full stride covers about twenty-six feet at a bound, and an English cross-country horse is said to have leaped thirty-six feet. An American white-tailed deer can jump more than thirty feet, and it has been put on record that a stag escaped from its park in England by clearing a fence twelve feet high. The pallah, a species of African antelope, is probably the greatest living jumper. Travellers have often asserted, after careful measurement, that this beast can clear trees nearly twenty feet high.

The lion was long supposed to make tremendous bounds when charging his prey, but modern sportsmen say that a lion runs low to the ground, bounding into the air only on his last leap, when he expects to strike. Even such bounds, however, are of no great length. One traveller says that a lion can run a hundred yards in six seconds, which is certainly fast enough to catch most sorts of game. The remainder are caught by stealth.

The Story of a Spider Duel

TO the majority of people spiders are distinctly repulsive, creating nothing but a shiver. Nevertheless, they are the most interesting of insects, and many a profitable hour can be spent in watching their strange ways. A writer in the *Scotsman* recently related the following interesting story concerning these wise and courageous creatures:—

"Some months ago when in Caucasia I witnessed an amusing duel between two spiders. The scene was laid at the junction of two window panes where the webs of the spiders met. The upper web belonged to a small and very agile spider, while the lower one was the abode of a larger and more cumbersome fellow. Now it happened that a wasp became caught just where the two webs met. It buzzed frantically. The interest of both spiders was aroused, for down came the small one and up came the larger one. The wasp was not yet approachable; so both spiders halted at a respectful distance and viewed with wicked joy the ebbing strength of their victim.

"The question now arose as to which of the spiders would secure the prey. Both appeared to be equally interested. The small one was the first to take active measures. Down he came and cautiously touched the wasp, then back he ran to a safe distance. For a long while I thought they must be in partnership, as the large spider did nothing but superintend matters, allowing the small one to do all the

WATCHING THE SPIDER AT WORK

risky work of closing with and finally silencing the wasp. But when the wings were bound down and all was done, the large spider thought it was about time to act. Up he came and drove off the small one, who beat a hurried retreat. He evidently did not consider the work quite finished, for he then spun loop after loop of web around the wasp.

"To be lightly deprived of such a prize after doing all the rough work was more than the small spider could bear. Down he came to assert his rights, but was again driven off, the larger spider this time carrying the attack far up into his rival's domain. He then returned to the spoil, and again the small spider ventured down, only to be driven off as before. The large spider was now becoming annoyed by the persistent efforts of the small one, and, as he could not catch him, decided upon another plan. He proceeded to cut all the lines of communication between his troublesome neighbour's web and his own. He then freed the wasp from its entanglement and dragged it into his larder where other savoury meats were hanging up. The small spider made one more despairing effort. He opened up a new line of communication and came down to his rival's larder door; but was afraid to enter and went mournfully away."

The Pond

ONLY a small sheet of water, but one loaded with the associations of childhood! Though considered by some only a dirty, slimy, evil-smelling pond, it was, and still is, the delight of childhood's days.

To our matter-of-fact parents, it was only a stagnant pool; to us it was an animated world of beauty. To our stern guardians it was a few feet of water freighted with the possibilities of death; to us it was an inexhaustible mine of information, full of the sun's babies. To us a broken stick with which we stirred the water was truly a magician's wand, providing us with objects of beauty and marvel.

Tired out with our little paper boats, we would watch with rapture the wonderful feats of that curious pond inhabitant we honoured with the title of water-boatman. With open eyes we saw him swimming across on his back, his two oars spread out bewilderingly. Suddenly our attention would be diverted to the antics of the water-beetle, as he first of all drew in his supply of air; then with tanks filled, dived on his subterranean trip into the depths. From the ripple on the surface marking his watery grave our gaze strayed to the mystic evolutions of those pearly creatures we called whirligigs, when suddenly the water in that very spot scatters in all directions as our friend the

water-beetle came up to enjoy again the sun's warmth. There he is, getting ready for another dive! Watch him as the air-bubble grows at the tip of each wing case; see that shining breastplate of gas under his chest. In a flash he is gone, and all is still. Out from the bank there shoots a water-scorpion, while the gaily-dressed dragon fly cools its long body as it skims in zig-zag course across its mighty ocean.

Let us take a walk round the pond. Even as we start we almost send the frog world into hysterics by the fright we give the little tadpoles as they sport about in the mud near the edge of the pool. A little farther on we see among the reeds fleets of boats, each containing the grub of the Caddis worm, and further still a frog himself is proudly surveying his domain. While waiting for his majesty to leave the pathway free for us intruders, let us lie down flat and peer into the glassy depths of this world inhabited by so many wonderful creatures.

Right under our noses the brilliant orange-chested newt is going his daily rounds, while not far away is a crowd of tiny reddish grubs, all apparently only too eager to grow to maturity when they can attack those strange-looking forms peering at them from an unknown world. Wait a few days, little red wrigglers, and patience will have its reward! Mosquitoes you shall be, and our powerless bodies you may then attack. Soon you will forsake your home of crystal water and taste the blood of those who are looking at you.

Further down still are the water-serpents,—worms crawling along the bed of the pond. Every few inches—which must have been miles to the pond's inhabitants—the worm must turn (for even a worm will turn, you know) and travel round a house obstructing its way. Oh yes! there are houses in those watery regions. And there being houses, there are moving days. But when this inhabitant moves, he takes his house with him. And so we see the river snail shifting his quarters even as we look, while in the glades at the surface of the pond, the smaller snails take their sun-bath in the aquatic garden.

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