

Life & Health

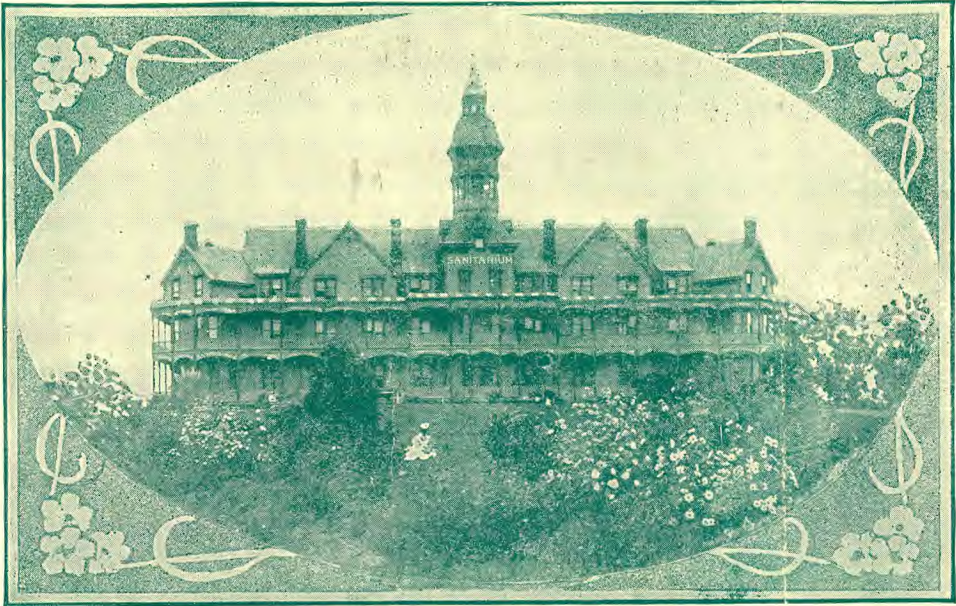


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in the Warburton Sanitarium garden.

Life and Health

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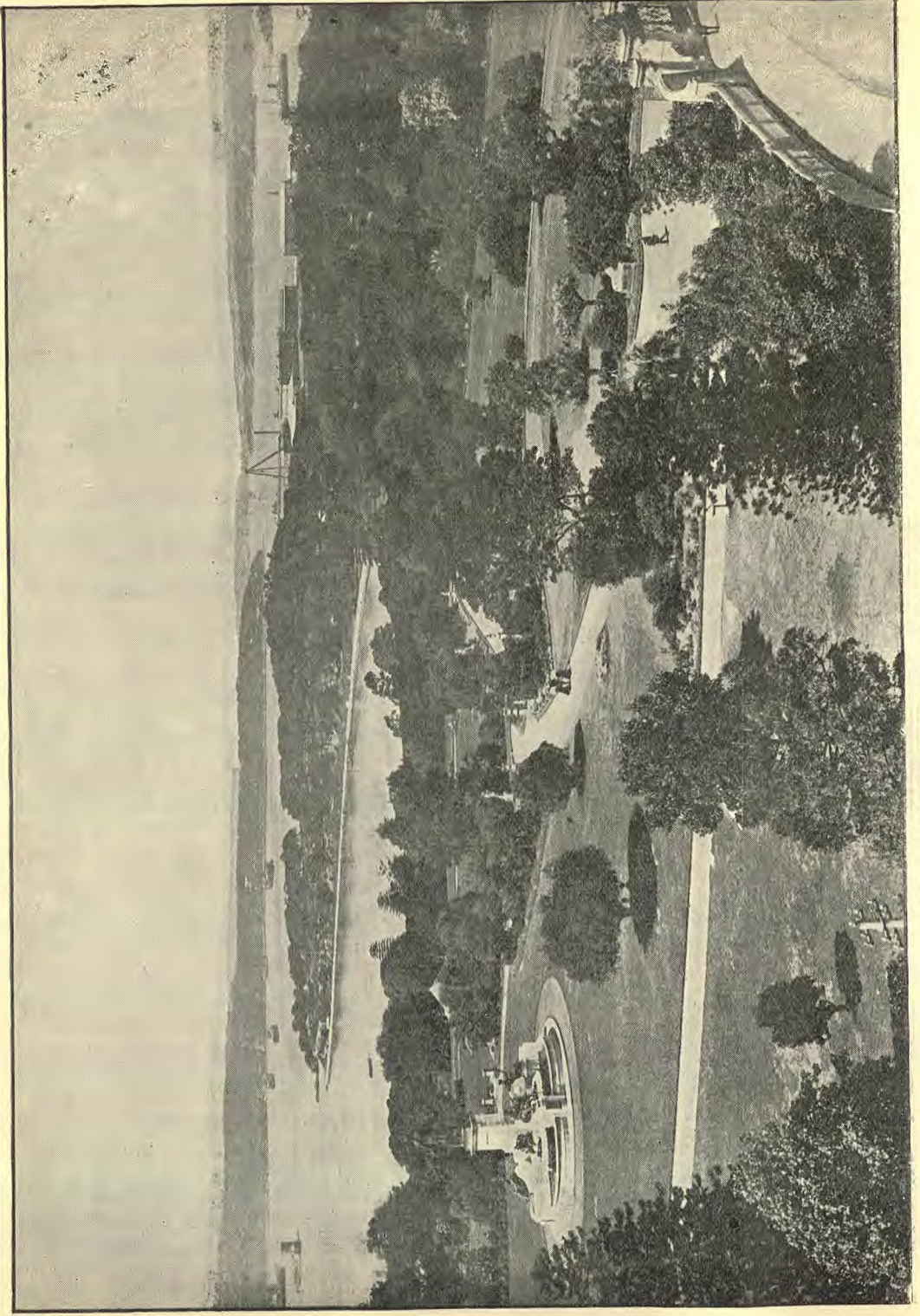
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BOTANICAL GARDENS AND HARBOUR, SYDNEY



Flesh Foods—No 2

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

IN all animal organisations there is a constant oxidising, burning up, of nitrogenous matter for the production of force. When this burning up process is complete, urea, a soluble compound, is formed, which is easily passed out through the kidneys. There is, however, always a certain amount of the waste products that are not so completely oxidised, and these are known as uric acid, xanthins, hypoxanthins, etc. The latter are liable to remain in the system, producing rheumatism, gout, and allied complaints. They also have a powerful effect on the circulation. Pressure on the back of the hand of a person moderately free from those products will be followed by a transient paleness for perhaps half a minute, while on the hand of one with an excess of these bi-products the paleness may last two or three minutes. The lessened circulation is chiefly confined to the smaller blood vessels and capillaries, and is due to a colloidal state, a thickening of the blood which prevents it from circulating freely. This produces a feeling of fatigue, for it interferes with the nourishment of the muscles and tissues of the body by preventing the assimilated food in the blood from reaching these tissues. It produces headache, coldness of the extremities, and

even bilious attacks and indigestion. The body cannot be kept warm or the organs of digestion active when the blood circulation is poor. Dr. Haig estimated from experiments on his own person that he excreted daily 12 grains of uric acid and 349 grains of urea. Dr. Haig is a vegetarian, but a man living on a mixed diet would probably excrete 18 to 20 grains in the day. If he forms more than this quantity, and takes uric acid into his system in his food, he will not be able to excrete it all, and disease will be the result.

Retention of Uric Acid in the System

“Such a man,” says Dr. Haig, “instead of excreting the full 20.25 grains of uric acid which is formed and introduced into his body each day, will only excrete, say, 19.5-20 grains, retaining in his tissues the remaining .2-.7 of a grain, which in the course of years will amount to many hundreds of grains, and the higher the acidity the greater the proportionate retention will be. I consider, therefore, that every man who eats what is called ordinary diet with butcher’s meat twice a day, and also drinks acid wines or beer, will, by the time he is thirty-five or forty, and certainly by the time he is fifty, have ac-

cumulated 300-400 grains of uric acid in his tissues, and possibly much more; and about this time, owing to the large amount of uric acid in his body, he will probably be subject to attacks of some form of gout or chronic rheumatism." "Uric Acid a Causation of Disease." Page 17. Haig further remarks: "It makes absolutely no difference to physiological and pathological results whether a man swallows two grains of hypoxanthin, xanthin, caffeine, theobromine, or uric acid itself; all these substances alike produce obstructed capillaries, high blood pressure, headache, mental depression, scanty secretions, and a large excretion of a substance estimated as uric acid in the urine by Haycraft's process." *Id.*, page 8.

Waste Products Temporarily Stimulate

It may seem strange that the introduction into the system of uric acid or its allied forms as in theine of tea, caffeine of coffee, and theobromine of cocoa, etc., will temporarily clear the blood of these bi-products, and produce a stimulating effect. This result is seen in the taking of beef tea and the various meat soups. It is recognised by all investigators on this subject that these stimulants contain little or no nourishment, that dogs fed on them will starve, while those fed on the tasteless meat from which they have been made will thrive and put on flesh. The stimulation is due to the waste products and not to the real food they contain. An excess of uric acid, etc., introduced into the blood, clears the blood by driving these dangerous bi-products into the muscles, joints, and organs of the body, thus the stimulation is not permanent; as soon as the waste products are dissolved again out of these tissues and again circulate in the blood the old symptoms return. The more uric acid and xanthins circulating in the blood the more the individual is prone to chills, rheumatism, pneumonia, and quite a host of other diseases. Flesh foods all contain some uric acid; and the introduction of 4-5 grains with a meat dinner

is by no means exceptional. Add this to the amount of uric acid naturally produced from our general nitrogenous food, the result will be an amount of insufficiently oxidised waste products that cannot be fully excreted through the kidneys. A chill may lessen the action of the kidneys, and this again will add an additional burden of these poisons to the circulating blood which may precipitate an attack of rheumatism, gout, or pneumonia. Apart from acute diseases an excess of these unoxidised bi-products will make a man miserable, will give him a constant desire for stimulants, such as alcohol, tobacco, tea, coffee, and other hurtful compounds. In our sanitariums, where meat and tea are excluded from the dietary, it is quite a common occurrence for patients to express their astonishment at their loss of appetite for alcohol and tobacco. Dr. Haig writes: "I think the action of meat, as a stimulant and producer of quickly worked off force, has a good deal to say to the fact that, as we have eaten more and more meat, we have come to have a larger number of meals in the day; and while the bread, cheese, and vegetable feeder can do well on two, or at most three, meals daily, the flesh feeders often take four, or even five.

"It is perhaps also the reason why an exaggerated and erroneous estimate has been formed of the power of meat to produce force, that its stimulating effect has been mistaken for power, and the subsequent depression has either been overlooked (which is possible for the time), or later has been counteracted by alcohol, tobacco, or other more harmful stimulants. The man who gets his albumens from a less stimulating source, having no early stimulation, has no subsequent depression, and so probably never feels the want of alcohol at all. Hence it follows that those who take alcohol on a flesh diet generally very soon give it up when flesh foods are relinquished, and smoke very little also, being independent of stimulant. Yet if what most eaters say were true, namely, that meat is much more nourishing and supporting than milk, bread, cheese, fruit,

and vegetables, it ought to be exactly the other way, and those who live on the latter foods should be the ones to require alcohol, and be unable to dispense with it."—*Diet and Food*, page 41, 42.

Endurance of Vegetarians

The strongest animals in the world live on vegetarian diet, and these include the gorilla, horse, elephant, antelope, and reindeer. Says Dr. Jeuttner: "The physical effects of diet among the animals is no less characteristic. The plant eaters possess marvellous endurance (birds of passage, camels, horses, elephants, hunting dogs). The meat eaters are vigorous, and can make a wonderful display of strength, but possess little endurance. The lion engages in a terrific battle, and, after it is over, feasts on the mangled carcass of his adversary, and spends his time lazily in his haunts until hunger compels him to seek another bloody encounter. Endurance is the characteristic physical trait of the vegetarian. The winners in athletic contests where it is a question of endurance (swimming, walking, running, etc.) are usually plant eaters. The enduring power of the vegetarian is shown in the work done by the Chinese coolies, who are not giants in strength and stature, but apparently never wear out. Who has not marvelled at the accomplishments of the little brown men of Japan, who are principally rice and fish-eaters? The world has never seen more admirable traits of mind and heart than those recently displayed by the pagans of Nippon. These are facts too well known to require any further demonstration."

Gautier, the French author, speaking of the endurance of vegetarians, writes:—

"It would be wrong to maintain that a non-flesh diet will compromise physical energy, although heredity and habit play here an important part.

"According to J. Sinclair, the Hindu messengers who carry dispatches for long distances eat only rice, while covering each day, in running, from one village to another, a distance of at least twenty leagues (sixty miles), and do this not for

a single day only, but every day consecutively, week after week. "The Russian peasants, who live on vegetables, black bread, milk, and leeks, work from sixteen to eighteen hours a day, and their strength often exceeds that of American sailors.

"The Norwegian peasants scarcely know the taste of animal food. They cover on a continuous run, however, in accompanying the carriage of tourists, a distance of three or four leagues without stopping.

"The modern Egyptian labourers and sailors, a class who, from time immemorial, have lived almost exclusively upon melons, onions, beans, lentils, dates, and corn, are remarkable for their muscular strength.

"The miners of South America, very temperate labourers who never eat meat, carry on their shoulders burdens of two hundred pounds, with which they climb, twelve times a day on the average, vertical ladders sixty to eighty meters (one hundred and ninety-six to two hundred and sixty-two feet).

"I might add that I have known persons, men and women, very intelligent, who became vegetarians on principle or for hygienic reasons after having previously eaten flesh, as is the general case. They have assured me that they found themselves admirably sustained in strength and health.

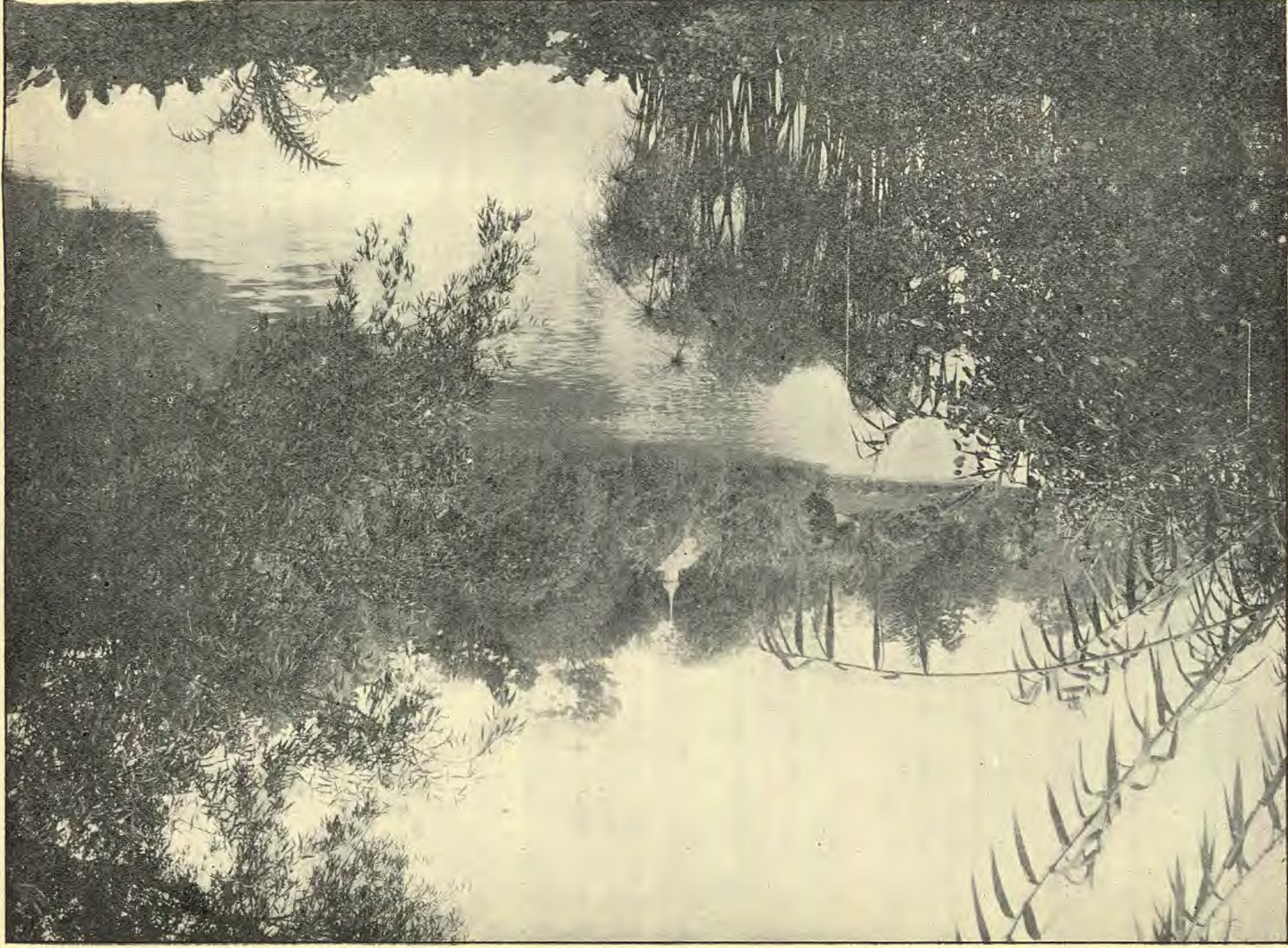
"Under the vegetarian diet, the tendency to uric acid, diathesis, gout, rheumatism, neurasthenia, etc., disappears or diminishes. The disposition softens, the mind seems to be quieted, and perhaps rendered more acute."

The flesh eater may hold his own in short contests, but the vegetarian in tests of endurance always comes off victor. Dr. Leadsworth, of the Loma Linda Sanitarium, says: "In athletic contests which have represented the vegetarian and the flesh eater, I do not know of one where the vegetarians have not been easy victors."

In the well-known walking match from Dresden to Berlin in 1902, a distance of one hundred and twenty-five miles, all

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nations took part in it. There were forty contestants, eight vegetarians and thirty-two flesh eaters. The first six at the goal were vegetarians.

Dr. Leadsworth writes: "The walking record made by Mr. George Allen furnished another emphatic testimony as to the relation between diet and endurance. Mr. Allen walked from Land's End, the southernmost point of England, to John O'Groats, the northernmost point of Scotland, a distance of $909\frac{3}{4}$ miles, in sixteen days, twenty-one hours, and thirty-three minutes, which beats any previous record by seven and one-quarter days. The average for the last week of the walk was sixty-three miles a day, the last day's walk being seventy-two and a half miles. Mr. Allen is a life-long abstainer, a non-smoker, and for seven years had subsisted upon a strict non-flesh dietary. His first great walking feat was a record walk from Leicester to London, a distance of ninety-seven and three-quarter miles, in twenty-four hours, twenty-two minutes, and twenty-five seconds, without a single stoppage. Mr. Allen had retired from the field of endurance tests, but necessity, in the form of a record established by a meat eater, forced him to again enter the list. Dr. Deighton, a well-known athlete, walked from Land's End to John O'Groats in twenty-four days and four hours, his chief subsistence en route being a much advertised meat juice. The credit of this performance was largely claimed by the company which ran the affair financially. 'To prove that flesh foods generally, and meat juices in particular, are utterly unnecessary for such a feat of endurance,' says Mr. Allen, 'now seemed to be a task it was my duty to perform.' His record walk, in which he covered the distance gone over by Dr. Deighton in seven and a quarter days less time, was the result."

Experiments at Yale University

The *Yale Medical Journal* publishes a report on the experiments of Prof. Irving Fischer, professor of political economy at Yale University, which show conclusively the greater endurance of vegetarians:—

"The present experiment consisted of endurance tests made on forty-nine persons, representing two contrasted types of dietetic habits. These fall into three groups: (1) Athletes accustomed to a high proteid and flesh dietary; (2) Athletes accustomed to a low proteid and non-flesh dietary; (3) Sedentary persons accustomed to a low proteid and non-flesh dietary. All of the subjects chosen for the second and third groups, except one, had abstained from flesh foods for periods from four to twenty years, and five of them had never eaten such foods. The exception had abstained for two years only.

"The experiment furnished a severe test of the claims of the flesh abstainers. A preliminary and superficial observation seemed, much to my surprise, to substantiate these claims. Two comparisons were planned, one between flesh-eating athletes and flesh-abstaining athletes, and the other between flesh-eating athletes and flesh-abstaining sedentary workers. The first comparison, being between classes similar as to the element of physical exercise, is fair to both sides. The second puts the flesh abstainer at a disadvantage: for other things being equal, sedentary men have much less endurance than men in training. This heavy handicap was placed upon the abstainers intentionally, in order to give them a more severe and decisive test, in case the first comparison (between picked athletes of both classes) should turn out in their favour. It is recognised in logic, as in racing, that after a preliminary trial the handicap should be placed on the stronger side, if its superiority is to be put beyond peradventure.

"The results of the comparisons given below would indicate that the users of low-proteid and the non-flesh dietaries have far greater endurance than those who are accustomed to the ordinary American diet.

"In the absence of any exact mechanical method of measuring endurance, three simple endurance tests were employed: (1) Holding the arms horizontally as long

as possible; (2) deep knee bending; (3) leg raising, with the subject lying on his back. All of these tests were made before witnesses.

"The first comparison (for arm holding) shows a great superiority on the side of the flesh abstainers. Even the maximum record of the flesh eaters was barely more than half the average for the flesh abstainers. Only two of the fifteen flesh eaters succeeded in holding their arms out over a quarter of an hour; whereas twenty-two of the thirty-two abstainers surpassed that limit. None of the flesh eaters reached half an hour, but fifteen of the thirty-two abstainers exceeded that limit. Of these nine exceeded an hour, four exceeded two hours, and one exceeded three hours."

To save space we will give the results of all the tests in tabular form:—

GENERAL COMPARISONS

	NO. PERSONS	ARM HOLDING	NO. PERSONS	KNEE BENDING	No. PERSONS	LEG RAISING
Flesh eating, athletes	15	10 minutes	9	383 times	6	279 times
Flesh abstainers, athletes	19	39 "	16	927 "	6	288 "
Flesh abstainers, sedentary	13	64 "	5	535 "	1	74 "

In every case, with the exception of the solitary sedentary flesh abstainer the superiority of the flesh abstainers is very marked. The *Yale Medical Journal* gives other tests equally conclusive, but space prevents us quoting any fuller.

Much more could be said in favour of a non-flesh dietary, but we believe sufficient has been given to convince any honest investigator. Probably at some future date the subject will be further dealt with.

THE big cities are a nation's greatest menace, for in their congested areas lurk all the evils that sap the national life and threaten the foundations of government. Wrongs do not flourish among an agricultural people, nor treason find on the farmsteads a lurking place.—*Farm Journal*.

Our Public Gardens

Some Benefits Which We Derive from Them

AUSTRALIAN metropolitan cities are fortunate in the possession of magnificent public gardens, which are not only sources of pleasure to thousands of people, but are undoubtedly strong incentives to the citizens to promote the growth of flowers and trees around their homes and in public places.

The climate of Australasia is singularly favourable to the gardener. Unlike many other countries the sub-tropical and temperate portions of these southern dominions do not experience the extremes of heat and cold which are the usual climatic conditions of most northern countries. Our winters are not so severe as are those of countries in the northern hemisphere in corresponding latitudes. Hence we

may grow in our parks and gardens many plants which it would be impossible to cultivate in the open in northern latitudes. Side by side with firs and pines, which have been imported from the cold regions of Europe and America, may be seen in our public parks and gardens a wealth of semi-tropical and tropical vegetation. If such a thing were attempted in the cities of central and northern Europe, or in the eastern, central, or northern cities of America, or even in many parts of China or Japan, nothing but disaster would result.

It is probable that the vast majority of Australians are not alive to the possibilities of their wonderful climate. The seasons come and go with their usual regularity, and call forth but little comment from the average citizen, who is usually very

little interested in the weather, provided his personal comfort and convenience, and particularly his pleasure, are not interfered with. Already our glorious climate has affected our national habits, and has produced a race of people whose pleasures consist largely of outdoor sports throughout the entire year.

In a climate where sub-tropical and tropical trees may live in the open throughout the year, human beings may also spend all their available leisure time out-of-doors. This outdoor life is producing a marked effect upon the physique of the people, as the average height of both men and women is gradually increasing. Our soldiers in Egypt have won the admiration of the Egyptian people because of their tall frames and their general physical fitness. Sir George Reid, High Commissioner for Australia in London, recently paid a visit to Egypt to inspect the Australasian troops while they were encamped near the Pyramids. His opinion of these men from the sunny south he expressed by saying that they "exceeded every other display of manhood he had ever seen." Of course we must allow a little lee way to public men who sometimes permit their judgment to be influenced by their patriotic fervour. But even allowing for this, it cannot be gainsaid that the splendid off-shoot of the British race which has developed under these sunny southern skies possesses a physical fitness which older nations might well envy.

But it is a question whether we are doing all that we ought to do in race development. With our opportunities for tree cultivation and the beautification of our open spaces, it is very evident that we are not making the most of our natural opportunities.

Recently there came to our shores an expert in forestry, Mr. D. E. Hutchins, F.R.G.S. He quickly saw our opportunities, and noted our failure to embrace them. In an article in the press he made some valuable suggestions for the improvement of our forests, and urged the creation of national arboretums. After

mentioning that such arboretums existed in several places in Europe, America, Africa, and Japan, he went on to say:—

In Australia there does not exist one national arboretum. It is true that there are various small collections of trees, the best of these at Gosford in New South Wales, and at Macedon and Creswick in Victoria. The trees in the Botanic Gardens at Perth, Adelaide, Brisbane, and Sydney are disappointing. This is inevitable. They are gardens, not arboretums. Even in the unrivalled Botanic Gardens of Sydney the searcher for good specimens of extra-tropical trees looks in vain.

The one exception is the Melbourne Botanic Gardens. They are larger than the others, and they had a tree enthusiast to found them. Baron von Mueller came near to making a national arboretum; and when Mueller's work was transformed into the glorious gardens we see to-day, a large part of Mueller's trees were left. The result is that, amidst all the beauty of the Melbourne Gardens, the student of extra-tropical trees finds there, at last, a study in trees which exists nowhere else in Australia, and, as far as I know, nowhere else within the extra-tropical climates of this globe. I came to Melbourne intending to stay three weeks; I stopped over two months, and it was mainly the Botanic Gardens which kept me! There is a completeness and beauty in these gardens which is marvellous.

I should like to see their usefulness extended by the introduction of the plan which has been followed with so much success at the British Museum, the National Gallery, and elsewhere in England—*i.e.*, personally conducted tours. The Botanic Gardens at Kew, near London, have now introduced personally conducted tours. The English climate does not permit Kew to have the variety of vegetation seen in the Melbourne Gardens. But the very wealth of species in the Melbourne Botanic Gardens makes it necessary that someone who understands them should go round and explain them to the public. During the days which I spent there with pencil and camera questions have been addressed to me from which it was easy to see that not a fraction of the vegetative wealth was understood by the casual visitor.

This is not the only instance where visitors from abroad are constrained to call our attention to some of the advantages we possess in Australia. In all probability the vast majority of Australian citizens are quite ignorant of the wealth of our delightful public gardens, and for this reason we have collected a few photographs of our principal Botanic gardens, and dispersed them through the pages of LIFE AND HEALTH, with the hope that our readers may be led to take a lively interest in the culture of trees and plants, and thus by increasing the healthfulness of the atmosphere and the beauty of the landscape, we may reap the full benefit of the glorious climatic advantage with which nature has endowed us.

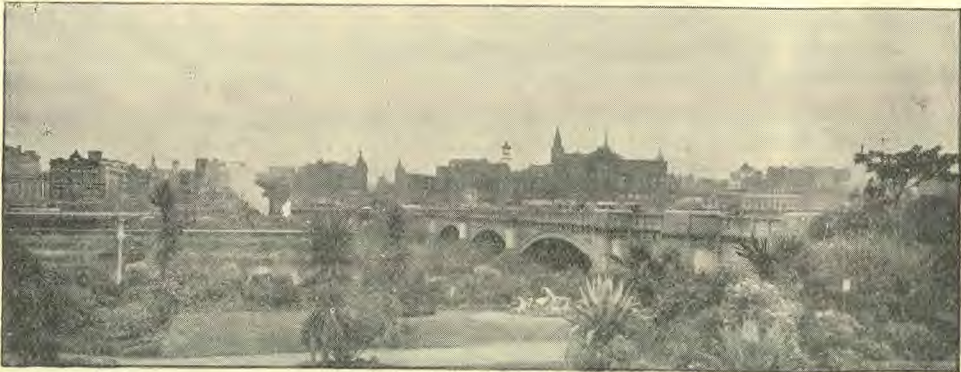
While we have done wonders in the beautification of our metropolitan cities by planting magnificent public gardens, some of which are unrivalled throughout the world, these excellent examples might be followed by every municipality and public body with considerable profit to the general well-being of all. A. W. A.

Ozone and Pine Trees

WHAT is the reason that pine and fir trees and others of the species are surrounded, more than other trees, by ozone, and that therefore forests of the "needle-leaved" trees are so health-giving? If the theory of Professor Lemstrom, of Helsingfors, is correct, this can now be explained; for the "needles" act on the atmosphere as generators of electricity, so that the trees are always surrounded by electricity, and consequently by ozone. Professor Lemstrom began his researches in this direction by studying the uses of the spikes or "beards" of grain (wheat and rye), which he found to be generators of electricity which the plant requires for its proper development.

"It has been said that great men—those capable of mental work beyond the average—are almost invariably men of great physical strength also. Whether this be true or not, we find innumerable instances in which the theory is borne out in actual fact, and here are a few actual and indisputable examples: Napoleon was capable of sitting a horse sixteen hours at a stretch, and was able to work for days without rest. Gladstone was always muscular. At eight years he chopped down an oak tree 4 feet thick. Bismarck was a giant. He fought twenty-eight duels, receiving only once a scar, caused by the breaking of his adversary's blade. He stood 6 feet 2 inches. Cromwell was a football player, fond of boisterous sports. He stood nearly 6 feet in height, and had a strong, compact body and well-knit frame. Robert Burns was a strong man, with a firm grip, gained at the plough and flail."

"LAUGHTER is better than medicine, and a friendly smile is a tonic to us. And the best of it is, a man does not need to have a medical degree to dispense them."





NOTICE TO SUBSCRIBERS: All questions for this department must be addressed to the EDITOR, "LIFE & HEALTH," WARBURTON, VICTORIA, and not to Dr. W. H. James, who will treat correspondence only on usual conditions of private practice. 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.

291. Kidney Disease

"Daisy Bell" writes: "(1) Do you think from the following symptoms that my little girl aged eight has any kidney trouble? Water clear with cloudiness in morning, leaving a tea-coloured stain in vessel; occasional frontal headaches, sometimes complaining of pains down the front of her legs, is irritable, and has red hollows beneath the eyes. Her living is plain, has no tea, no meat till she was over six years of age, and now rarely touches it."

Ans.—These are certainly not symptoms of kidney trouble, but are due to imperfect digestion. The kidneys are overworked, but are not necessarily diseased. No food whatever should be taken between the meals. Sweets, scones, cakes, and rich foods should be avoided. Plain water should be taken freely between the meals, and fresh fruit given with each meal. She should sleep in the open air as much as possible, and have a cold shower bath or cold sponge every morning.

(2) "Three years ago before birth of last baby, my legs and feet swelled very much, then went down, the water then being clear and plentiful. For the last three months it is less in quantity, and often strong smelling. After standing, there is a substance like phlegm settles. Seldom have any backache. . . . Do you think I have some disease of the kidneys?"

Am troubled with cold feet and knees."

Ans.—The symptoms are to a large extent pressure symptoms, and are not indicative of kidney trouble. Where the kidneys become involved the swelling extends to the upper part of the body, the arms, face, etc. In this case a medical man should always be consulted. After the birth of the child, however, this dropsy clears up completely. We find some sweating procedure twice weekly very useful in these cases. Follow directions given under No. 1.

292. Water-Brash

"XYZ" complains, "I have been suffering for the past month with 'water-brash,' water constantly rising in the mouth, sometimes causing a sick feeling. I would be glad of a remedy."

Ans.—"Water-brash," or "pyrosis," is an excessive flow of saliva which generally occurs in cases of acid or irritable dyspepsia. The amount of fluid varies from a mouthful to half a pint or more. Frequently it is associated with spasmodic pain in the stomach. Kellogg states that "this symptom indicates an irritable condition of the nervous system. It may be produced by prolapse of the stomach, a floating kidney, pressure of waistbands and similar causes, as well as by errors in diet." The latter cause we have found to be the most common.

The following foods should be avoided: Sweets, foods cooked in or with fat, flesh foods, tea, coffee, cocoa, irritating condiments such as pepper, mustard, pickles, etc. Some dry aseptic foods should be taken with each meal, such as zwieback, granose biscuit, plain, unsweetened biscuits. Use but little butter, what is used must be good. Toast should be buttered when cold. All foods, especially oatmeal, should be well cooked. Very acid fruits are better avoided. Water-brash, however, accompanies so many different conditions that a medical examination is advisable.

293. Dyspepsia

"Kerang" writes: "I have had no appetite for two months, can hardly force myself to eat. I can drink milk, perhaps a quart a day. I am light in weight, but have no pain, only a feeling on pressure of a bag of wind or fluid just below the waist on the left side as if my food seems to make acid. I do not drink tea or eat meat. . . . Are tomatoes and milk at one meal a bad combination? My temperature is up and down, and I am too weary to eat in the mornings. I have been examined by a doctor. He thinks I am just run down, but resting does me very little good."

Ans.—Patient requires some good stimulating treatment. A salt glow of a morning would do good. Stand in hot water. Moisten the body with cold water, and get an attendant to rub the body all over with a good quantity of salt. Wash off quickly with hot water. Sponge with cold, and dry thoroughly. If this cannot be done, a cold sponge or shower bath could be taken. The feet should be kept hot by standing in hot water. If the cold is not followed by a reaction, a good hot sponge should be applied first. Sleep in a well-ventilated bedroom. See that all windows are up from the bottom. If the bowels are not constipated, milk should prove a good food. Do not drink it. It should be taken in sips. Hot milk poured on nice, crisp zwieback would be excellent for breakfast and tea. Gluten prepared

with equal parts milk and water would also be a good food. Do not take tomatoes at the same meal as milk. A raw egg could be taken with advantage with two of the meals. Do not drink at all with meals. Cold water between meals should be taken. Use moist abdominal girdle at night. Cover the abdomen with a large folded handkerchief moistened with cold water, and over this dry flannel and binder. Sponge with cold water in the morning. Malted nuts, protose, nut meat, and similar foods would be helpful adjuncts to the diet. A little granose biscuit thoroughly masticated at the beginning of each meal would be helpful. Take fresh fruit at the close of the meal except when vegetables have formed a part of the meal. A fortnight at one of our sanitariums would be very beneficial.

294. Tobacco Heart

"Semaphore" writes: "During the last three or four days my heart has been beating irregularly (fast). I have been suffering also with headaches, bowels are in good order. Have been a heavy smoker for sometime, but have ceased smoking since heart has been out of order. . . . I indulge in swimming and walking daily. Average about four or five miles a day walking."

Ans.—Tobacco is one of the most frequent causes for irregular and quick heart's action. The symptoms do not disappear for sometime after the smoking has been left off. Perseverance for some weeks is necessary. Tea is also a fruitful source of heart irregularity. Keep the digestion in good order. Do not take bulky meals, or drink much fluid at the meal. Twice daily keep a cold, wet compress over the region of the heart for fifteen minutes.

295. Mucous Secretion

Someone who has not given a name of any description writes: "After an attack of indigestion and subsequent vomiting there forms a liquid in the stomach of the same appearance, only a good deal thicker

than saliva. The indigestion and vomiting are accompanied by most violent headache."

Ans.—The liquid complained of is mucus, and indicates a catarrhal condition of the stomach. One hour before each meal take a pint of warm water, to which has been added a saltspoonful of salt. Masticate with each meal some zwieback, granose biscuit, or other dry, cereal food. Take a little lemon juice in water after each meal. The particulars given are too meagre for satisfactory direction.

296. Diabètes

"Goulburn" writes: "He has often been a fruitarian for a few months at a time, then back to a light, mixed diet, *i.e.*, including flesh. Feels better at first, but thinks the diet hardly sufficient. White bread, zwieback, and olive oil largely. Very poor in protein products. . . . He has been diabetic, and is now perhaps. Would be glad if you could make him into a commonsense healthy fruitarian."

Ans.—It is difficult to prescribe a fruitarian diet for a patient with diabetes, and impossible to do so satisfactorily without a personal examination. Diabetics require a diet rich in fat and proteids. Apart from proper sanitarium treatment, it would be advisable for "Goulburn" to take daily some white meat, such as fish or fowl. This contains less uric acid than the red meats.

297. Goitre

"Stripling" complains: "I have an internal goitre, but nothing is visible, but it affects my heart. I have been very low. I was in the hospital for a fortnight, but they did not seem to be able to do much good for me. The doctor said he could not operate on account of my heart. I am twenty-three years of age. Am very thin, but able to eat all day long. Please tell me if you think there is any chance of my recovery?"

Ans.—The case is too serious to give advice without a personal examination.

It is probably a case of exophthalmic goitre. Until late years these cases have been considered almost hopeless, but the removal of the gland (often only a local anæsthetic is necessary) has of late years been followed by very satisfactory results. No food should be taken between meals—not even a mouthful. The practice of eating all day long is very injurious.

298. Gastric Catarrh

"Chronic" writes: "I have been ill a long time. There are very few foods I can take. I feel well when taking milk only, one pint every two and a half hours. If I take gruel I get fermentation. I am mostly very constipated, but occasionally relaxed, passing a lot of mucus, and when the excreta is hard blood accompanies the thick mucus. . . . I cannot take fruit at all. Do not get on with granose or dry foods."

Ans.—We would recommend "Chronic" to live solely on the following foods for two or three weeks, and report again: Gluten, toasted corn flakes, and milk. Gluten is an excellent food in these cases. Directions for its use are found in each packet. The cornflakes are also excellent, and will make a nice change.

299. Headache

"A Friend in Need" writes: "I am a sufferer from headache, which for weeks at a time comes so frequently that scarcely a day passes without a headache. . . . I have been troubled with the headaches for at least ten years, and my sisters and brothers are the same. I have a small family, and for the last two months of pregnancy I am free from headaches. If I cannot get relief from the headache, it gets worse till I feel very sick and faint, and have to rest."

Ans.—It should be remembered that headaches are brought on by quite a number of different conditions. Unless the cause can be diagnosed, the treatment cannot be satisfactory. One of the most frequent causes of headache is tea drinking. Tea either acts through the digest-

ive organs or the nervous system. The tannin interferes with digestion, and produces constipation, and the theine in tea keeps the brain constantly irritated. Often the avoidance of tea, coffee, and cocoa will cure the headache, but the full benefit cannot be expected before the lapse of three or four weeks. The bowels should be kept regular by a well-regulated diet

What would you advise a thin person to take or do for putting on flesh?"

Ans.—The treatment of "blackheads" has been given in a recent issue (Oct.-Nov., 1914) under "Chats." Apart from digestive disorders the following foods are good flesh formers: Milk, rice, potatoes, good bread (brown or white), gluten, granose biscuits, oatmeal. Keep the skin active



N. J. Caire Photo., Melb.

A Subtropical Scene in the Botanical Gardens, Melbourne

and the free drinking of cold water between the meals. The headache may be due to some constitutional trouble such as anæmia, defective eyesight, bad teeth, ear trouble, or womb disease. A medical examination is necessary in these cases.

300. Blackheads and Leanness

"Glanville" writes: "Kindly advise me what to do or use for the small holes in the skin on the face, as they seem to be little worms and blackheads. . . .

by frequent cold sponging, sleep in open air, and take exercise in open air daily. There may be some disease causing the loss of flesh, and in that case a medical examination is advisable.

301. Debility

"Nervous" writes: "Is it usual for one suffering with a nervous breakdown, or nerve exhaustion to have a terribly burning, sinking sensation about the stomach and bowels, sometimes a burn-

ing, creepy feeling all over the body? I have been feeling so for about eighteen months. . . . My bowels are regular. I feel dreadfully depressed, and feel a dread of something happening. . . . I have been examined by a physician, who told me I was physically well, my organs being in good order."

Ans.—The symptoms complained of very often accompany nervous debility. Probably a change of air would do "Nervous" more good than anything else. Tea, coffee, and all hot drinks should be avoided at meals. These especially increase the sinking sensation complained of. Would recommend the application of a cold, wet compress, frequently changed, to the abdomen, from half to a quarter of an hour before meals. Hot fomentations half an hour after meals would also be helpful. Sponge the body daily with cold water, rubbing dry with a good, rough towel. If the cold water is too severe, try first hot sponge and follow with the cold. Do not take more than three meals in the day. Absolutely nothing should be taken between meals except cold water drinks or cold water flavoured with some fruit juice. The meals should include the following: Fresh milk, raw eggs, malted nuts, gluten, toasted corn flakes, and granose biscuits. If it can be managed, sleep in the open air. Fresh fruit should be taken after breakfast and the evening meal.

302. Bad Memory

"Islander" writes: "Can you do anything for my memory? It is very bad, and getting worse. Frequently my heart feels dazed, and my brain as though it were worn out. I was considered fairly clever at school, except at mental arithmetic where I could not use paper and pencil. My age is twenty-two, although I look much younger."

Ans.—Very frequently a poor memory is accompanied by auto-intoxication. The tongue is coated, especially at the back. The bowels are costive, and the urine of a dark colour. The bi-products of diges-

tion in the body bring about mental stupor. We would recommend general treatment as under "Nervous Debility," but the food should be different. Omit milk and eggs, and take as much dry cereal food as possible, and fresh fruit. All meals should be light. Probably two meals a day would be much better than three.

303. Living in Hot Climates

"H. W." asks: "How to live and best clothing to wear in a warm climate like the Northern Territory."

Ans.—We would direct "H.W.'s" attention to article by Dr. Paulson in Dec.-Jan., 1914-15, number of LIFE AND HEALTH, entitled, "How to Keep Cool in Hot Weather."

304. Diabetes

"W. T." asks if unfermented, unsweetened wine would be harmful in diabetes?

Ans.—All unfermented wines contain a considerable quantity of grape sugar, and therefore are not recommended in diabetes.

305. Sinking Feeling

"Exeter" writes: "I would ask if you could give me a remedy for a sinking feeling with intermittent heart action, with a full, unpleasant feeling over the heart and chest at intervals? I feel very much run down, and have had a lot of worry."

Ans.—Worry and dyspeptic trouble would cause all the symptoms complained of. Do not drink with meals, especially tea and coffee. Avoid all very hot foods, condiments, pepper, mustard, vinegar, spices, and such like. Masticate thoroughly at the beginning of each meal some zwieback or granose biscuit. This will cause a flow of alkaline saliva which will help digestion considerably. Twice daily for a quarter of an hour apply repeatedly cold compresses over the heart. Take a raw, beaten-up egg with two of the meals daily. Of course worry must be given up as much as possible and sleep encouraged.

306. Rheumatism

"E. D." complains of rheumatism, from which she has suffered for the last three years. She has pain in all her joints.

Ans.—Avoid sugar, sweets of all kinds, tea, coffee, cocoa, and red meats. Take freely of fruits and vegetables. Drink water flavoured with some fruit juice freely between meals. Dried apricots

broad heels. The deformed toe should be drawn inwards into line with the inner side of the foot. This may be done by strapping—using Mead's plaster. Surgical instrument makers will supply special foot gloves, such as Sayre's buckskin for keeping the big toe in proper position. Whitla speaks of having obtained good results with a simple piece of leather



The Palms, Botanical Gardens, Brisbane, Queensland

washed and soaked in water produce a nice, refreshing drink. The general health must be kept up by tonic measures and good, nourishing food. A good blanket pack, vapour bath, or other sweating procedure twice weekly would prove beneficial.

307. Bunion

In the early stages good results can be obtained by wearing good, roomy boots, wide-soled, square, roomy toes, and low,

moulded when wet to the great toe, as it is held in position in line with the inner border of the foot. This is fastened on in the evening, and worn till next morning.

Liniment of iodine applied daily reduces the hardness and relieves pain. Where there is inflammation, the foot must be rested and fomented. It is as well to apply short, cold applications between the hot fomentations. Apart from such procedures an operation may be advisable.

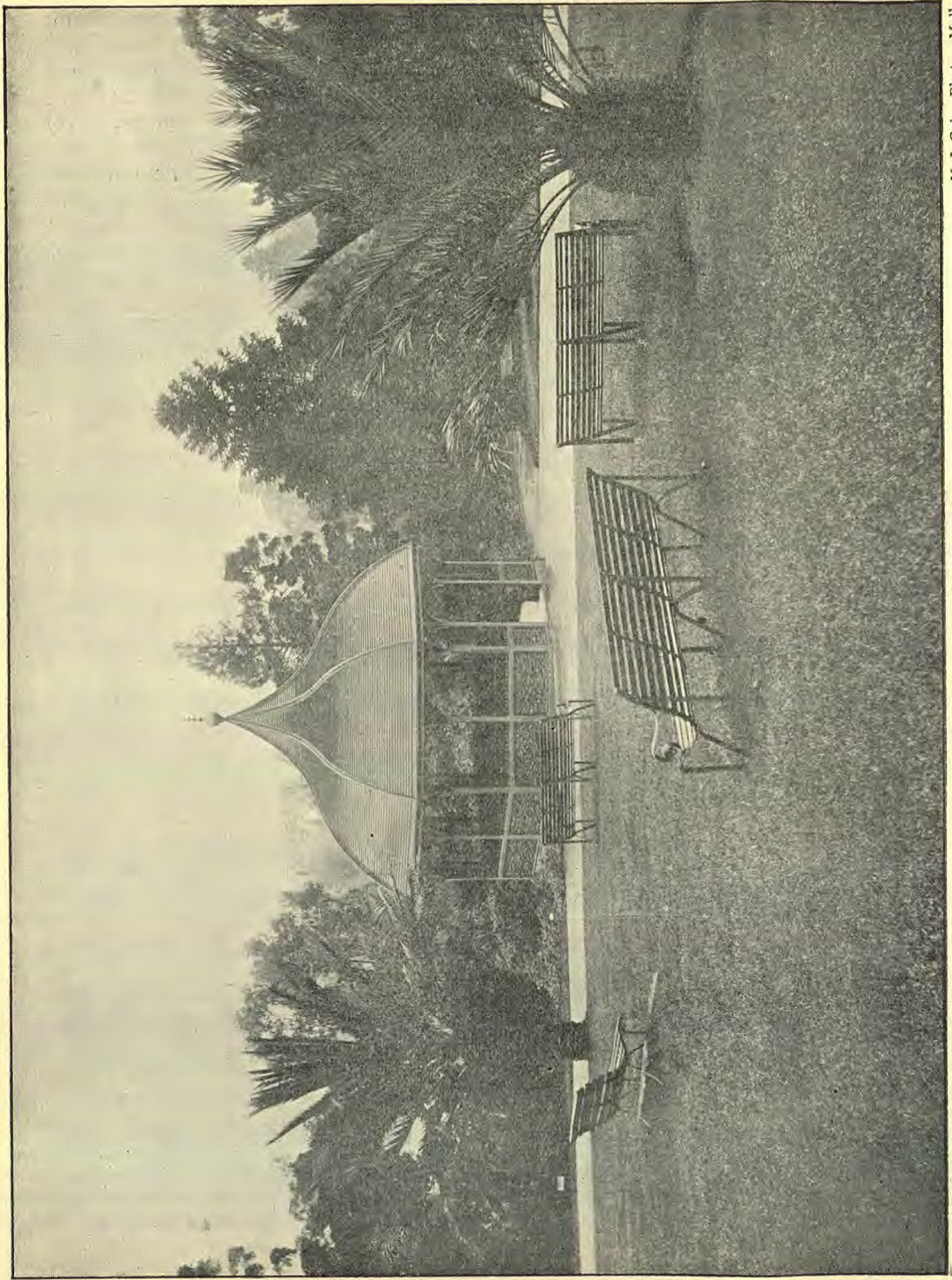
308. Thread Worms

Thread worms arise in the human subject from eating uncooked vegetables and fruits, and from drinking water containing the ova. They chiefly infest the lower end of the large intestine, but undoubtedly are found as high as the cæcum and the lower end of the small intestine. The worms, however, descend to the rectum, and these lay their ova, and, consequently, if this is kept cleared for two or three weeks the trouble can be eradicated. Two tablespoonfuls of salt should be dissolved in a pint of water and injected into the bowel after they have been opened. This should be done daily for a couple of weeks or more. Where children sleep together it is advisable nightly to smear the anus with a little mercurial ointment. This prevents the worms leaving the rectum and infecting other children. The ova are liable to cling to the fingers, which should constantly be well scrubbed with a nail brush after the bowels have been opened. Naphthalin by the mouth is thought highly of by some. A child of two years may take two grains, and a child of ten five or six grains with sugar four times a day for two days between meals.

The Art of Breathing

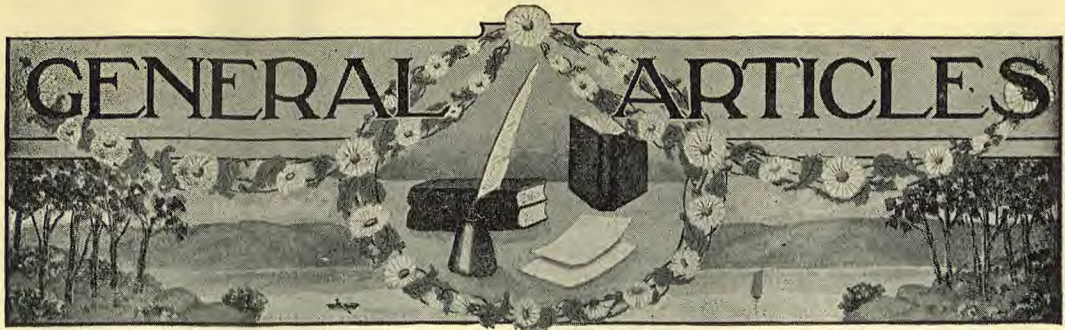
IN each respiration an adult inhales one pint of air. A healthy man respire sixteen to twenty times a minute, or 20,000 times a day; a child twenty-five to thirty-five times a minute. While standing the adult respiration is twenty-two times per minute; while lying down, thirteen. The superficial surface of the lungs—*i.e.*, of their alveolar space, is 200 square yards. The amount of air respired every twenty-four hours is about 10,000 quarts. The amount of oxygen absorbed in twenty-four hours is 500 litres (about 744 grams). The amount of carbonic acid expired in the same time is 400 litres (911.5 grams). Two-thirds of the oxygen absorbed in twenty-four hours is absorbed during the night hours, from 6 p.m. to 6 a.m.; three-fifths of the total is thrown off during the day. The pulmonary surface gives off 150 grams of water daily in the state of vapour. An adult must have at least 360 litres of air in an hour. The heart sends 800 quarts of blood through the lungs every hour, or about 5,000 daily. The duration of inspiration is five-twelfths of expiration, seven-twelfths of the whole respiratory act.—*Scientific American.*





N. J. Caire Photo., Melb.

THE HOPETOUN BAND STAND, BOTANICAL GARDENS, MELBOURNE



Efficiency in Back Yard Gardening

NINETY-NINE per cent of all the failures in the home garden are due to two principal causes. First, lack of persistence; second, indifference. Perhaps it would be permissible to substitute the word ignorance for indifference because indifference toward the real reason for things is what keeps people in ignorance. Most people regard their garden as a plaything, of which they get tired before the garden has reached its highest efficiency. Then indifference begins to rule: persistent cultivation, subsequent plantings, etc., etc., are passed by lightly, and the garden presents a sorry sight indeed!

One particular phase of indifference deserves emphasis before dwelling upon the gardener's duties. This is the great mistake made by a vast army of well-meaning men and women, who full of enthusiasm (but with little foresight), wait until the last minute in the spring to order seeds. Chances are they will then walk to a local grocery or seed store and demand "a packet of beans, a packet of lettuce, one ounce of radish," etc., etc. "Did you mean 'bunch beans,' madam?" will ask the polite (but ignorant) clerk. "Certainly, green ones" is the answer; and the chances are the purchaser walks away with anything from a stringy bush bean that's hardly fit to be cooked to a late pole bean that will produce "bunches" just about the time when the frost gets ready to nip them.

No gardener—man or woman—will ever know what he has a right to expect

until he learns what the seed trade has to offer. To put the destiny of one's garden, the result of a year's work, up to a clerk who, in ninety cases out of one hundred does not know himself, is indifference, to say the least. Hundreds of pounds are expended every year by all responsible seedsmen through their catalogues to present to the gardening public the truth about the latest and best in vegetables and flowers.

Soil Preparation

Several years of close observation have taught me that most writers on gardening topics take too many things for granted. "Dig the ground thoroughly" means very little to a vast majority of city dwellers, while the proper handling of a rake and hoe presents difficulties to inexperienced gardeners that are beyond the understanding of the man who is "an old hand at it." Not all people are born with a gardening instinct to cultivate, which has proven a blessing for many a worn-out city man. I purpose now to begin at the very bottom of things.

How to Dig

Get a good, stout spade, which will prove preferable for all purposes. Push it firmly into the soil to its full length, which usually is twelve inches; use the spade handle as a lever, and lift and turn over the soil so that the soil from the bottom comes to lie on the top. Dig a row fifteen to twenty feet long in that fashion, then come back and place the

second row of soil right on top of the first. You now have a trench nearly ten inches wide.

Fill this with well-rotten manure, tightly tramp down the manure, and then repeat the same operation, turning over on the manure about two rows. Whenever there is an empty furrow, fill it with manure; and when a bed of fifteen to twenty feet long is dug to a width of ten feet, stop the digging long enough to rake that bed level and get the lumps off the surface into the furrow. After that, proceed in the same way until enough soil is dug to begin raking and planting.

The question of manure should not prove a stumbling block in the way of a luxuriant garden. Most livery stables in the suburbs are glad to let gardeners have the manure if they will pay for the hauling, while in many large cities the city refuse department will usually be in a

position to supply tons of this plant food for a small consideration.

Use manure in preference to commercial fertilisers. Manure will make a permanent storage house of utility in your garden, while fertilisers will help to make available what fertility may be in the soil, without preserving a single plant growing element for the future.

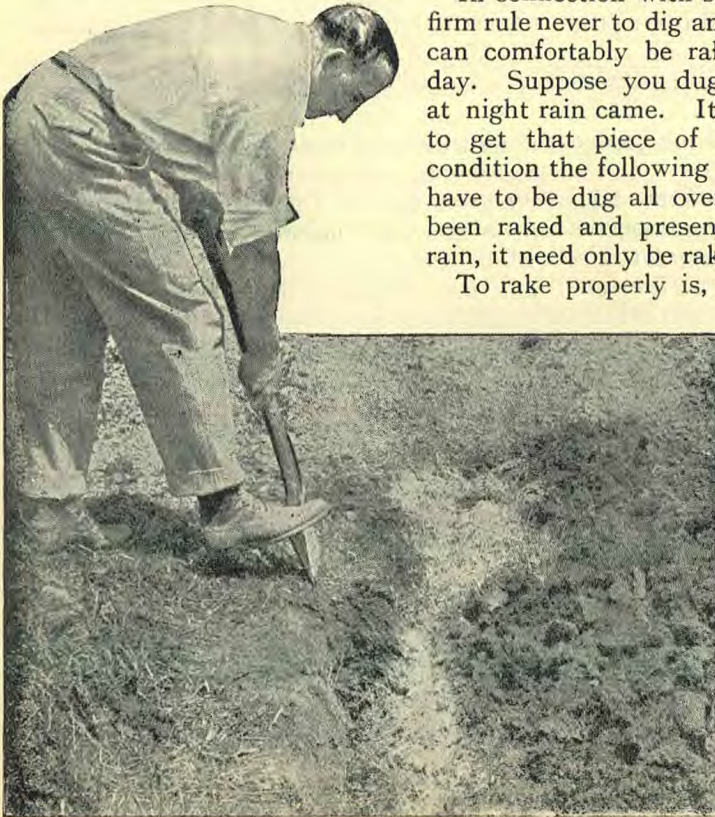
One more thought about digging: Do not dig *too soon!* Enthusiasm drives many people into the garden when the first few warm days proclaim the nearness of spring. This is usually long before the ground is in a fit condition for digging.

To test the soil, push the spade deeply into the ground in several places in the garden and turn the soil. Pick up a handful of it and, if it crumbles up in mellow shape, go ahead and dig, but if a slight pressure of your hand will transform the soil into a mud-ball——wait!

In connection with soil preparation lay down the firm rule never to dig any more on any one day than can comfortably be raked and planted that same day. Suppose you dug all day (if you could) and at night rain came. It would be a very difficult job to get that piece of ground in proper gardening condition the following day. Chances are it would have to be dug all over again; whereas, if it had been raked and presented a smooth surface to the rain, it need only be raked again.

To rake properly is, perhaps, even more difficult than to dig. Anybody can dig, but it is almost a fine art to rake a piece of soil perfectly level. Deep digging is desirable, but fine raking is necessary, for it is the real preparation of the seed bed. The surface nurses the tender germs of the plants, the roots of which afterward may forage for life in the under-soil.

The best way to rake is to do the job in two parts. First go over the dug ground and try to level it roughly, taking



The Garden Magazine

How to Dig

the lumps along as you go and burying them in the furrow. Then go back over the same piece of ground, step by step, and rake carefully, pushing the teeth of the rake into the soil to their full length. Push and pull back and forth, until every lump is dug up, every hill is smoothed

to threequarters of an hour on raking a piece of clay ground 20 x 20 feet. The more thoroughly the raking is done, the easier will be subsequent cultivation and the more chance will the seedlings have of coming through. Proper digging and thorough raking having put the garden into prime condition, the next important step is the sowing of the seeds.

Sowing the seeds *seems* so easy. I have often heard people, who never did it, say, "Oh! that's easy." As a matter of fact it takes a good deal of practice to sow a row of radishes evenly, thinly and quickly.

Here is one good way in which sowing seeds may be done: Tear open the flap of the paper bag where it is sealed. Fold a groove along the front of the bag so the groove extends clear along the bag and across the flap. Take the bag between the thumb and middle finger of your hand and tap the bag gently with the pointing finger, as you pass your hand along the row to be sown. All fine seeds may be sown in that fashion, and one season's practice should make you efficient. With coarse seeds, the method may, of course, be changed to dropping each individual seed as far apart in the row as experience tells us is correct.

Emergency Gardens Built on Top of Ground

After digging hard for several weeks, after planning and raking and planting, there is usually a small piece of ground left in some corner, that "seems just too hard to dig." I heartily agree with the reader—it has been my experience in every garden I have ever worked! As a rule, it is away in some corner that is already overgrown with weeds by the time you get to it, and you don't feel a bit like digging that unpromising piece. At the same time, to let it remain as it is spells a regular breeding place for weed seeds, besides looking most unsightly all the time. Here is one way out which will also be found to count for higher efficiency: Cut down all the weeds. Get four boards of even length, not less than a foot wide. Nail them together into a box-like



The Garden Magazine

Tightly Tramp Down the Manure in the Trench

out, and every hollow is filled. A depression of two inches means a hollow in a seed bed in which water will stand after a heavy rain and drown the seedlings.

It is good business to spend from half

structure—just as though you were constructing a hotbed or coldframe. If your bare space measures 6 x 8 feet, get two boards each 6 feet long and two boards each 8 feet long. Within these boards you can have 48 square feet of gardening space, built on top of the ground.

Into the framelike structure put manure—any kind will do. Tramp it down tightly until there is a solid layer of perhaps 8 inches of manure within your walled garden. On top of this manure spread soil to a depth of 3 to 4 inches;

every other day is none too much when rainfall is deficient. Care should be taken that the hose does not wash the soil, since in this type of a garden the soil is neither as compact, nor has it as solid a foundation as under natural conditions. Use a fine nozzle to spray this garden and soak it thoroughly at least twice a week. Crops from it will be a revelation.—*The Garden Magazine.*

A Coughing Plant

THE existence of carnivorous plants, laughing plants, and plants that weep, has long been known to students of the curiosities of vegetation. Now the name of the coughing plant must be added to the list of unusual species of plant life.

A French botanist, says the *Boston Herald*, has discovered in various tropical countries a plant that has the power of coughing. The fruit of this plant resembles the bread bean.

It appears that this curious coughing plant has great aversion to dust. The air-chambers cover the surfaces of the leaves, and are the respiratory organs of the plant, and they become violently irritated by the deposit of even a few grains of dust on the leaves. Upon this irritation the air-chambers become filled with gas, swell, and finally drive out the gas, together with the irritating particles of dust. The exhaling of the gases is accompanied by a slight explosion; this sound resembles so closely the cough of a child suffering from a cold that it is almost uncanny.



Fine Raking is Necessary

rake carefully, and your garden is ready for the seeds.

Lettuce, radishes, green onions, bush beans, all vegetables of compact growth may be grown with splendid success in this garden, and it is surprising what quantities of stuff 50 square feet will produce, in the course of a season. There is just *one* absolute essential to success with a garden of this kind, and that is an abundance of water. A thorough soaking

Walking the Health Road

MOST sensible folks are more interested nowadays in keeping well than in getting well. But while we may consider ourselves very wise in the matter of preservation of health, as well as in many other matters, wisdom in this particular regard was not born with us. Hear how certain of those who achieved in another genera-

tion promoted their own good health, and, as an inevitable result, their success.

In the sixteenth century, says the *Chicago Tribune*, Cornaro wrote a book entitled "How to Regain Health and Live a Hundred Years." As he wrote the third edition of his book in his ninety-fifth year and lived to be over one hundred, his advice is worth listening to.

He lived abstemiously, and carefully

1. Abstain from tobacco, spirits, made dishes, and all such terrible things.

2. Rise from a meal with an appetite.

3. Walk every day for two hours.

4. Sleep eight hours.

5. Be content with what you have.

Tolstoi taught that the secret of long life is in fresh air day and night, daily exercise, moderation in eating and drink-



A Shady Retreat in the Adelaide Botanical Gardens G. A. Marchant, Photo., Adelaide

avoided all extremes of heat and cold, extraordinary fatigue, interruptions in his usual hours of rest, and staying long in bad air. He avoided melancholy, hatred, and other evil passions. He laid especial stress upon eating a small quantity of food found to be good for one.

Hippocrates advised good air, baths, friction, and physical exercises.

Frederick Harrison at eighty-one years of age gave golden rules of health:—

ing, a hot bath each week and a cold one every day.

Von Moltke when ninety years old said he maintained his health by great moderation in all things and by regular outdoor exercise in all weathers.

The Prussian historian, Von Ranke, rose at 8 a.m., took a warm drink, worked until 1 p.m., took a long walk in the park, ate a full afternoon dinner of plain food, worked until 7 p.m., took supper

with his family, worked or talked with his family until 11 p.m., and then went to bed.

Sir Herman Eeber when over eighty years of age lectured to the Royal College of Surgeons on the means for the prolongation of life. He took a daily walk in all weathers, once a week walking four hours, and once a year he went on a walking holiday. He recommended mental occupation, gardening, intellectual games, and travelling. He took breathing exercises for five to fifteen minutes each day. He slept six to seven hours, and then took a bath, followed by friction of the skin. He especially advocated regular bowel habits, and simple, plain food. He used no alcohol, stimulants, narcotics, or soothing drugs. He advised the cultivation of mental tranquillity and hopefulness, the avoidance of grief, and the control of the passions.—*Selected*.

The Strength of the Weak

TOADSTOOLS seem as weak and fragile as any plants that grow; and yet, in certain circumstances, they can exert immense force. The *Engineering News* took pains to verify a story of their strength that came from a California town. It seems an old macadam road in that town was resurfaced with asphalt one and one-half inches thick. In the spring, toadstools forced their way in two different places up through the macadam and through the asphalt, which they lifted nearly two inches, when it broke and let them through to the air. In another place, a large toadstool head broke its way through four inches of asphaltic concrete, which had been laid the year before.

A Magical Towel

ONE of the newest sanitary devices for use in public or semi-public lavatories, like those in hotels and factories, is in an electrical substitute for the towel. According to the *Electrical World*, this electric hand drier is in appearance merely a sheet-

iron case, with an opening in the top. In using it, you put your hands in the opening, and with your foot press a pedal at the bottom of the case. The pedal starts a blower, which in its turn forces air through the electric heater, and sends a warm current of it over your hands. Your hands will, it is said, be thoroughly dry in from thirty to forty seconds—much less time than anyone ordinarily needs in order to dry them with a towel. The hand drier is quite sanitary, for in using it you do not have to touch any part of it.

Short Tempers

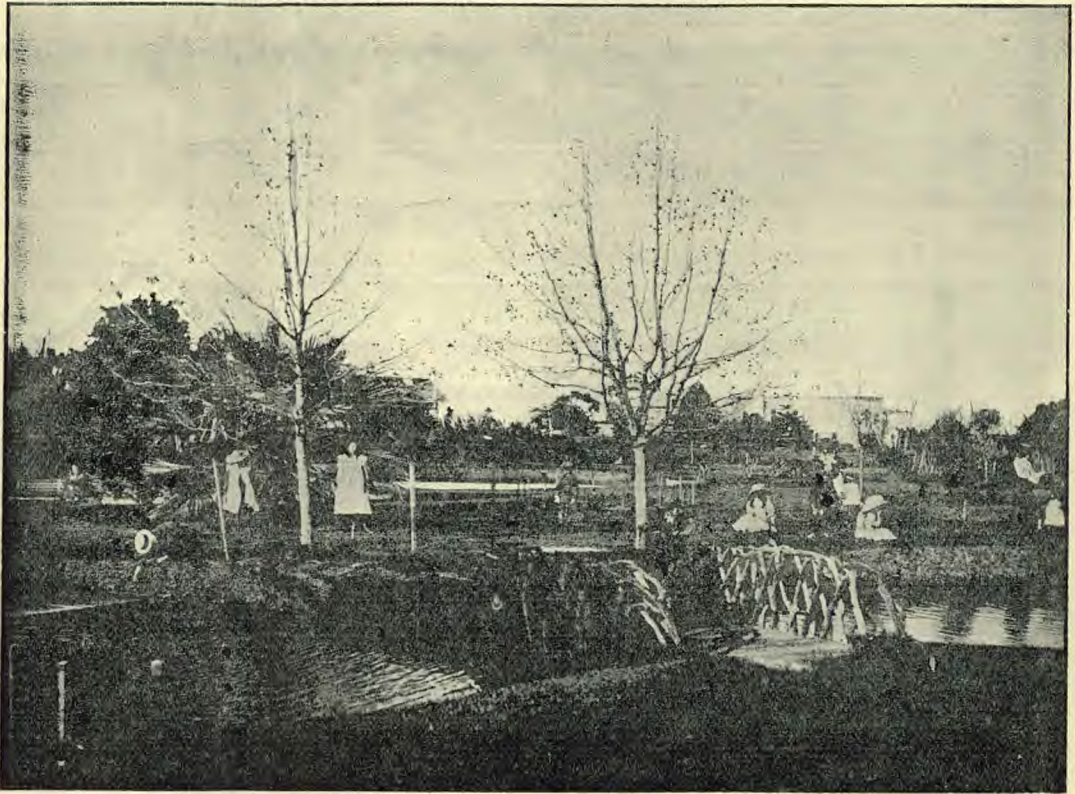
EXCESSIVE monotony in a man's way of living doubtless, says the *Youth's Companion*, tends more than any other circumstance to shorten his temper. To feel that you are going on and on, day after day, and yet that you are not making any real progress—indeed, that instead of getting anywhere you are gradually slipping back,—inclines you to bestow blame freely and fully whenever there is an opening. And in the bosom of your family such an opening is seldom wanting.

Monotony in the ordinary family's way of living is largely attributable, of course, to the slenderness of the ordinary family purse. It bears with greater severity on the woman than on the man. The man has two bases of operation,—his home and his office, or his shop or his farm,—but the woman has only one—her home. She does not share in the daily change of scene and fellowship that is her husband's portion. Her work is usually more monotonous and uninteresting than his. It is also of a nature more trying to the nerves. Cooking, sewing, sweeping, cleaning, keeping small children in order, enjoying only intermittent and occasional intercourse with her friends, instead of daily companionship with them, such as is her husband's lot—if the ordinary husband would stop to think about it, he would wonder how his wife manages to keep as serene and sweet-tempered as she

does. Still more would he applaud her success in bringing up the children to have good manners and considerate feelings, instead of harsh voices and quarrelsome dispositions, such as characterise the family next door.

Intelligent appreciation by the husband helps wonderfully to mitigate the monotony of the woman's life and to lengthen

band and wife should take a short vacation away from each other once a year. Such a vacation promotes in each a perception and an appreciation of the other's good qualities, and forgiveness or obliviousness of the other's faults. Husband and wife then return to each other with a new contentment and settle down together to a new happiness.



S. J. Baird Photo., Perth

Autumn Scene, Queen's Gardens, Perth, West Australia

out her temper. The man who comes home from his day's work silent, preoccupied or glum; who spends his evening with the newspaper, without even condescending to read the headlines aloud, and who confines his table-talk to a few perfunctory inquiries or a complaining discussion of ways and means, may think that he appreciates his wife; but he has no right to reproach her if she grows cross and bad-tempered.

If in any way it can be arranged, hus-

A Public-Spirited School Teacher

IN Cook County, Illinois, the teacher of one district school spends his summer vacation in giving instruction to his pupils in farming. There are twenty-nine boys and girls who have leased tracts of land from their parents, cultivate them, keep a record of expenses and profits, and have savings accounts in the local bank. All this they do under the direction of the public-spirited school-teacher.

Kamerun Cheese

A GERMAN traveller reports that the negroes of the Kamerun country, in Africa, make a cheese of which they are very fond from the seeds of a tree known as *Treculia Africana*. They cook the seeds, and then shell and crush them into a semiliquid mass. After flavouring the mass with pepper, and pouring off the liquid, they mould it into cakes of a grayish-white colour that at first do not taste at all like cheese. The *pembe*, as the natives call the stuff, has to ripen just like ordinary cheese. To this end the natives expose the cakes to the air. The colour gradually changes from gray to yellow, and finally to brown. During the process the cakes smell like cheese, but later have a distinctly sour odour. When ripe, they taste like strong cheese; and in fact, as they are formed by the same bacterial changes that give flavour to our own cheeses, it is quite correct to call this native delicacy cheese from a tree.

THE Philadelphia horse, like his human neighbours, now proudly rejoices in the individual paper drinking cup. His is not quite so small as theirs,—it probably holds a gallon or two,—but it is intended for a similar purpose. There had been an epidemic of glanders in Philadelphia, and the open horse troughs have been abolished.

HAPPY is he who lives on a hill. There your times of leisure and recuperation, and above all, your hours of sleep are

spent in a slightly rarefied atmosphere. Fresh, red-blood cells form more rapidly in your veins, your blood flows quicker, your breathing is faster, your appetite improves, you sleep better, your whole body is "toned up." In London, both the sickness and the death rate in certain high-lying suburbs are distinctly less than in the city.

ON account of the war it has been decreed that there shall be no more beer for German soldiers, there shall be no absinthe for French soldiers, and Lord Kitchener has urged total abstinence upon British soldiers. Yet it is not long since all patients in British public hospitals had their regular allowance of alcoholic drink; it is not long since beer and manliness were inextricably bound together in the German mind; and every attack on alcohol consumption in France was regarded as a blow at a great national industry.

IT has long been known that traces of arsenic are to be found not only in human and animal organisms, but in certain plants, such as the cabbage, turnip, and potato, and in wheat. Two members of the French Academy of Sciences, Messieurs Jadin and Astruc, have shown that arsenic is also to be found in rice, peas, beans, lettuce, celery, asparagus, parsnips, and in most vegetables used as food by man, as well as in apples, pears, pineapples, oranges, and nuts. Since plants undoubtedly get the element from the soil, arsenic must occur far more widely in nature than was at one time supposed.





HOME NURSING

First-Aid Methods for Every-Day Use

MINNIE GENEVIEVE MORSE

AMONG the modern movements for popular education along scientific lines there is none of greater practical usefulness than the teaching, which is becoming every year more widespread, of what are known as "first-aid" methods of treating injuries. The presence of a person with a little knowledge of how to meet emergencies often does away with the necessity of calling a physician in minor accident cases, and proper treatment immediately upon the occurrence of any injury will, in many instances, prevent a trivial hurt from becoming serious or even dangerous. Mothers, teachers, play-ground directors, and all who have charge of small folk should be acquainted with simple, up-to-date methods of handling every-day accident cases. With a little really practical knowledge, ability to keep a cool head in an emergency, and a few simple surgical supplies ready at hand, it is possible to accomplish some surprisingly effective amateur surgery, and not seldom a life has been saved by such means which must otherwise have been lost before a physician could have reached the patient.

Nicely boxed household outfits for first aid work may be bought of almost any pharmacist, but it is easy to get together the really needful articles for oneself. For dressings for the cuts and burns and bruises that form so large a proportion of household accidents, there are needed absorbent cotton and sterile gauze, which

should be kept carefully in their packages and not exposed to the air, adhesive plaster, and a few rolled bandages of different widths. As the principal necessity in wounds of all kinds is to prevent the entrance of germs, simple antiseptics should be at hand, such as alcohol, listerine, and boric acid. The last-named can be used in the eyes or in the mouth. Hydrogen peroxide is an excellent germicide when fresh, but it deteriorates after being opened. Such dangerous antiseptics as bichloride of mercury (corrosive sublimate) it is better not to keep in the house, and for first aid work they are not needed. Sterile white vaseline is an article that will often prove useful. Baking soda is valuable for burns where the skin is not destroyed. Aromatic spirits of ammonia is a safe and effective restorative. Mustard is one of the best emetics for use in cases of poisoning.

Wounds

Wounds of one kind or another, scratches, cuts, tears, and punctures of the skin and the tissues lying beneath it, are the accidents most likely to come into the hands of the amateur surgeon. Except where they go deep enough to sever an artery, the principal danger of such injuries is that germs may get into them. Many of the micro-organisms that can do the most harm to humanity are about us all the time, but as long as the skin remains healthy and unbroken, they are powerless to make their way into the

body; when, however, an accident makes an opening through the skin into the tissues, they are ready and eager to swarm in and do their destructive work. The most important thing, then, in treating a wound, is to get it clean, and keep it clean. Simply tying up a cut so as to stop its bleeding is not enough. Even a scratch has been known to make trouble; it should be well washed with a disinfectant at intervals until it has begun to heal over. Cuts with smooth edges usually heal readily when properly cared for; jagged tears take longer, as the healing process is more elaborate, but nature's tendency is always towards restoration, and except in severe injuries she needs little assistance beyond protection from the ever-present microbe. For washing wounds there is nothing so good as sterile water—water in which germ life has been killed by boiling, but if this is not at hand or cannot be prepared without too much delay, a thorough cleansing with a mild antiseptic will insure safety. The hands should always be well washed before beginning this sort of work, and a bottle of Synol liquid soap, which is itself a disinfectant, is a good thing to keep in the house. In cutting pieces of gauze or absorbent cotton to cover a wound, they should be handled as little as possible, and nothing should be allowed to come into contact with the surface which is to come next to the injury. A dressing for a wound should always extend well beyond its edges. In putting on bandages, they should be so adjusted that they can neither slip out of position nor constrict the part. Bandaging is a rather elaborate art, but the family physician or a trained nurse can teach the amateur the most essential points in a very short time, or a good deal can be learned from a first aid manual.

Wounds of considerable depth may need more than washing and the application of a dressing to arrest the bleeding. Superficial wounds show merely an oozing of blood from the minute blood vessels near the surface; in a deep gash, however, there may be a steady flow of blood from

a cut vein, or the blood may come in a series of spurts, corresponding to the beat of the pulse, showing that an artery has been severed. Fortunately this latter sort of thing does not often happen, and when it does a doctor should be summoned as quickly as possible, as injury to an artery of any size, unless properly treated, will result in the patient bleeding to death in a very short time. Even arterial bleeding can very often be controlled, however, by firmly pressing the two sides of the wound together and down, until the clotting of the blood forms a natural impediment to its flow. If one knows the location of the artery which has been cut, a strong pressure with the fingers upon it between the wound and the heart will help to stop the hemorrhage. The procedure so often advised for use in such cases, of tying a bandage, handkerchief, or anything that is handy about a limb above the injury, slipping a stick or something similar underneath, and twisting the latter until the pressure is sufficient to stop the bleeding, is a risky one to continue very long, as it stops the circulation in the whole limb. If it becomes necessary to use it, other means having failed, the constricting band should be loosened after a quarter of an hour or so; it can be tightened again if the flow of blood has not been sufficiently checked.

Burns

Burns may be of any degree of seriousness, but except in the severe forms the treatment needed is very simple. Although they involve injury to the skin, they do not need to be cleansed with antiseptics, as they have been, one might say, sterilised by heat. A soothing application and protection from the air are what is needed. For slight burns, dusting thickly with baking soda, or with flour, if the soda is not available, and covering with a sterile dressing or bandage will give relief very quickly. Where the burn has blistered or destroyed the skin, however, an oily application is better than a dry one, as the latter is apt to form crusts by mixing with the discharges, and

sterile oil or vaseline answer the purpose excellently. Fresh lard can be used if nothing better is available. Burns caused by strong acids or alkalies, such as may occur as a result of accidents in chemical experimentation, should be washed off quickly to get rid of any traces of the injurious substance which may remain on the skin, then a neutralising substance should be applied. For burns from acids, such alkalies as lime water or a solution of soda are effective; where the burn is due to an alkali, such as strong ammonia, a weak acid is needed. The burn must afterward be dressed in the same manner as an ordinary one.

Poisoning

Poisoning is fortunately not a frequent accident, but it is a most alarming one, and one in which first aid treatment is absolutely necessary, as much may depend upon what is done for the patient within the first few minutes, and in serious cases to wait for the arrival of a physician might be fatal. Drugs and other poisonous substances should never be kept where children can have access to them; medicine tablets, white or brightly coloured, or with chocolate coating, are liable to be mistaken by very little folks for candy, and there are also children who have a mania for tasting the contents of all the bottles they can lay hands on. Small children have sometimes been poisoned by sucking their toys, the paint on which contained arsenic. Accidental poisoning in older people usually results from mistaking one bottle or one kind of tablets for another, and it is impossible to be too careful in labelling drugs and other supplies, and in reading their labels before using them. Medicine should never be taken in the dark.

There are simple antidotes for many poisons which are easily obtainable, and when one knows what poison has been taken the proper antidote should be given if it is at hand. Emetics are, however, the first thing called for in most cases, to empty the stomach as quickly as possible of the harmful substance, and for this

purpose nothing is better than mustard, a tablespoonful to a glass of warm water. If this cannot be obtained quickly, warm salt water may be tried. There are a few forms of poisoning where emetics should not be given; if a corrosive poison has been taken, which burns the mouth and throat, vomiting would only mean the doing of more damage. Carbolic acid is a poison of this kind. Its most effective antidote has been found to be alcohol; alcohol and water may be given, or whisky or brandy. Strong ammonia is another poison which produces local damage, and where emetics are not desirable; as it is a caustic alkali, the antidote is an acid, and nothing is better than lemon juice or vinegar.

In almost every household there are kept on hand remedies for headache, neuralgia, influenza, etc., which contain one of the coal-tar derivatives, acetanilid, antipyrin, or phenacetin, and these may cause trouble not only when an overdose is taken by mistake, but even in the prescribed dosage, for these drugs are dangerous heart depressants, and in susceptible persons may cause faintness, depression of the whole system, and even collapse. If an overdose has been taken, and the patient is not already too faint and weak for such treatment, an emetic may be given, but the effects of the drug must be combated by stimulants and external heat. Opium, also, is found in many households in one form or another, either as laudanum or paregoric, or in liniments, cough mixtures, etc. In this form of poisoning an emetic should be given, followed by strong hot coffee or tea, and effort should be made to keep the patient from falling asleep. He should not, however, be kept walking, as this adds to the exhaustion of the system; occasional slapping of the skin with a slipper or the back of a brush is a safer method. Rat poison, Paris green, and other preparations for the destruction of household or garden pests are dangerous articles to keep in the house, and if it is necessary to have them about they should be put up in such a way that they cannot

possibly be mistaken for anything else. Most of them contain arsenic. Arsenic may also be taken in the form of Fowler's solution. In poisoning from any preparation containing arsenic an emetic should be given, followed by raw eggs and milk or olive oil. Bichloride of mercury, or corrosive sublimate, used for disinfecting purposes and for killing vermin, is another dangerous article to have about; many fatal cases of poisoning resulting from taking it accidentally have been reported, and pharmacists are now endeavouring to put it up in such a form that there will be no possibility of confusing it with anything else. As in poisoning by arsenic, raw eggs, milk, or flour and water are used in counteracting the irritant effects of the poison. When iodine is taken internally by mistake, starch or flour stirred up in warm water is the proper antidote. Strychnine is one of the drugs most often put up in attractively coloured tablets, and it is much used as a tonic. The best antidote for an overdose is strong green tea. Where combinations of powerful drugs have been taken, or where it is impossible to discover what the poisonous agent has been, all that can be done is to empty the stomach, use stimulants and heat to the body if the patient's vitality is much depressed, and keep him as quiet as possible until the doctor arrives.

Broken Bones and Dislocations

Broken bones and dislocations, like poisoning, are not emergencies which are apt to come before the amateur surgeon very often, and there is not much that can be done for them by unskilled hands. Much meddling with them is likely to result in further harm, and the principal necessity is to keep the patient quiet until a surgeon can see him. There is usually little difficulty in recognising either a broken bone or a dislocation, though sometimes the two forms of injury may occur together, and certain types of fracture are not easy to detect, even by an expert, without the X-ray. However, in the usual fracture there is an unnatural mobility at the site

of the injury, while in a dislocation there is alteration in the shape of a joint. If the patient need not be moved before the doctor comes, he should be disturbed as little as possible; injuries of this sort, unless complicated by wounds that communicate with the air, do not suffer from not being attended to immediately, but will be none the worse, if kept quiet, for a wait of several hours for the surgeon's arrival. If there is a compound fracture, in which there is an open wound as well as an internal injury, a temporary dressing should be applied, disturbing the patient as little as possible. If, however, the patient must be transported from the scene of the accident, measures must be taken to prevent the doing of further damage by the handling of the injured part. If the case is one of a broken arm or leg, the limb should be drawn as straight as possible, and splints of some sort, which are easily improvised from pieces of board, canes, or umbrellas, rulers, golf or hockey sticks, or something else near at hand, should be well padded with whatever soft material may be available, and placed on either side of the injured part, then bound on firmly but not too tightly. The splints should go well above and below the fracture. Where ribs are broken, a towel or other wide bandage should be fastened closely about the upper part of the body, the arm on the affected side being laid across the chest beneath the bandage. In fractures of the lower arm or hand, or of the collar bone, the injured part should be supported by means of some sort of improvised sling. In the case of broken collar bone, a pad of some soft material placed in the armpit will help to counteract the tendency of the shoulder to fall downward. Dislocations should also, in cases where the patient must be moved before the doctor's arrival, be supported as comfortably as possible by means of slings and pads.

Sprains

Sprains are very common injuries. They may be slight, and require no treatment beyond a firm bandage or strapping with

adhesive plaster, but violence sufficient to cause a severe twist of a joint is very likely to tear ligaments and muscles from their places, while many injuries supposed to be merely sprains have been proved by X-ray examinations to include fracture of some of the bones about the joint. All sprains except the most trivial should be shown to a doctor, and the

ities, and spirits of ammonia or hot drinks may be administered.

Fainting

Fainting is of very common occurrence, and need usually cause no alarm; it results much more often from indigestion, fright, confinement in over-heated rooms, and other trivial causes, than from any



A Giant Tree Near Marysville, Victoria, Eighty Feet Girth, Two Hundred Feet High

injured limb should be kept as quiet as is practicable in the meantime.

In all kinds of injuries of much severity there is likely to be considerable prostration, technically known as "shock." Children are often more frightened than hurt by slight accidents, but shock is a condition of actually lowered vitality, and is shown by pallor, coldness, weakness, and a feeble heart action. The patient should be laid down, any constricting clothing should be loosened, heat should be applied to the body and the extrem-

ities. Laying the patient down flat and loosening the clothing is usually the only treatment needed, but if unconsciousness persists more than a few minutes heat may be applied to the body, smelling salts used, or the face sprinkled with water. When the patient can swallow, mild restoratives may be given. When an attack of faintness occurs in a public place or crowded room, where it is impracticable to lay the patient down, the best plan is to bend the head forward until it is almost between the knees; this,

like the recumbent position, facilitates the return of the blood to the head.

Stunning

Stunning caused by a blow on the head or by falling from a height, may be of little consequence, the patient recovering in a short time; or, on the other hand, there may be serious concussion of the brain. When after this sort of accident the patient remains motionless and unconscious, with a cold skin and a weak pulse, he should be kept quiet in a recumbent position, with the head slightly raised, until a physician can be summoned, with cold applied to the head and heat to the body. Slight cases, however, usually need nothing more than to lie down quietly for a while, with a cold application to the head.

Foreign Bodies in the Eye

Foreign bodies in the eye cause much discomfort, and if the eye is rubbed with soiled hands considerable irritation may result, possibly even infection. When an insect or other object gets into the eye, the flow of tears which it causes may wash it out; if it does not, very often the foreign body may be seen in the corner of the eye or on the lashes, in which case it can be wiped off with the corner of a clean handkerchief. If it is under the upper lid, drawing the upper lid down over the lower one sometimes brings the intrusive object into sight. The rolling back of the upper lid over a pencil or other small smooth article requires some practice to enable a person to do it well, but when properly done, it is the surest way to accomplish the desired purpose. Washing out the eye will often extract an insect or dust particle very readily. When irritation persists after the removal of a foreign body, the eye may be bathed with boric acid; and this is not a bad routine measure for use after the extraction of anything from the eye.

Foreign Bodies in the Throat

Foreign bodies in the throat are oftener fish-bones than anything else; pins probably come next in the order of frequency,

though small children with a habit of putting all kinds of things in their mouths may bring about such an emergency by means of any sort of small object. Coughing often dislodges such objects; so does a vigorous slap upon the back. If the obstructing article is not too far down in the throat, it may often be removed by the finger. Fish bones which cannot be extracted can, if not too firmly lodged, be pushed down into the stomach by swallowing large mouthfuls of bread; in the great majority of cases they will pass through the digestive canal without doing any damage. If, however, simple expedients do not succeed in removing a foreign body, a doctor should be summoned, as the throat may be severely injured by unskilled attempts to extract securely lodged objects, especially those with sharp edges, like bones or pins.

Frost-Bite

Frost-bite is a very common accident in the colder parts of the country. The affected parts, usually ears or cheeks, fingers or toes, become numb and unnaturally white. Rubbing gently with snow or cold water, so as gradually to restore the circulation, and keeping the patient away from the fire until recovery is complete, is the proper treatment.

In doing first aid work, amateurs should remember that to keep cool is essential to success; that it is better to attempt too little rather than too much; and that in a case of doubt it is far better to call a doctor unnecessarily than to take any risk of not having the patient properly cared for.

Dog-Bites and Cat-Bites

Dog-bites and cat-bites generally to an even less degree are dangerous and should receive the same treatment as that indicated for any ordinary wound, and a physician consulted as soon as possible.

In cases where the animal is mad, or very strongly suspected of being so, the following is the treatment advised by the latest American Red Cross First Aid pamphlet.

When the bite is located on the hand or arm, foot or leg apply a tourniquet, as described above, but without using the pad for pressure, as in the case of a bleeding artery. This must be done immediately, as it prevents the return of the poisoned blood through the system. If hot water is obtainable, the wound should be soaked in it, and in any case squeezed, "milked," or sucked. No danger attends the latter process unless there are cuts or scrapes in the mouth or lips. This is done to encourage bleeding. The wound is then burned with a red hot wire or strong ammonia or nitric acid (*as soon* as the bite has been cauterised remove the constricting band, always bearing in mind the grave danger of mortification from prolonged stoppage of the circulation), and dressed like an ordinary wound. A doctor should be called as soon as possible, but efforts to obtain one should not

be allowed to delay these measures, since *prompt* action is very urgent.

AN ingenious Hungarian doctor has found a way effectually to conceal anyone's baldness. Taking a fine hair, he ties it with both ends free to a bit of thin gold wire, which he then runs under his patient's scalp and twists so that it holds the hair permanently in place. This action he repeats until he has placed at least five hundred hairs in each square inch of bald scalp. So fine is the wire that one gram of gold is enough to anchor fifty thousand hairs. The hair thus attached can, it is said, be washed and brushed just as if it were a natural growth, and will keep its lustre and brilliancy for many years. Henceforth, "silver threads among the gold" will have a new significance.



Aboriginal Children at the Monamona Mission Station, North Queensland



Child Training

MRS. E. G. WHITE

NOT only the habits of the mother, but the training of the child were included in the angel's instruction to the Hebrew parents. It was not enough that Samson, the child who was to deliver Israel, should have a good legacy at his birth. This was to be followed by careful training. From infancy he was to be trained to habits of strict temperance.

Similar instruction was given in regard to John the Baptist. Before the birth of the child, the message sent from heaven to the father was:—

“Thou shalt have joy and gladness, and many shall rejoice at his birth. For he shall be great in the sight of the Lord, and he shall drink no wine nor strong drink; and he shall be filled with the Holy Spirit.”

On heaven's record of noble men the Saviour declared that there stood not one greater than John the Baptist. The work committed to him was one demanding not only physical energy and endurance, but the highest qualities of mind and soul. So important was right physical training as a preparation for this work that the highest angel in heaven was sent with a message of instruction to the parents of the child.

The directions given concerning the Hebrew children teach us that nothing which affects the child's physical well-being is to be neglected. Nothing is unimportant. Every influence that affects the health of the body has its bearing upon mind and character.

Too much importance cannot be placed upon the early training of children. The lessons learned, the habits formed, during the years of infancy and childhood, have more to do with the formation of the character and the direction of the life than have all the instruction and training of after years.

Parents need to consider this. They should understand the principles that underlie the care and training of children. They should be capable of rearing them in physical, mental, and moral health. Parents should study the laws of nature. They should become acquainted with the organism of the human body. They need to understand the functions of the various organs, and their relation and dependence. They should study the relation of the mental to the physical powers, and the conditions required for the healthy action of each. To assume the responsibilities of parenthood without such preparation is a sin.

Far too little thought is given to the causes underlying the mortality, the disease, and degeneracy, that exist to-day even in the most civilised and favoured lands. The human race is deteriorating. Many die in infancy, and of those who reach manhood and womanhood, by far the greater number suffer from disease in some form, while but few reach the limit of human life.

Most of the evils that are bringing misery and ruin to the race might be prevented, and the power to deal with them

rests to a great degree with parents. It is not a "mysterious providence" that removes the little children. God does not desire their death. He gives them to the parents to be trained for usefulness here, and for heaven hereafter. Did fathers and mothers do what they might to give their children a good inheritance, and then by right management endeavour to remedy any wrong conditions of their birth, what a change for the better the world might see!

The Care of Infants

The more quiet and simple the life of the child, the more favourable it will be to both physical and mental development. At all times the mother should endeavour to be quiet, calm, and self-possessed. Many infants are extremely susceptible to nervous excitement, and the mother's gentle, unhurried manner will have a soothing influence that will be of untold benefit to the child.

Babies require warmth, but a serious error is often committed in keeping them in over-heated rooms, deprived to a great degree of fresh air. The practice of covering the infant's face while sleeping is harmful, since it prevents free respiration.

The baby should be kept free from every influence that would tend to weaken or to poison the system. The most scrupulous care should be taken to have everything about it sweet and clean. While it may be necessary to protect the little ones from sudden or too great changes of temperature, care should be taken, that, sleeping or waking, day or night, they breathe a pure, invigorating atmosphere.

The Child's Dress

In the preparation of the baby's wardrobe, convenience, comfort, and health should be sought before fashion or a desire to excite admiration. The mother should not spend time in embroidery and fancy-work to make the little garments beautiful, thus taxing herself with unnecessary labour at the expense of her own health and the health of her child. She should not bend over sewing that severely taxes

eyes and nerves, at a time when she needs much rest and pleasant exercise. She should realise her obligation to cherish her strength, that she may be able to meet the demands that will be made upon her.

If the dress of the child combines warmth, protection, and comfort, one of the chief causes of irritation and restlessness will be removed. The little one will have better health, and the mother will not find the care of the child so heavy a tax upon her strength and time.

Tight bands or waists hinder the action of the heart and lungs, and should be avoided. No part of the body should at any time be made uncomfortable by clothing that compresses any organ or restricts its freedom of movement. The clothing of all children should be loose enough to admit of the freest and fullest respiration, and so arranged that the shoulders will support its weight.

Among some people the custom of leaving bare the shoulders and limbs of little children still prevails. This custom cannot be too severely condemned. The limbs being remote from the centre of circulation, demand greater protection than the other parts of the body. The arteries that convey the blood to the extremities are large, providing for a sufficient quantity of blood to afford warmth and nutrition. But when the limbs are left unprotected, or are insufficiently clad, the arteries and veins become contracted, the sensitive portions of the body are chilled, and the circulation of the blood hindered.

In growing children all the forces of nature need every advantage to enable them to perfect the physical frame. If the limbs are insufficiently protected, children, and especially girls, cannot be out of doors unless the weather is mild. So they are kept in, for fear of the cold. If children are well clothed, it will benefit them to exercise freely in the open air, summer or winter.

Mothers who desire their boys and girls to possess the vigour of health, should dress them properly, and encourage them

in all reasonable weather to be much in the open air. It may require effort to break away from the chains of custom, and dress and educate the children with reference to health; but the result will amply repay the effort.

The Child's Diet

The best food for the infant is the food that nature provides. Of this it should not be needlessly deprived. It is a heartless thing for a mother, for the sake of convenience or social enjoyment, to seek to free herself from the tender office of nursing her little one.

The mother who permits her child to be nourished by another should consider well what the result may be. To a greater or less degree the nurse imparts her own temper and temperament to the nursing child.

The importance of training children to right dietetic habits can hardly be over-estimated. The little ones need to learn that they eat to live, not live to eat. The training should begin with the infant in its mother's arms. The child should be given food only at regular intervals, and less frequently as it grows older. It should not be given sweets, or the food of older persons, which it is unable to digest. Care and regularity in the feeding of infants will not only promote health, and thus tend to make them quiet and sweet-tempered, but will lay the foundation of habits that will be a blessing to them in after years.

As children emerge from babyhood, great care should still be taken in educating their tastes and appetite. Often they are permitted to eat what they choose and when they choose, without reference to health. The pains and money so often lavished upon unwholesome dainties lead the young to think that the highest object in life, and that which yields the greatest amount of happiness, is to be able to indulge the appetite. The result of this training is gluttony, then comes sickness, which is usually followed by dosing with poisonous drugs.

Parents should train the appetites of their children, and should not permit the use of unwholesome foods. But in the effort to regulate the diet, we should be careful not to err in requiring children to eat that which is distasteful, or to eat more than is needed. Children have rights, they have preferences, and when these preferences are reasonable, they should be respected.

Regularity in eating should be carefully observed. Nothing should be eaten between meals, no confectionery, nuts, fruits, or food of any kind. Irregularities in eating destroy the healthful tone of the digestive organs, to the detriment of health and cheerfulness. And when the children come to the table, they do not relish wholesome food; their appetites crave that which is hurtful for them.

Mothers who gratify the desires of their children at the expense of health and happy tempers, are sowing seeds of evil that will spring up and bear fruit. Self-indulgence grows with the growth of the little ones, and both mental and physical vigour are sacrificed. Mothers who do this work reap with bitterness the seed they have sown. They see their children grow up unfitted in mind and character to act a noble and useful part in society or in the home. The spiritual as well as the mental and physical powers suffer under the influence of unhealthful food. The conscience becomes stupefied, and the susceptibility to good impressions is impaired.

While the children should be taught to control the appetite, and to eat with reference to health, let it be made plain that they are denying themselves only that which would do them harm. They give up hurtful things for something better. Let the table be made inviting and attractive, as it is supplied with the good things which God has so bountifully bestowed. Let the meal-time be a cheerful, happy time. As we enjoy the gifts of God, let us respond by grateful praise to the Giver.



N. J. Caire Photo., Melb.

GIANT TREE UTILISED AS A HOUSE AT WYNSTAY, SOUTH GIPPSLAND

The Care of Children in Sickness

In many cases the sickness of children can be traced to errors in management. Irregularities in eating, insufficient clothing in the chilly evening, lack of vigorous exercise to keep the blood in healthy circulation, or lack of abundance of air for its purification, may be the cause of the trouble. Let the parents study to find the causes of the sickness, and then remedy the wrong condition as soon as possible.

All parents have it in their power to learn much concerning the care and prevention, and even the treatment, of disease. Especially ought the mother to know what to do in common cases of illness in her family. She should know how to minister to her sick child. Her love and insight should fit her to perform services for it which could not so well be trusted to a stranger's hand.

The Study of Physiology

Parents should early seek to interest their children in the study of physiology, and should teach them its simpler principles. Teach them how best to preserve the physical, mental, and spiritual powers, and how to use their gifts so that their lives may bring blessing to one another, and honour to God. This knowledge is invaluable to the young. An education in the things that concern life and health is more important to them than a knowledge of many of the sciences taught in the schools.

Parents should live more for their children, and less for society. Study health subjects, and put your knowledge to a practical use. Teach your children to reason from cause to effect. Teach them that if they desire health and happiness, they must obey the laws of nature. Though you may not see so rapid improvement as you desire, be not discouraged, but patiently and perseveringly continue your work.

Teach your children from the cradle to practise self-denial and self-control. Teach them to enjoy the beauties of na-

ture, and in useful employments to exercise systematically all the powers of body and mind. Bring them up to have sound constitutions and good morals, to have sunny dispositions and sweet tempers. Impress upon their tender minds the truth that God does not design that we should live for present gratification merely, but for our ultimate good. Teach them that to yield to temptation is weak and wicked; to resist, noble and manly. These lessons will be as seed sown in good soil, and they will bear fruit that will make your hearts glad.

Above all things else, let parents surround their children with an atmosphere of cheerfulness, courtesy, and love. A home where love dwells, and where it is expressed in looks, in words, and in acts, is a place where angels delight to manifest their presence.

Parents, let the sunshine of love, cheerfulness, and happy contentment enter your own hearts, and let its sweet, cheering influence pervade your home. Manifest a kindly, forbearing spirit; and encourage the same in your children, cultivating all the graces that will brighten the home-life. The atmosphere thus created will be to the children what air and sunshine are to the vegetable world, promoting health and vigour of mind and body.

Value of Common Salt

" BESIDES being such an essential part of culinary art, salt has many other uses perhaps not generally known. Salt cleanses the palate and furred tongue, and a gargle of salt and water is often efficacious. A pinch of salt on the tongue, followed ten minutes after by a drink of cold water, often cures a sick headache. Salt hardens the gums, makes the teeth white, and sweetens the breath. Added to the water in which cut flowers stand, it keeps them fresh. Salted water and alcohol in solution should be used for rubbing weak ankles. Salt used dry in the same manner as snuff will do much to relieve colds, hay fever, etc., etc., and,

if used for bathing tired eyes, it will be found very refreshing. Salt and water will stop hemorrhage from the extraction of teeth."

Please Do Not Kiss Me

THESE are certainly hygienic times. A little four-year-old girl came alone from Austria to New York, and thence went on, still alone, to California. To guard her health, her relatives had attached to her clothing labels on which they had written in several different languages, "Please do not kiss me." It was an eminently sensible thing to do. No child ought ever to be exposed to the kisses of strangers, and the fewer it has, even from relatives, the better its health is likely to be.

The Care of the Hair

THERE are two things that the hair must have in order to preserve its health and beauty: perfect cleanliness and a good circulation of the blood in the scalp. Badly treated or neglected hair is not beautiful; it grows dry, and dull, and brittle, and if the bad treatment continues it may gradually disappear entirely.

Most persons do not begin to tremble for their hair soon enough. They wait until a good deal of it has fallen out, and then they think to set matters right by a few appointments at the hairdresser's and a bottle of tonic. But nothing demands and responds to consistent good treatment more than the hair. It is hard to say just how often you ought to have a shampoo, but be sure it is done often enough to keep both hair and scalp in a condition of absolute cleanliness.

If washing seems to make the hair too dry, rub in a few drops of some bland oil after the shampoo. Do not put the oil directly on the hair, where it cannot possibly do any good, but massage it thoroughly into the scalp with the tips of the fingers. That needs to be done only after a shampoo, in order to restore the natural oil that the washing has removed, but it

is a good plan to massage the scalp with the tips of the fingers every day, both night and morning. That is perhaps the most important single rule for those who would possess fine hair. The massage should be vigorous, but not rough, for the purpose is to bring the blood to the surface of the skin and to keep the scalp freely movable on the surface of the skull so that the blood can circulate freely. The free circulation of the blood is the whole secret of the strength, the gloss, and the beauty of the human hair. Careful brushing (with a scrupulously clean brush) is also helpful, for it tends to remove dust, to make the hair more glossy, and to make it amenable to its owner's will.—*Selected.*

Use For Olive Oil

"NO home, especially where there are children, should ever be without olive oil. For a weakly or rickety child, or one who is recovering from typhoid fever, olive oil will sometimes work wonders. Rub in the oil over the whole of the child's body, especially about the upper part, taking a few drops at a time into the palm of the hand. The nourishment thus absorbed through the skin will be of immense service in building up the child's strength. When a child is suffering from a severe cold, it is a good plan to rub the back and chest with olive oil. A threatening of croup often will end in a threatening only if oil and camphor be applied to the child's chest. Saturate a piece of flannel with oil, sprinkle it with a little powdered camphor, and apply it to the chest and throat as warm as can be borne. Cover with a piece of dry flannel, and change as soon as it gets cold."

"JUST because it is getting a bit cooler, don't house up the baby. Let him out on the porch all you can. He will keep busy enough so that if he is warmly clad he will not take a bit of cold, and the fresh air will do him all sorts of good."

A Mother's Talk with Mothers

Eulalia S. Richards

A MISTAKE which is commonly made by mothers, and especially at this season of the year, is that of not properly clothing their children's legs and feet. The opinion is still popular that it is good for a boy or a girl to be "toughened" by having the limbs exposed to the cold. This experience may possibly be beneficial to the most sturdy and robust child, but to the child of average strength the experience is not unattended with grave dangers. The vessels which carry the blood to and from the limbs lie near to the surface, and are easily chilled by exposure to cold. The effect of long-continued cold upon the blood vessels is to contract or partially close them so that less blood can flow through the channels. This results in a large portion of the blood being driven back upon the internal organs, causing a stagnation in the congested parts. This congestion of internal parts may manifest itself in the form of an inflammation of the stomach, bowels, or lungs. Constant coldness of the feet is also one of the chief causes of catarrh of the nose and the throat. Many children who are apparently in fair health habitually suffer from a catarrhal, or "stuffy," condition of the air passages, a condition that in many cases can be accounted for only by the fact that the feet and legs are always cold. This catarrh often leads to tonsillitis, to tuberculosis of the glands of the neck, and to the growth of adenoids in the back of the nose and throat.

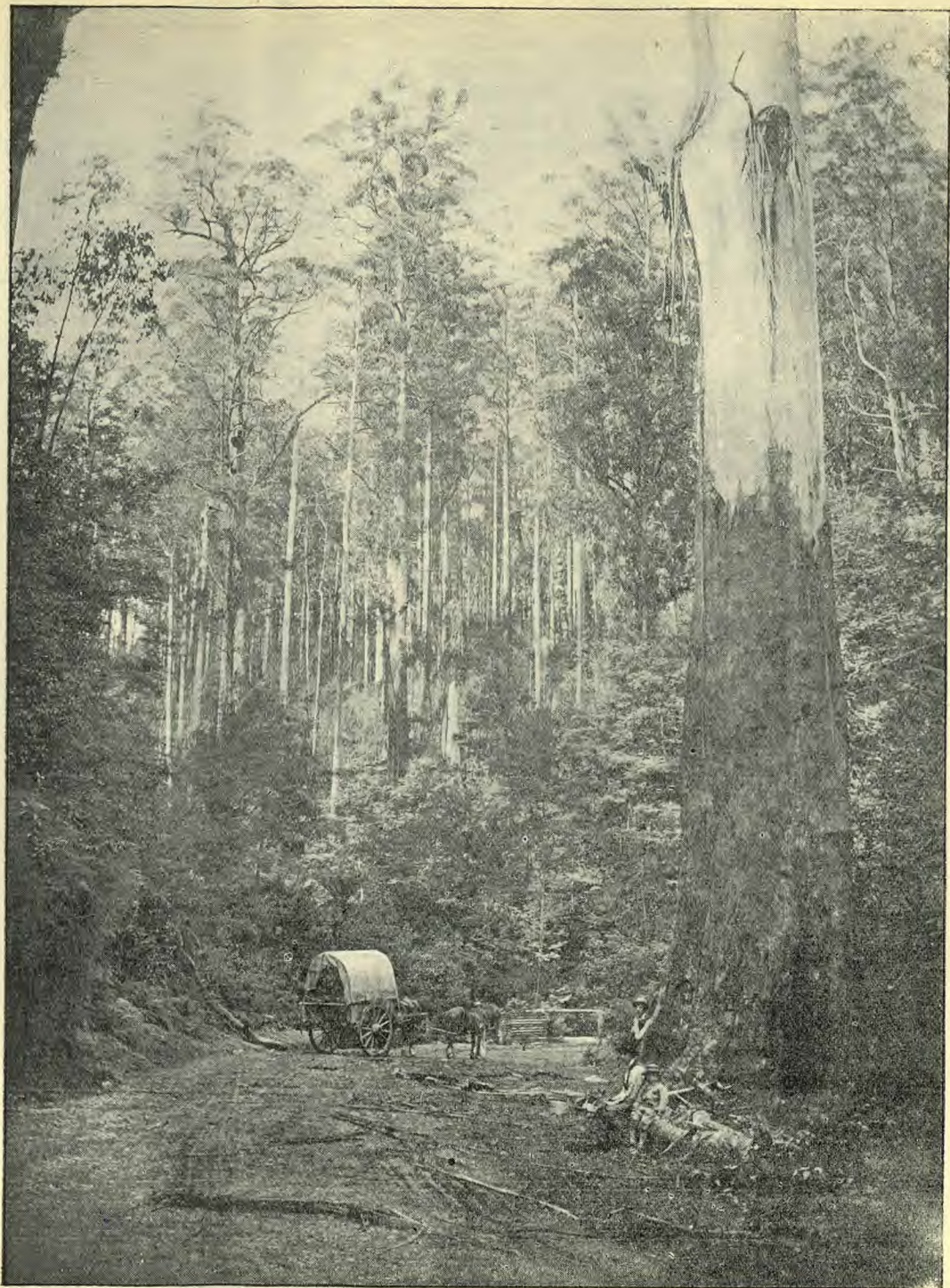
Not only do these local troubles arise from insufficiently clothing the lower extremities, but the general vitality of the body is materially lessened by this neglect. The temperature of the body must be maintained at the same point (98.4° F.), regardless of the state of the weather. During the cold season a larger proportion of the food taken into the body must be utilised in the manufacture of heat than in the summer time. The purpose of clothing during cold weather is to retain or conserve the heat of the body. Now

if the lower limbs are unclothed, a large part of the body heat is lost, and the body has to expend an excessive amount of vital energy in making good this loss. In other words, a large proportion of the food which should be utilised in promoting the growth and the energy of the body is employed in keeping up the body heat and making good the continual loss occasioned through insufficiency of the clothing. It is the duty of every mother to see that her children's limbs are warmly clothed in cold weather. Special care should be given to this matter during the fickle spring days, when there are so many sudden changes in the temperature. Warm stockings should be worn by the children whenever the weather is at all cold. It is easy enough to remove them when the sun gets warm and bright. Whenever it is cold enough for the child to wear socks, he should wear stockings instead, as the limbs must be equally clothed to be healthfully clothed.

Thin socks, or no socks at all, may be worn in the really hot weather, but on the cool, chilly days warm stockings are essential to comfort and health.

It would seem to the writer that about the only advantage of the "toughening effect of cold" theory is that if it be accepted there follows marked diminution in the amount of the weekly darning. This is no doubt a matter of some consequence to the busy mother; but if the acceptance of the theory result in a diminution of her children's comfort and health, there is really nothing gained after all.

A GOOD many folks have days when they feel a little out of sorts. Then is the time to keep all papers out of sight that publish advertisements of patent medicines or other so-called 'cures.' The men who put up this stuff are gathering in their thousands, and leaving the people the worse for it. If there ever was a time when folks ought to use good commonsense, it is when tempted to take these foul dopes.—*Farm Journal*.



N. J. Caire Photo., Melb.

A LARGE EUCALYPT, TWO HUNDRED FEET HIGH, ON THE BLACK SPUR,
HEALESVILLE, VICTORIA



PLAY WITH THE CHILDREN

By R. Hare

Mothers, play with your children,
And share in their innocent mirth ;
Don't leave them alone to journey
Over the broad, green earth.
Help them to gather the blossoms
That smile each side of the way ;
Help them to catch the sunshine
That lightens each passing day.

Teach them to find sweet music
In singing of bird and bee,
Teach them to read love's message
Written o'er plain and sea.
Lead them beside still waters
And where the flow'ring sod,
With all its beauteous blossoms,
Points upward to its God.

Mothers, live with your children,
Help them to find the hope
That leads beyond the darkness
Where unbelief must grope.
Share in their little sorrows,
Share in their childish pain ;
Mothers, love your children,
For love brings endless gain.

And when in the twilight's shading
You kiss them and put them to bed,
Whisper the prayer that angels
May watch by the pillowed head ;
And sometime, it may be the future,
When daylight and darkness are done,
You'll find redeemed the treasure
That love in its struggle has won.

Lemons for Consumption

An Easily Tried and Harmless Suggestion

PUT a dozen whole lemons into cold water and boil until soft (not too soft), roll and squeeze until all the juice is extracted, sweeten the juice enough to be palatable, and drink. Use as many as a dozen a day. Should they cause pain or looseness of the bowels, lessen the quantity, using five or six a day until better; then use a dozen again. By the time you have used five or six dozen, you will begin to gain strength and have an appetite. Of course as you get better you need not use so many.

Follow these directions, says Mrs. Alice Wilson, in *Life and Health* (Washington), and we know you will never regret it if there is any help for you. Only keep it up faithfully. She says further:—

We know of two cases where the patients were given up by physicians, and were in the last stages of consumption, yet both were cured by using lemons according to the above directions. One lady, in particular, was bedridden and very low; she had tried everything money could procure, but all in vain. In February, to please a friend, she was persuaded to use lemons, and in April she weighed one hundred and forty pounds. She is a strong woman to-day, and likely to live as long as any one of us.

When people feel the need of an acid, if they would let vinegar alone and use lemons or sour apples, they would feel just as well satisfied and receive no injury.

A suggestion may not be amiss as to a good plan. When lemons are cheap, purchase several dozen, and in the following manner prepare them for use in the warm days of spring and summer, when the acids of lemons and other ripe fruits are so grateful and useful. Press your hand on the lemon and roll it back and forth briskly on the table, to make it squeeze more readily: then press the juice into a bowl or tumbler (never into tin); strain out all the seeds, as they give a bad taste, and can the juice.

The following from another source is worthy of a trial:—

“Lemons have been so expensive this summer that we have learned how to use every one that was bought. If any show signs of moulding or drying up before we are ready to use them, we squeeze out the juice and put it into a dry jellyglass, then pour over it a teaspoonful of olive oil. A small piece of clean cotton cloth absorbs the oil when the juice is required, leaving the latter as fresh and nice as when taken from the lemon. A dried lemon can be made better by a three-quarter-hour bath in fresh cold water.”

Help or Cure for Catarrh

Diluted lemon juice used to snuff up the nose is very good. Dilute several drops of lemon juice with twice or three times as much warm water, snuff it up one nostril, with the finger closing the other nostril; then close both nostrils, retaining the liquid several minutes, holding the head either tipped backward a little or lowered very low; gently blow out the liquid, and repeat the treatment to the other nostril. Gradually increase the amount of lemon-juice and decrease the amount of water, until, if possible, the pure lemon-juice is used. It is hard to do, but the results are fine. Such heroic treatment three times a day for three weeks, or in more serious cases for three months, I have been told, has cured very bad cases of catarrh. By the use of the above, nose and lips that were red and much swollen soon became normal, and the sense of smell that had almost disappeared returned.

[The above is vouched for, says the editor of the *Healthy Home*, as having been effective in some cases. Probably most people would laugh at it. That was the case with a certain mineral spring which had a great reputation in past years as powerful to relieve disease, particularly rheumatism and skin troubles. When they analysed the water and found it was nothing but common water with no mineral in it the scientific men smiled and talked about the gullibility of the public.

Now these same scientific men have found radium in the spring, and its power over disease is partly explained. If I had consumption I would try the lemons.]

TELL HER SO

If you've a neat little wife at home,
 As sweet as you wish to see,
 As faithful and gentle-hearted
 And fond as a wife can be ;
 A genuine, home-loving woman
 Not caring for fuss or show,
 Whose house is a cosy home nest,
 A haven of rest below,
 And you think she's a rare little treasure—
 Then kiss her, and tell her so.—*Selected.*

HAVE a pair of elastic sleeve-holders hanging over the sink so that when washing dishes your sleeves may be kept clean.

“DON'T try to scold little faults out of the lives of your boys and girls. Live them out of your own life and see how quickly they will go from the lives of your children.”

HAVE the dining-room warm when you sit down to the morning meal. And do sit down, dear good wife! It takes much of the joy away to have you getting up every few minutes to go away to do something.

WOOD-ASHES mixed with kerosene will remove rust from iron.

TO clean a lamp-chimney without using a drop of water: Blow into it till the sides are all moist, then wipe it well with a clean cloth or a bit of soft paper. It will shine like a bottle.

ACCORDING to a German scientist women can talk more than men with less fatigue, because their throats are smaller, and they tax their lungs and vocal chords less.

“A GOOD doctor once told me that iron taken in the form of drug-store medicine never could get into the blood to do us a bit of good; but if we would eat lettuce, carrots, and such things, we'd take iron right into the system, where it would do us good. Better to eat vegetables than to take dope out of a bottle.”

“THE baby's bottles of milk can be kept warm at night thus: Make a cover for a rubber hot-water bag with a pocket on each side of it. Fill the bag with hot water, and while the milk is still warm in the bottles, slip them into the pockets, and roll all in a blanket or thick cover.”





THE MAN WHO DIDN'T SUCCEED

THEY sing of the men who build the mills
 And girdle the earth with steel,
 Who fill the hour and wield the power
 That moulds the public weal.
 Honour to them that in honour do
 The work that the world must need ;
 And yet in chief I hold a brief
 For the man who didn't succeed.

'Tis not to excuse the indolent,
 No plea for the down and out,
 No jealous rage at what this age
 And its leaders are about ;
 Merely to ask in a casual way
 Of those who chance to read,
 For fairer view, and kinder, too,
 Of the man who didn't succeed.

His house is small, his table light ;
 His family must endure
 The snubs and sneers of the buccaneers
 Whose debts fall on the poor.
 Yet his is a home, and no hotel ;
 His wife is a wife indeed ;
 There's nothing above his children's love,
 To the man who didn't succeed.

Admitting it's true that he did not make
 The most of his talents ten,
 He won no pelf nor raised himself
 At the cost of his fellow men.
 His hands are clean, his heart is white,
 His honour has been his creed.
 Now who are we to say that he
 Is the man who didn't succeed ?
 —Peter Reed, in the *New York Sun*.

Going to School

"I DON'T want to go back to school,"
 said Lawrence, as he came into the house
 one day in late summer.

"Why not?" asked his mother.

"Well, I've had such a good time all
 summer that I don't want to go back to
 the books and maps and things," answered
 Lawrence.

"I see," said his mother, as she came

to the doorway of the pantry and met his
 serious gaze with one of equal seriousness.
 Then she smiled as she turned to her
 work and added: "We will talk it over
 when father comes home to-night."

Lawrence went back again into the
 yard where he was making a waggon out
 of an old box, and there his mother found
 him, busily hammering and sawing when
 she went to the back porch a little later.

"Lawrence," she called, "I must have
 some more sugar for my preserves. Will
 you please run down to the store and get
 half-a-dozen pounds? And get a yeast
 cake, too, and half-a-dozen oranges and a
 pound of raisins. Can you remember all
 that?"

Lawrence carefully repeated the list of
 things wanted, took the money which his
 mother gave him, and went off down the
 shady village street to the grocery store.
 He kept saying over his list to himself,
 and so he made no mistake when the
 grocer came forward to greet him.

"You did well to remember all of
 them," said the grocer, who was fat and
 jolly. Then when everything was ready
 for Lawrence to take, the grocer said:
 "Now let us see how you are on figures.
 The sugar is fourpence a pound, the yeast
 cake's one penny, the oranges are one and
 sixpence a dozen, and the raisins are ten-
 pence a pound. What does it all amount
 to?"

This was so unexpected that Lawrence
 did not catch what was said. He looked
 up with wide-open eyes. The grocer
 laughed, and then slowly repeated all he
 had said. Looking steadily at Lawrence

he asked again: "Now just how much does that all amount to?"

Lawrence said it over slowly after him, and then stared at the floor. "I am afraid I cannot do it in my head," he said at last.

The grocer laughed. Business was dull in the store just then, and he came around the counter to where Lawrence was standing. "We'll try it on paper," he said, giving Lawrence a pencil and a piece of wrapping paper."

So Lawrence wrote down the items as the grocer called them off, but he was in trouble from the first. Only after he carefully said over the multiplication table of the sixes assisted by the grocer, did he master the problem of six pounds of sugar at 4d. a pound. Then an example in short division made it plain that half a dozen oranges at 1s. 6d. a dozen would be 9d.

"Now add them," said the grocer when the amounts were placed in the column.

"Two shillings and eightpence," announced Lawrence, when a considerable time had passed.

"Wrong!" said the grocer.

Lawrence studied the figures carefully. "Oh!" he exclaimed, "I did not carry the one from the first column! It is 3s. 8d."

"That is better," said the grocer. Then he looked at the paper upon which Lawrence had been working and continued, with a smile: "You seem to find them rather hard words to spell—sugar, yeast cake, oranges, and raisins. They are pretty common words, too."

By this time Lawrence was feeling very uncomfortable, and his face was red through his coat of summer tan. But the grocer only patted him on the shoulder, passed over the purchases, and gave him the change without putting him to the test of subtracting.

"Come again!" called the grocer as Lawrence hurried out.

"Thank you," said Lawrence. "And the next time I will know how to spell all of these words."

"All right," said the jolly grocer, laughing.

A little later when Lawrence delivered the packages to his mother his face was very serious. "I guess, after all, I will go to school when it opens next week," he said.—*Selected.*

THE WEE BROTHER

SAY, I've got a little brother,
Never teased to have him, nuther,
But he's here;
They just went ahead and bought him,
And last week the doctor brought him,
Wa'n't that queer?

When I heard the news from Molly,
Why, I thought at first 'twas jolly,
'Cause, you see,
I s'posed I could go and get him
And then mamma, course, would let him
Play with me

But when I had once looked at him,
"Why!" I says, "my sakes, is that him?
Just that mite!"
They said, "Yes," and, "Ain't he cunnin'?"
And I thought they must be funnin',—
He's a sight!

He's so small, it's just amazin',
And you'd think that he was blazin',
He's so red;
And his nose is like a berry,
And he's bald as Uncle Jerry
On his head.

Why, he isn't worth a dollar!
All he does is cry and holler
More and more;
Won't sit up, you can't arrange him—
I don't see why pa don't change him
At the store.

Now we've got to dress and feed him,
And we really didn't need him
More'n a frog;
Why'd they buy a baby brother
When they know I'd good deal ruther
Have a dog?
—*Joe Lincoln, in L. A. W. Bulletin.*

"COME, sir," said the teacher to the boy at the foot of the class, "how do you pronounce s-t-i-n-g-y?" The boy at the foot scratched his head. "Well," he answered, thoughtfully, "it depends on whether the word is applied to a human being or to a bee."—*Woman's Home Companion.*

Proof Positive?

MRS. ROBINSON, says *Harper's Magazine*, was an extremely careful mother, and had repeatedly cautioned her six-year-old daughter against handling any object that might contain germs. One day the little girl came in and said:—

"Mother, I am never going to play with my kitten any more, because she has germs on her."

"Oh, no," replied her mother, "there are no germs on your kitten."

"But, mother," insisted the child, "I saw one."

Revenge

A CONTRIBUTOR to *Pearson's Weekly* tells us that after Jimmy's tooth was drawn, he rose from the chair, held out his little hand, and said:—

"Give it to me, please."

With an accommodating smile, the dentist wrapped the tooth in paper, and extended it to Jimmy.

"But what are you going to do with it?" he asked.

"I am going to take it home," was the reply, "cram sugar into it, and watch it ache!"

A Knight at Need

HERE is a pretty story of gratitude from the *Denver Times*:—

The conductor stopped for the fare of a young woman stenographer, who discovered that she had left her purse at her office. She said: "Why, I'm afraid I haven't any money with me!" looking very much embarrassed.

The conductor said nothing, but stood there and waited.

"I guess I'll have to get off," said the girl. "I have left my pocketbook at the office."

"Here, lady," said a boyish voice, coming from across the aisle, "I got a nickel I'll lend you."

She looked at the boy and took the

nickel. "Thank you," she said, "I'll pay you back if you'll give me your name."

"Don't worry 'bout that," he replied. "I'm the kid you give the half a dollar to las' Christmas when you seen me sellin' papers down by the Savoy. I haven't forgot you. I'm sellin' papers there yet."

She smiled at him when he left the car, and he was about the proudest boy in town.

The Anger Tree

IN Idaho (U.S.A.) there exists a species of the acacia tree which is entitled to be classed as one of the wonders of plant life. This tree attains a height of about 8 feet. When full grown it closes its leaves together in coils each day at sunset, and curls its twigs to the shape of pigtailed. When the tree has thus settled itself for its night's sleep it is said that, if touched, it will flutter as if agitated or impatient at the disturbance. It is averred that the oftener the foliage is molested the more violent will become the shaking of the branches. Finally, if the shaking is continued the tree will emit a nauseating odour quite sufficient to induce a headache in the case of the person disturbing the tree. In Idaho it is called the "anger tree," and it is said that it was discovered by men who, on camping for the night, placed one end of a canvas covering over one of the sensitive bushes, using it for support. Immediately the tree began to jerk its branches sharply. The motion continued, with increasing "nervousness," until at last came a sickening odour that drove the tired campers to a more friendly location. Curiosity prompted an investigation. One of the "anger trees" was dug up and thrown to one side. It is said that immediately upon being removed from the ground the tree opened its leaves, its twigs lost their pigtailed, and for something over a couple of hours the outraged branches showed their indignation by a series of quakings, which grew weaker and weaker, and ceased only when the foliage had withered.

Sugar Growing in Queensland

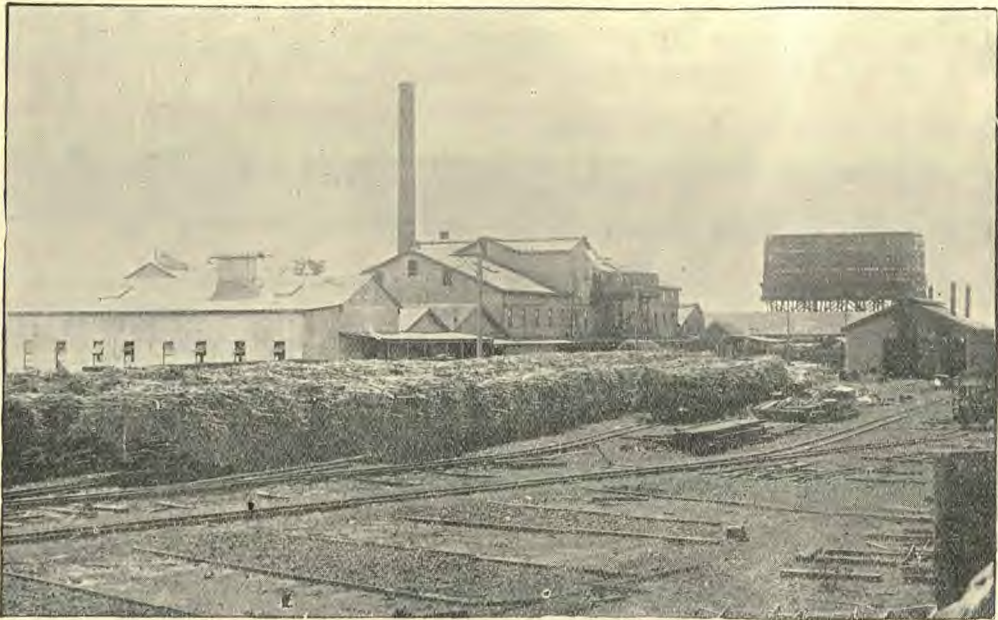
Reuben Hare

SINCE coming to Queensland a few months since, it has been my privilege to reside in one of the richest sugar-cane districts of the world. Thinking a few facts relative to this industry might be of interest to the young people, I write.

As one looks over the expanse of beautiful fields of waving cane, he wonders how it is that man can prefer to live in the stuffy, penned-up cities instead of where nature is seen at her best.

from these mills last year amounted to close on half a million sterling.

Sugar-cane very much resembles bamboo in appearance, except that the joints are shorter, and it is of a dark colour. It is planted in rows about fourteen inches deep and about four feet apart. The cane is not planted every year, but shoots up from the roots of the old stalk, and is referred to as first, second, or third class according to the year, fresh planting being resorted to usually every fourth year. The cane in its first year is termed



Colonial Sugar Refining Company's Mill, Childers, Queensland.

Sugar-cane grows best on land that has been covered with scrub, and not so well on forest land. There are about 13,000 acres of such land in the Childer's district, and the yield of cane is anywhere from fifteen to fifty tons per acre. During 1913 a total of 224,000 tons of cane was crushed in three mills, situated at different points in this district, while a considerable quantity finds its way to other mills. This cane, before crushing, is worth from £1 to £1 12s. per ton according to its sugar density. The value of the raw sugar sent to the refineries

“plant cane,” and is usually the best.

The cutting season lasts about six months in the year, and the cutters come from many different places for the season. Most of them are young men, and it is a common thing to find men among them who can boast of a good education.

The cane is cut by contract at a certain price per ton, and as our illustration shows, is sometimes quite a task, the cane often reaching a height of fifteen feet. The cutters load the cane on trucks supplied by the mills, which are run on portable lines right into the cane farm. From

there it is taken by small locomotives and drawn into the mill yard.

Our second illustration shows the cane on its arrival at the mill awaiting to be run into the crushing shed. The mill illustrated is one of the best equipped sugar mills in Australia, being owned and operated by the Colonial Sugar Refining Company. Last year this mill crushed 128,000 tons of cane. The mills work three shifts per day, only stopping from midnight on Saturday till midnight Sunday.

After the cane has passed through the crushing rollers there is only about two per cent of sugar left in the fibre, and it does not pay to extract this, so it is fed to the furnace, and generates steam to keep the machinery moving. From the rollers the juice goes through many processes by which the sugar is separated from the molasses, and finally it leaves this mill in the form of brown or raw sugar for the refinery, where the work is completed, and the sugar is ready for distribution.

The sugar industry of Queensland is still in its infancy. Thousands of acres of fresh land are being placed under cane each year. It has proved itself to be a very lucrative enterprise.

One sad feature connected with the industry lies in the fact that the molasses, after the sugar has been extracted from it, is used by the distilleries in the manufacture of spirituous liquor, thus helping to mar the handiwork of God.

“THE tiny chains of habit are seldom heavy enough to be felt until they are too strong to be broken.”

“Must” and “Mus’n’t”

“A FELLOW can't have any fun,” growled Tom. “It's just ‘must’ and ‘mus’n’t’ from morning till night. You *must* do this, you *must* learn that; or you



Cutting Sugar-Cane, Isis, Queensland

mus'n't go there, you *mus'n't* say that, and you *mus'n't* do the other thing. At school you're just tied right up to rules, and at home—well, a shake of mother's head means more than a dozen ‘*mus'n'ts*.’ Seems a pity a boy can't have his own way half the time, and do something as he likes.”

A RIDDLE

There's a queer little house
That stands in the sun;
When the good mother calls,
The children all run.
While under her roof
It is cosy and warm,
Though the cold wind may whistle
And bluster and storm.

This queer little house
Has no windows or doors;
The roof has no shingles,
The rooms have no floors;
No fireplaces, chimneys,
No stoves can you see,
Yet the children are cosy
And warm as can be.



In the daytime this queer
Little house moves away,
And the children run after,
So happy and gay;
But it comes back at night,
And the children are fed
And tucked up to sleep
In their warm, cosy bed.

The story of this
Little house is quite true;
I have seen it myself,
And I'm sure you have too,
You can see it to-night,
If you'll watch the old hen,
While her downy wings cover
Her children again.

—Selected.

"Going to the city this morning, Tom?" asked Uncle Thed from the adjoining room.

"Yes, of course," answered Tom, promptly.

"Going across the common?"

"Yes, sir; always do."

"I wish you'd notice those young trees they've been setting out the last year or two. There's something rather queer, it seems to me. Of course the old trees will die sooner or later, and others will be needed, but—well you just observe them rather carefully, so as to describe their appearance, etc."

"What about those trees, Tom?" asked Uncle Thed after tea.

"Why they're all right; look a little cramped, to be sure, snipped short off on top, and tied up to poles, snug as you please, every identical twig of them; but that's as it should be, to make them ship-shaped, don't you see? They can't grow crooked if they would. They'll make as handsome trees as ever you saw one of these days. Haven't you noticed the trees in Mr. Benson's yard—tall and scraggy and crooked, just because they were left to grow as they pleased?"

"But I wonder how the trees feel about the *must* and *mus'n't*," remarked Uncle Thed, drily.

Out goes Tom, wishing he had not said quite so much on the subject of trees—and boys—*Selected*.

Little Corners

GEORGIA WILLIS, who helped in the kitchen, was rubbing the knives. Somebody had been careless and let one get rusty, but Georgia rubbed with all her might; rubbed, and sang softly a little song,—

In the world is darkness,
So we must shine,
You in your little corner,
And I in mine."

"What do you rub at those knives forever for?" asked Mary. Mary was the cook.

"Because they are in my corner," Georgia said brightly. "You in your

little corner,' you know, 'and I in mine.' I'll do the best I can, that's all I can do."

"I wouldn't waste my strength," said Mary. "I know that no one will notice."

"Jesus will," said Georgia, and then she sang again,—

"You in your little corner,
And I in mine."

"Cooking the dinner is in my corner, I suppose," said Mary to herself. "If that child must do what she can, I s'pose I must. If Jesus knows about knives, it's likely He does about dinners," and she took particular pains.

"Mary, the dinner was nicely cooked to-day," Miss Emma said.

"That's all because of Georgia," said Mary, with a pleased face, and then she told about the knives.

Miss Emma was ironing ruffles; she was tired and warm. "Helen will not care whether they are fluted or not," she said; "I'll hurry them over;" but after she heard about the knives, she did her best.

"How beautifully my dress is done," Helen said; and Emma, laughing, answered, "That is owing to Georgia;" then she told about the knives.

"No," said Helen to her friend who urged, "I really cannot go this evening. I am going to prayer-meeting; my 'corner' is there."

"Your 'corner'! What do you mean?"

Then Helen told about the knives.

"Well," the friend said, "if you will not go with me, perhaps I will with you," and they went to the prayer-meeting.

"You helped us ever so much with the singing this evening."

That was what their pastor said to them as they were going home. "I was afraid you wouldn't be there."

"It was owing to our Georgia," said Helen, "she seemed to think she must do what she could, if it were only knives."

Then she told him the story.

"I believe I will go in here again," said the minister, stopping before a poor little house. "I said yesterday there was no use, but I must do what I can." In the house a sick man was lying; again and

again the minister had called, but the invalid wouldn't listen to him; but to-night the minister said, "I have come to tell a little story."

Then he told him about Georgia Willis, about her knives and her little corner, and her "doing what she could," and the sick man wiped the tears from his eyes, and said, "I'll find my corner too; I'll try to shine for Jesus." And the sick man was Georgia's father. Jesus, looking down at her that day, said, "She hath done what she could," and gave the blessing.

"I believe I won't go to walk," said Helen, hesitating. "I'll finish that dress of mother's; I suppose I can if I think so."

"Why, child, are you here sewing?" her mother said; "I thought you had gone to walk?"

"No; this dress seemed to be in my 'corner,' so I thought I would finish it."

"In your 'corner'?" her mother repeated in surprise, and then Helen told about the knives. The door-bell rang, and her mother went thoughtfully to receive her pastor. "I suppose I could give more," she said to herself, as she slowly took out the money that she had laid

aside for missions. "If that poor child in the kitchen is trying to do what she can, I wonder if I am? I'll double it."

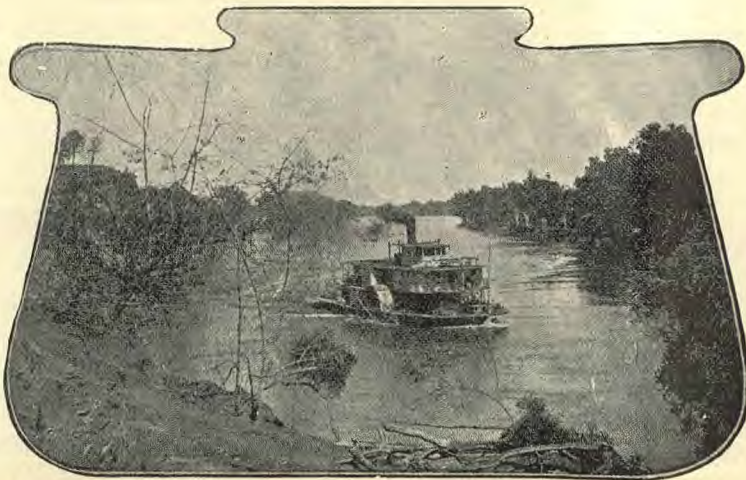
But Georgia knew nothing about all this, and the next morning she brightened her knives and sang cheerily:—

"In the world is darkness,
So we must shine,
You in your little corner,
And I in mine."

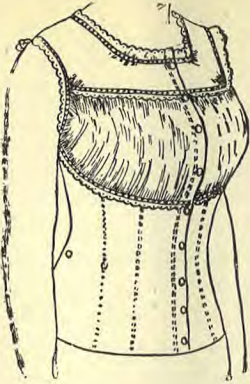
—*The Pansy.*

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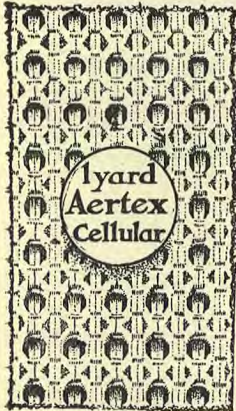
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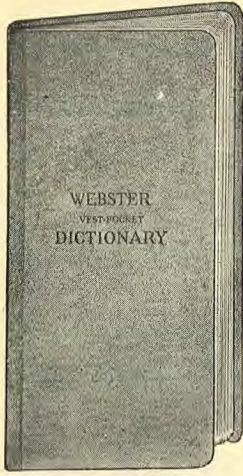


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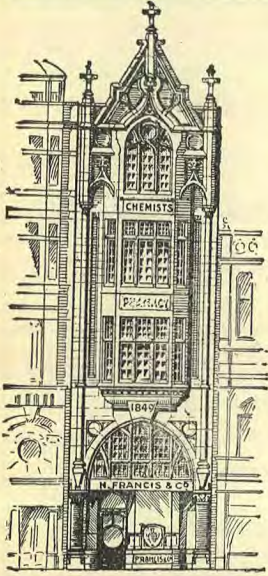
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