

# Life in Hawaii



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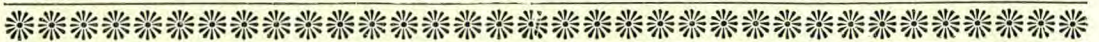
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Editor: A. W. Anderson

Medical Contributors: W. Howard James, M.B., B.S., Melbourne; P. M. Keller, M.D.; Florence A. Keller, M.D.; A. Stuttaford, M.D.; Franklin Richards, M.D., C.M., Montreal; Eulalia Richards

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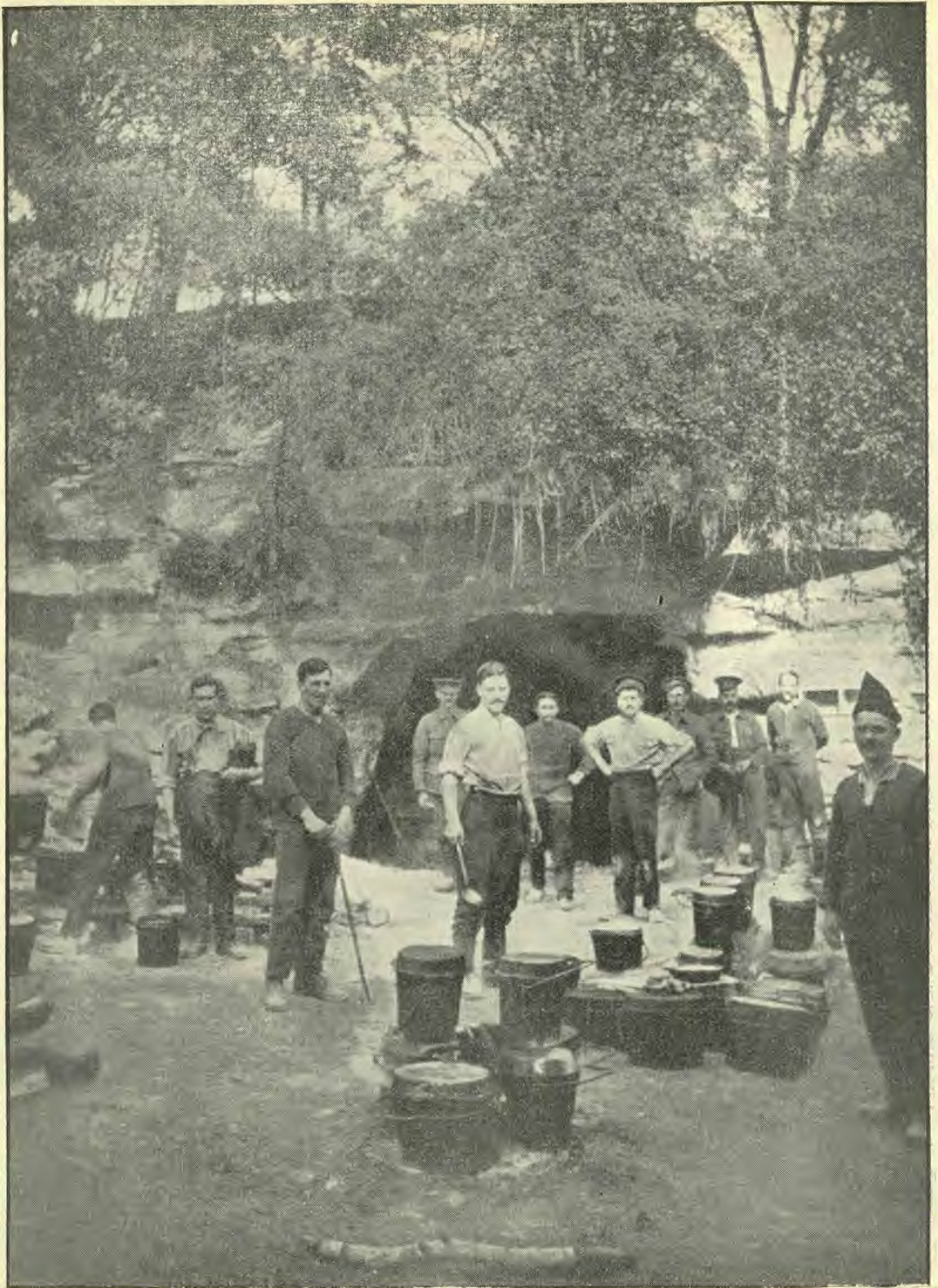
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LIFE &

HEALTH



Vol. 5

AUGUST-SEPTEMBER, 1915

No. 4

## Milk—No. 2

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

**M**ILK, we have stated, is the natural food for the young. It exactly corresponds with the composition, both in quantity and quality, of the animal it is designed to feed. For the adult, milk is not a perfect food. It is in the first place too bulky, eight pints daily being necessary to supply the heat and energy required by the adult man; and again, it contains too large percentage of the tissue building material (proteids) and too small quantity of carbohydrates—energy-producing material. To obtain sufficient energy from milk, when used as a sole diet, 140 grammes of proteid must be taken. It is now generally agreed by modern authorities that about 100 grammes of proteids should be taken daily, and that when more than this amount is taken there is excess of nitrogenous waste products, which give the excretory organs, the liver and kidneys more especially, excessive work, and thus lay the foundation for such diseases as gout, rheumatism, and various skin affections. There is, however, nothing like the danger from excess of milk proteids as from excess of proteids in flesh diet.

Milk as an adult food is deficient in

ballast. It does not contain sufficient residue to excite the peristaltic action of the bowels; and is, consequently, when used alone, a constipating food. This is especially the case with boiled milk. Those who suffer from constipation should not allow milk to reach a temperature higher than the simmering point.

Milk is one of the cheapest sources of animal proteid. It is very much cheaper than flesh foods in this respect. It has also the advantage over meat of containing quite a large percentage of carbohydrates and fats, and thus a quart of milk is equal to about one pound of beef steak. The milk would cost sixpence, and the beef steak tenpence or a shilling.

It is a great mistake to regard milk as a beverage. It is a food. The following is a summary on this point in a pamphlet on "The Use of Milk as a Food," issued by the United States Department of Agriculture:—

"The results indicate that milk should not be regarded as a luxury, but as an economical article of diet, which families of moderate income may freely purchase as a probable means of improving the character of the diet, and of cheapening the cost of the supply of animal foods."

Milk, we have seen, is deficient in carbohydrates; and, consequently, should be used with foods rich in this constituent, such as bread and the various cereal foods. There is no cheaper living than skim milk and bread. Hutchison gives the following table, which illustrates this point:—

of “rennett.” It is better to take the milk in sips, or to dilute with equal parts of water. An adult would require in health eight pints of milk to keep up the heat and energy of his body, but in sickness there is less muscular effort and less loss of heat; and, consequently, it is found that three or four pints are sufficient

LUNCH OF SKIM MILK AND BREAD				RESTAURANT LUNCH			
Ingredients	Amount	Cost	Fuel value in calories	Ingredients	Amount	Cost	Fuel value in calories
Bread	10 ounces	1½d.	755	Soup	8 ounces		75
Skim milk	1 pint	½d.	170	Beef	2 "		275
				Potatoes	2 "		100
				Turnips	1 "		15
				Bread	4 "		300
				Butter	½ "		100
				Coffee			
				Milk	1 "		20
				Sugar	½ "		55
Totals		2d.	925	Totals		8d.	940

“It will be observed that bread and milk furnished, at a cost of 2d., almost as many calories (*i.e.*, heat and energy) as were obtained from the restaurant lunch at four times that price.”—*Food and the Principles of Dietetics*, page 128.

**Use in Disease**

Milk, undoubtedly, is the best food we possess for the nourishment of the sick, especially when the sickness extends over a long period of time. In sickness there is a deficiency of saliva; the ordinary foods cannot be reduced to a pulp in the mouth, and thus prepared for gastric digestion. Milk is very easily taken, and the amount of food thus given can be very accurately gauged. It is very easy to increase the amount of nourishment given to an invalid by adding to his diet a glass of milk with each meal.

It should be remembered, however, that milk taken in large quantities at a time may form large clots in the stomach. It sometimes forms into a solid clot like junket—made from milk by the addition

to maintain the weight and energy of the patient. Milk is the special food in typhoid and other fevers. It should be remembered, however, that milk is the best medium for the development of diseased germs of almost every variety, and typhoid fever patients consequently require some other food as well. In typhoid fever the foods are given at frequent intervals, and consist of milk and water, oatmeal or bread jelly, groats, and foods of similar nature. Fruit juices, such as that of the orange or grape diluted, can be given with great advantage in the intervals between the giving of the above foods. They quench the thirst, clean the mouth, and destroy the diseased germs along the alimentary canal, and at the same time when absorbed into the blood they increase its alkalinity, and thus help in its circulation through the fine network of capillaries right through the system. Fruit juices can often be given even when diarrhoea is present. The writer has seen troublesome diarrhoea in fevers dispelled by the occasional use of fruit juice. A

couple of days, however, will be sufficient to test the use of fruit and fruit juices in these cases.

Milk is a good form in which to supply the nitrogenous element of food to rheumatic and gouty patients, as it does not easily split up into uric acid and allied waste products like ordinary animal foods. It should also be remembered that, though rich in proteid, milk is devoid of such stimulating substances as are found in meat. Milk, on account of containing a considerable quantity of water, and not easily being broken up into uric acid, is a good food in kidney disease, in heart disease with dropsy, and in inflammatory affections of the urinary passages.

#### Constipation

Undoubtedly milk and milk foods do not agree with all. Patients with dilated stomachs, and those who suffer from constipation, often develop a bad taste in the mouth, a coated tongue, drowsiness, and constipation. This, however, is much more likely to be the result when they are taken with other foods than the pure cereals. Milk does not combine well with either fruit, vegetables, or meat. If taken with bread, zwieback, granola, or other cereal food, and no other food be taken except, perhaps, a little bread and butter, it will frequently be found to agree. Neither sugar nor eggs should be added to milk when the digestion is sluggish. A little salt is far preferable to sugar. Milk will agree with most people when absorbed in rice. In this way it is kept in a fine state of division, and there is no possibility of any clots forming. The addition of equal parts of water or, better, barley water, will increase the digestibility of milk. When milk constipates, it should on no account be boiled. If it must be sterilised, that is, if one is not certain of the health of the cow or cows from which it is obtained, it should not be brought to the boiling point. A temperature of 170° F. for twenty minutes will destroy all diseased germs, and this temperature will not interfere with either the taste or the digestibility of milk.

#### Condensed Milks

Very often condensed milks are used in place of fresh cow's milk. The milk is condensed usually to about one-third its original volume, *i.e.*, twice its bulk of water would make it of similar composition to cow's milk. It must be remembered, however, that even when thus diluted, it is very inferior to the original milk. When diluted as directed, they are all poorer, very much so, in all the constituents of milk. The percentage of fats and proteids are especially low. And, again, quite a large percentage of cane sugar is added in order to preserve the milk, and it is on account of excess of this sugar that so much dilution is recommended. Many of the condensed milks are made from skim milk, and, consequently, contain a very small amount of cream. Infants especially suffer from the poorness of condensed milks. Pearmain and Moor make the following comment on the nutritive value of condensed milk: "The following table shows the character of the liquid—it cannot be called milk—that is produced by following out the directions on the labels of half a dozen of the *best brands* of (sweetened) whole-cream milk:—

Sweetened whole milk	Dilution recommended for household purposes	Fat in such product	Dilution recommended for infant's use	Fat in such product
A	1 to 3	2.6	1 to 5	1.8
B	1 ,, 5	1.6	1 ,, 14	.7
C	1 ,, 5	1.6	1 ,, 14	.6
D	1 ,, 6	1.4	1 ,, 15	.7
E	1 ,, 5	2.1	1 ,, 14	.8
F	1 ,, 5	1.7	1 ,, 14	.7
G	1 ,, 5	1.7	1 ,, 14	.7
Human milk	—	—	—	3.5

One glance at this table shows how very deficient these products are in cream. Some of these milks, when diluted as recommended, only contain one-fifth of

the fat required, and the best sample only contains one-half. Undoubtedly a great amount of harm is done by the continual use of such milks. On account of being weaker in every constituent, they sometimes prove more digestible than cow's milk, and may with advantage be used in sickness for a short time, but their continued use must result in ill health to the child. Children fed on these milks may look fat enough, but they are pale and flabby, and are often the subject of rickets. It is the excess of cane sugar that gives them the unhealthy fatness, but the children are hot-house plants, and readily succumb to disease. Children fed on tinned foods are often subject to a peculiar disease of the blood and bones resembling scurvy. In fresh milk there is an ill-defined antiscorbutic element which prevents such results. The addition of a little fruit juice to the diet of children fed on tinned foods will, however, counteract the tendency to the above-mentioned disease. Tinned milks are not sterile, and the fluid formed by their dilution should be boiled the same as doubtful cow's milk.

The best tinned milks for infants are the unsweetened condensed whole milks, but they are difficult to obtain. As they contain no added sugar, they are liable to go bad, and, consequently, should be kept in a cool place. The small tins are preferable, as the contents can be used the same day on which they are opened. Pearmain and Moor give the following analysis of four unsweetened condensed milks:—

Brand	Total Solids	Proteid	Fat	Milk Sugar
Ideal	38.0	8.3	12.4	16.0
First Swiss	36.7	9.7	10.5	14.2
Viking	34.2	9.0	10.0	13.3
Hollandia	43.0	11.3	9.8	18.5

All these brands have been condensed to one-third the original volume, consequently the addition of two parts water will bring the strength up to ordinary cow's milk.

## “Le Tub”

THE romantic novels of high life upon which our great-grandmothers doted in their girlhood were plentifully besprinkled with French phrases. Even fifty years ago the fashion was far from obsolete. French writers, on the contrary, still entertained a lingering prejudice against English as the tongue of the “barbarian of genius,” Shakespeare, its highest representative, and never borrowed from it to enhance their own literary productions. Something over twenty-five years ago, however, English began to make its way across the Channel, first in the newspapers, chiefly in the columns devoted to “*le sport*,” and later into those recording the doings of society. “*Five-o’clocks*” and the “*Five-o’clockards*” who attended them made afternoon tea as fashionable, if not as beloved, as in its native Britain. Another British institution much more desirable has recently been imported into the fashions and fiction of France—the morning bath. Every up-to-date French hero now begins his elegant or adventurous day with “*le tub du matin*.”

“*Le tub*,” it must be admitted, has not in the past enjoyed among Frenchmen the favour it deserves. We have the testimony on that point of many travellers, and two distinguished English novelists. Charles Dickens, feeling the need of a Turkish bath while in Paris, once visited a bathing establishment there, to the complete bewilderment of the attendants. Why should such an “amazingly clean Englishman,” who obviously required no further cleaning, and who confessed to daily applications of water all over, desire to submit his person, which did not need so much as a dab with a damp cloth, to be soaked, scrubbed, and steamed? It was unheard of! It was incomprehensible! “But these mad English, good heavens, what would you?”

Mrs. Sartoris, in her charming “*Week in a French Country House*,” recognised the situation in another way, by making her delightfully funny Frenchman, Monsieur Paul, repudiate in one despairing

exclamation the suggestion that he might marry a certain English lady:—

“She would wash me, and I should die!”

Nowadays, however, without extraneous compulsion, Frenchmen are washing themselves to such an extent that Paris actually confronts a shortage of water, and her engineers are planning an auxiliary supply. Statisticians declare that 100,000 baths, requiring 2,000,000 gallons of water, are taken every morning. *Le tub* is everywhere demanded and installed—*le tub* with all the latest and most at-



New Type of Stretcher Used by the French

tractive accessories of nickel, porcelain, or marble, for the French are taking their baths with all the ardour of recent converts.

With no such alluring adjuncts, John Bull was faithfully taking his, by the aid of painted tin and heavy ewers of awkward shapes, in the days of the first great exhibition in the Crystal Palace, more than half a century ago. And after his morning tub and his “bifstek,” he was chuckling gleefully over John Leech’s drawing in *Punch* of two visiting Frenchmen at the exhibition, standing before the latest thing in washstands, while one of them says to the other:—

“But regard them, Alphonse—what a curious machine!”—*The Companion*.

## Stretcher for Trench Use

THE great European conflict, says the *Scientific American*, has become a war of the pick and shovel, so far as operations in the western sphere are concerned; for here we find that both armies have dug themselves in and are fighting from trenches and by means of mines and countermines. This extensive trench fighting has called for a special type of stretcher which will permit of carrying the wounded through the zigzag trenches back to the field hospital. The

ordinary stretcher takes too much room. As the wounded man must be carried in an outstretched position, it is difficult to convey him through the many twists and turns of the trench line. If only the wounded man could be carried in an upright position, or in nearly upright position, it would be a simple matter to convey him to the rear. To permit of this the type of stretcher shown in the accompanying photograph has been devised. It is really a compromise between a

stretcher and a chair, being similar in shape to a steamer chair. With this type of stretcher the wounded man is carried in a reclining position, which is almost a sitting posture. The stretcher has been adopted by the French army.

MOST people have said, “Hot baths make me tired.” This is probably true. The actual fact is this: A very short hot bath lessens fatigue because it stimulates the circulation, and so hastens the removal of the fatigue poisons. A prolonged hot bath aggravates the symptoms of fatigue, and may even produce a sense of exhaustion which differs little if at all from fatigue.

## Climate and Genius

IF a hundred leading scientific men of the Northern States had been taken South just after birth and brought up as Southerners, would they have attained eminence in science? Prof. J. McKeen Cattell thinks not. In an article on "Families of American Men of Science" in *The Popular Science Monthly* (New York, May) he gives evidence to show that "a boy born in Massachusetts or Connecticut has been fifty times as likely to become a scientific man as a boy born along the southeastern seaboard from Georgia to Louisiana"—that is, if he stays put. The chance is due partly to heredity and partly to environment, but apparently climate has a good deal to do with it. Says Professor Cattell:—

"It is evident that what a man can do depends on his congenital equipment. How far what he does do depends on his environment and how far on his congenital equipment, or how far his congenital equipment depends on that of his parents and his family line of descent, we do not know. . . .

"These great differences may properly be attributed in part to natural capacity and in part to opportunity. When it is asked how far the result is due to each of these factors, the question is in a sense ambiguous. It is like asking whether the extension of a spiral spring is due to the spring or to the force applied. Some springs cannot be extended a foot by any force; no spring can be extended without force. The result depends on the relation between the constitution of the spring and the force applied. If the 174 babies born in Massachusetts and Connecticut who became leading scientific men had been exchanged with babies born in the South, it seems probable that few or none of them would have become scientific men. It may also be the case that few or none of the babies from the South transplanted to New England would have become scientific men, but it is probably

true that a nearly equal number of scientific men would have been reared in New England. It is certain that there would not have been 174 leading scientific men from the extreme Southern States and practically none from Massachusetts and Connecticut. . . .

"A Darwin born in China in 1809 could not have become a Darwin, nor could a Lincoln born here on the same day have become a Lincoln had there been no Civil War. If the two infants had been exchanged, there would have been no Darwin in America and no Lincoln in England. Darwin was a member of a distinguished family line possessing high natural ability and the advantages of opportunity and wealth. Lincoln had no parental inheritance of ability or wealth, but he, too, had innate capacity and the opportunity of circumstance. If no infants had been born with the peculiar natural constitutions of Darwin and Lincoln, men like them could not have been made by any social institutions, but none the less the work they did might have been accomplished by others, and perhaps their fame would have been allotted to others. . . .

"President A. Lawrence Lowell has remarked that we have a better chance of rearing eaglets from eagles' eggs placed under a hen than from hen's eggs placed in a eagle's nest. But it is equally true that we have a better chance of raising tame eaglets in a chicken-coop than in an eyrie. The difference between a man uninterested in science and a scientific man is not that between a chicken and an eagle, but that between an untrained chicken and a trick cock. Some cockerels can be trained better than others, but there are innumerable cockerels that might be trained and are not."

Somewhat similar ideas are advanced by Prof. Ellsworth Huntington, of Yale, in an article entitled "Is Civilisation Determined by Climate?" He notes that,

even taking two persons with so different hereditary abilities as the average negro and the average white man, their positions may be remarkably altered by climatic changes. He says:—

“The negro goes North, and is stimulated to energy and thrift; the white man goes South and degenerates. Social environment doubtless has much to do with the matter, but equal importance apparently attaches to an actual change in the amount of climatic stimulus—a change which makes the negro competent and the white man incompetent. It seems to be a strictly physiological effect of climate, as we have seen in previous articles.

“There are other cases where we can compare the negro and the Englishman more exactly than in the case just mentioned. Take South Africa, for example.

“Europeans have been there only for two or three generations in any large numbers. They have gone from the highly stimulating climate of western Europe to the moderately stimulating climate of South Africa. They find themselves face to face with the Zulus, and especially the Basutos, who within a few generations have come from the unstimulating regions nearer to the equator. To day we find a critical situation. The Europeans are not holding their own. The blacks are slowly pushing them out. The Europeans are not in danger in Cape Colony, but farther north it is an open question what will become of them. The blacks not only work more cheaply than is possible for the whites, but also more industriously. The result is that to-day about 10 per cent of the white European population is reckoned as ‘poor whites’—a shiftless set of people, living from hand to mouth, untrustworthy, and a danger to the whole community. . . .

“A more striking case than that of South Africa is found in the Bahamas. . . . From the beginning the Bahamas have always suffered from ‘hard luck.’ Part of the luck is due to isolation and part to natural disasters, but lack of energy on the part of the people appears to be a still more important factor. I

have talked about it with scores of persons, both islanders of the more intelligent sort and Europeans who have lived there for a term of years. Almost without exception they say, ‘This climate is very beautiful and healthful, and we like it, but somehow we can’t work as you people do in the States. Even in Florida it is better than it is here. Don’t you believe it? Try living here a year or two, and you’ll be as lazy as we are.’”

Professor Huntington agrees with Professor Cattell in regarding the Southern States of the Union as climatically unfitted for the development of a high grade of ability. He recognises only five centres of high civilisation and climatic energy—Western Europe, the north-eastern United States, Japan, the Pacific coast of America, and southeastern Australia, including New Zealand. Climatic energy, he says, is not so much a matter of temperature, high or low, as it is of variety; and this variety is due especially to the passage of cyclonic disturbances in the atmosphere—that is, our ordinary areas of high and low pressure. In ancient times, the great centres of civilisation in Mesopotamia, India, and China enjoyed, Professor Huntington thinks, similar variability, due to conditions favouring cyclonic movements, and their decline was synchronous with climatic alterations. He concludes:—

“If this actually happened, the climatic conditions in the places where civilisation was highest must have been highly stimulatory. Or rather, to put it in another way, under such circumstances the physical characteristics of the great countries of the past would have been such that high civilisation would have been favoured just as it is now favoured in the five great centres of modern progress. We cannot say positively that any such thing occurred. Yet all the lines of evidence seem to point to it. It seems at first almost impossible that so great a thing as civilisation should be limited by so small a thing as changes in the air from day to day. Yet we all recognise that civilisation is absolutely prohibited if the tem-

perature stays permanently below freezing, for all life would be impossible. In spite of ourselves we are limited by nature on every side. Our only freedom consists in finding out exactly how we are limited and then in devising ways to overcome those limitations."—*The Literary Digest*.

### A Machine That Takes Off Fat

A MACHINE that will do one's exercising for him without exertion on his part has been tried out at a Chicago hospital. Its primary purpose is to reduce weight,

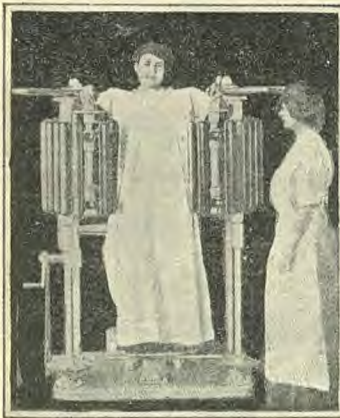
so that the rollers will inclose him about the hips, stomach or shoulders as desired. An ingenious crankshaft arrangement makes it possible for the rollers to be adjusted closely around the circumference of the body.

When the machine is adjusted about the patient he is held immovably in it. His arms rest upon small platforms provided for that purpose. The motor causes the belt of rollers on each side to turn, so that they will massage the body within a regular motion. The amount of pressure or speed can be adjusted according to the needs of each particular case.

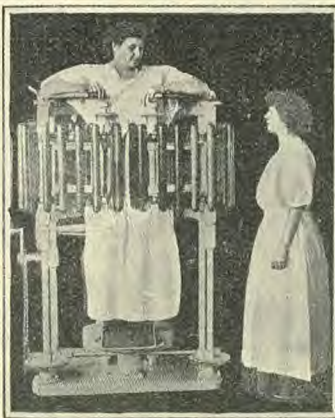
It is claimed that the rollers massage the body in such a manner as to break up fat particles. At the same time the blood circulation is increased to an abnormal degree. The fat particles are dissipated, carried off by the blood and later eliminated by natural processes. Enough pressure can be obtained to give the body a rosy glow all over, clear to the finger nails, without, however, inducing perspiration or having a deleterious effect. In other words, all the physical effects

of vigorous exercise can be obtained without requiring direct exertion.

The athletic department of Chicago University was the first to try it out. It was used there for the cure of "charley horse," a condition arising from bruised muscles among athletes, and its curative powers were so great that the coaches enthusiastically indorsed it. Coach Stagg of Chicago is quoted as saying his men have had no permanent "charley horses" since the machine was installed.—*Scientific American*.



Massage by Machinery



A Mechanical Fat Reducer

without requiring exercise or dieting, and repeated experiments have demonstrated its success.

About all the patient has to do is to remove his—or rather her, since most of the patients are women—outer garments, and put on something closely resembling the old-fashion mother hubbard. Then she is strapped into the apparatus. An operator touches a switch, an electric motor starts buzzing, and the machine does the rest.

The machine has a platform which can be raised or lowered to any altitude desired. About half way up it has two large belts of wooden rollers, each roller being two feet long and about two inches from its neighbour. The patient stands on the platform which is raised or lowered

“ABOUT the worst mistake possible is to be afraid of the weather. Make it a rule to go out every day unless acutely sick.”



### Disease in Warfare

PROBABLY few other than medical observers, says the *Scientific American*, realise fully the part disease is playing during the present world war, and will continue to play, when the war is done, by reason of the predispositions brought about by war's stresses. Although the medical military service is probably more perfected than in previous conflicts, yet

small-pox and dysentery had taken their quota. Napoleon in 1802 wanted to found an empire in the South, and could not because the San Domingan epidemics outgeneraled him, destroying 15,000 of his fine army. In the Mexican war less than 1,000 were killed or died of wounds, while nearly five thousand succumbed to the bacterial bullet. The British in the Crimea lost twenty-five men from disease to one from wounds. In the Franco Prus-



The New O'Shannassy Aqueduct Carrying Mountain Water to Melbourne

several men are dying of disease to one slain by ordnance. Infection has indeed modified the course of all, and has abruptly terminated some wars. Campaigns which should by all military prognostications have succeeded, have failed because cholera, plague, typhoid, typhus, small-pox, malaria, dysentery, and yellow fever have cheated shot and shell of their victims. Montgomery and Arnold were not successful in invading Canada because too few were left for the assault when

sian war Bazaine's great army, if it had not surrendered at Metz, must have succumbed utterly to disease and starvation, while literally one-half the investing Germans, with everything in their favour, were on the sick list. In the brief war with Spain, the dead from sickness were seven times more numerous than from injury. In the Balkan war of several years ago the Bulgarian campaign broke down largely because of epidemics. There were 30,000 cases of cholera in one day.

Here was a more fatal factor than the Turkish resistance in checking the Bulgars at Chatalja.

And war's aftermath. The unusual physical stresses of war, and the enduring effect of its horrors upon the psychism, predispose to degenerations and organic diseases. Wherefore there is in the few years after every war unusual sickness and untimely death among the survivors, from anæmia, debility, liver, heart, kidney, and other diseases. Tuberculosis has long manifested itself in its insidious and malign way, in the world's large armies. Many enlisted men have this disease latent in them, either to burst forth under the strains of campaigning, or to appear soon after the exhausting warfare is ended. Thus, when one computes the awful life destruction in war's carnage, one must multiply that loss several fold by reason of disease.

### Knife and Fork in Turkey

THE Turkish minister of war, in his attempt to reorganise the Turkish army, issued an edict recently that the knife and fork should henceforth be used instead of the fingers among the rank and file of the Turkish forces. As a consequence, the troops underwent a laborious education in the use of these unaccustomed implements, according to a recent dispatch from Constantinople:—

“This Western innovation brings al-

most insurmountable difficulties. Accustomed through long habit to squat on the ground at his repasts, and to employ only his fingers in breaking bread and enjoying his national pilay [a rice dish], the Anatolian soldier considers fork and knife not only superfluous, but cumbersome, and tries by every possible means to avoid complying with this new ‘barbaric’ custom.

“It is rather amusing to see him employ these utensils. He does it as long as his superiors are watching him. No sooner do they disappear from the field of observation than he reverts to his old habit of squatting and of using his fingers. When the warning comes, announcing the approach of the superior, he jumps up, takes a seat at the table, and tries, as best he can, to eat *à la Franca*. The former minister of war, Mahmound Shevket Pasha, tried his best to improve the soldier in this direction, but failed.”—*Selected.*

IT was said of Lord Lister that by his antiseptic surgery he saved more lives in one year than Napoleon destroyed in all his wars. The same can be said of Mr. Marconi. But for the wireless telegraphy there might have been none saved from the awful disaster of the *Titanic*. Yet Marconi remains plain “Mr.” If he had slain in war as many as he has saved, he would be an Earl at least, with a £50,000 gift and a vote of thanks from Parliament.





*E. Matani in The Sphere*

### TRUE TILL DEATH

A faithful dog seeking to defend its former home during the entry of the Germans into a small town on the Aisne.



**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.

### 332. Indigestion at Seventy-one Years

"Charlton" writes: "I have been troubled for some months with indigestion. Hurried exertion, such as walking quickly, brings on pains over the chest and up to the throat, rendering me helpless for the time, compelling me to sit down till strength returns. This occurs both before and after meals, at intervals wind is strongly belched up. Am liable to constipation. . . . Have a good appetite, and except for the indigestion am quite sound and healthy. I am seventy-one years of age. Have a cold pain on the side of the head. Is this also from indigestion?"

*Ans.*—As age advances the heart is less powerful and does not so readily respond to extra exertion. Consequently, extra exertion should be avoided, for recuperation is very much slower in the aged than in the young. Exercise of a gentle nature in the open air is good, but if the tired feeling remains after a night's sleep it is evident the exercise has been too severe. The pains in the chest, throat, and the helplessness after exertion show the heart is not equal to the work, and that the work must be taken more gradually. Elderly people do not form fresh tissues like the young, and consequently the amount of food taken should be considerably less, especially proteids, such as flesh foods, eggs, lentils, and beans. All the milk foods or foods cooked and used

with milk, such as oatmeal, gluten, rice, etc., are excellent for old people. Big meals should never be taken. They are not well digested, and interfere with the action of the heart and respiration. If the teeth are good, the dextrinised cereals are excellent, but otherwise soft foods should be taken. As there is constipation the milk used should never be boiled, and small quantities of plain water, or water and some fruit juice should be taken frequently during the day. Mature fruit with meals will be helpful for the constipation.

### 333. Catarrh and Enlarged Glands

"Newcastle" writes that he is suffering from "catarrh of the head," and that he has "five or six lumps extending from the back of the right ear. They are about the size of marbles, but are not painful." His age is fifty-two.

*Ans.*—The lumps are enlarged glands, and probably point to a somewhat weakened constitution. Sometimes they are evidences of a strumous or tubercular predisposition. For the catarrh of the head strict attention must be paid to diet, and the bowels should be kept regular. Rich and highly nitrogenous foods should be avoided, and especially foods cooked with much butter or grease of any kind. If the tongue is kept clean by a proper dietary, the symptoms of catarrh will give much less distress. Cleanse the nose

and throat daily with the following:—

Take equal parts of baking soda, borax, and common salt. Mix thoroughly, and add one teaspoonful to a quarter of a pint of warm water. Spray the throat daily with a twenty per cent solution of argyrol or nitrate of silver ten grains to the ounce.

### 334. Dietary for Man of Eighty Years

“Wee Woa” is referred to answer to question “Indigestion at seventy-one years.” No. 332.

### 335. Thread Worms

“British” complains of the above, and states that injections of salt and water are ineffectual in her case. She has been using a tablespoonful of salt to a pint of water.

*Ans.*—Probably the salt injections have not been used properly, and have not penetrated sufficiently into the bowel. First a large cleansing enema should be given, and this should be followed by a quart of water, to which two tablespoonfuls of salt have been added, or by the injection of a quart of water in which two ounces of quassia chips have been soaked for three or four hours (in hot water). The injections are best given in the knee chest position, the buttocks thus being elevated, so that the enema may extend well up the bowel.

### 336. Indigestion and Rheumatism

Mrs. J. Y. writes: “I have indigestion and rheumatism. There is a fulness on the left side under the breast after eating. Sometimes there is wind and pain in the chest. I would like to know if indigestion causes rheumatism. I suffer from pains in the feet and hands, the joints are painful and sore to bend, and the fingers are swollen and cold. Would lemon juice with food cure the rheumatism?”

*Ans.*—Correspondent should remember the causes of indigestion and avoid them. The chief causes are:—

(1) Improper food, especially food that

cannot be thoroughly masticated and broken up in the mouth.

(2) Too hasty eating, want of thorough mastication, and bad teeth.

(3) Drinking with meals, especially tea and coffee.

(4) The taking of very hot or cold foods. The best temperature is about 100°F., a little higher than the general temperature of the body.

(5) Excessive meals.

(6) Taking more than three meals, and the eating of any food of whatever kind between meals.

(7) Violent exercise before or after meals, or the eating of usual meals when tired or worried. Under these conditions only light meals should be taken.

The following foods should be avoided: Pastry, new bread, foods cooked with fat or baking powders, spices, pepper, vinegar, highly seasoned foods, foods cooked a second time, especially animal food. Do not take fruits and vegetables at same meal. When milk is taken at a meal avoid all other foods except cereals. Butter or cream may, however, be taken with bread. Vegetables, especially cabbage, partially cooked potatoes, parsnips, and carrots often cause flatulence.

Rheumatism is certainly one of the results of disordered digestion. All fresh mature fruits are good for rheumatism. Cane sugar should be avoided, and all salted and preserved dishes. A little lemon juice may be taken after or between meals.

### 337. Irritating Piles

J. L. writes: “At times I am in torments with itching piles, and lose sleep, and cannot sit and rest. . . . I find some relief from bathing the part, and try to avoid scratching or pressure as much as I can. . . . Are acid fruits, especially lemons, beneficial or not in my case?”

*Ans.*—The bowels should be kept regular. A tablespoonful of olive oil once or twice daily after food will frequently keep the motions soft and unirritating. Piles are due to varicose condition of the

veins in the region of the anus. Associated with these there is frequently some discharging surface, and the less the discharge the more irritating is its effect. There is nothing more valuable than injections of cold water. Once or twice daily inject five to ten ounces of cold water well into the bowel. This acts as a tonic to the relaxed membrane and blood vessels, relieves the straining and constipation, stops bleeding, and eases the irritation. The following ointment should be rubbed over the piles, and inserted into the bowels after each action of the latter:—

R̄      Ung. Conii                      ʒii  
         Ferri persulphatis      grs. XX  
         Ft. Unguentum.

The parts should always be kept well cleansed with water. An operation, which would mean a rest in bed for about nine days, is a certain and safe cure.

### 338. Infantile Paralysis

“Goodna” writes: “Could you give me some treatment for my little girl. She is suffering from infantile paralysis for the last four months in one leg. She can move the leg a little, but cannot walk on it.”

*Ans.*—Infantile paralysis is due to an inflammatory affection of some part of the spinal cord. This causes paralysis of some of the muscles of the limb, and this is followed by more or less permanent degeneration of muscle. In the early stages, when the paralysis first appears, rest in bed is essential, and ice cold applications to the spine. Further on electricity and massage are useful. If the Faradic current causes contraction of the muscles it should be employed daily for ten minutes, or perhaps twice daily. When no contractions follow this current the galvanic current is used, and then the Faradic. Hot and cold applications alternately are helpful by increasing the nutrition of the parts. The child should have regular sanitarium treatment.

### 339. Growth of Superfluous Hair

P. J. asks for a useful remedy for destroying the growth of superfluous hair.

*Ans.*—There is no application known that will remove these hairs. Each hair must be treated separately. Each hair is destroyed by a pointed electric needle applied to the root. The process is tedious where the growth of hair is abundant.

### 340. Numbness of Right Side, etc.

“Crendon” writes: “Right arm and hand go numb with a pricking sensation, especially when she lies on that side at night. Left arm sprained when nine years old. Has had a severe nervous breakdown, but has greatly improved on health foods. She wishes to resume her profession as pianist. She desires remedy for very oily hair, and for sleeping with the mouth open.

*Ans.*—The injury to the left arm could have nothing to do with the numbness complained of. The “nervous breakdown” is the most probable cause. The reason that numbness, etc., come on when lying on the right side is pressure on the ulnar nerve, which has a very exposed position at the elbow joint. All pressure at elbow should be avoided as much as possible. The general health must be attended to. The diet must be liberal. Every morning the whole body must be sponged with cold water, and rubbed briskly with a rough towel. Sleep in a well-ventilated room with all the doors and windows open. There is no need to sleep in the draught, however. Massage, especially of the right side, would be a valuable adjunct to the treatment. For oily hair wash head weekly in hot water with washing soda—small teaspoonful to hand basin of hot water. No soap will be required. There may be some disease of throat or nose which accounts for sleeping with the mouth open. These should be attended to. Practise throughout the day breathing through the nose with the mouth closed, and thus acquire correct habits.

**341. Chronic Throat Trouble, etc.**

"Derrymore" writes *re* her daughter aged twenty-two years. "She has suffered from her throat for about six years. The first sign I noticed was the voice growing weak. If she tried to sing loudly her voice would get very weak. You could scarcely hear it sometimes. She has a little difficulty in speaking and breathing, and feels as if something were pressing on her throat, and her face gets red. In the hot weather, generally about February and March, her throat aches, and it gets worse if she bends her head down. She also suffers from constipation and a slight touch of rheumatism. I intend sending her for a long sea-trip. Do you think that would do her any good? She looks well, only her lips are white."

*Ans.*—General treatment is necessary in this case. She is probably anæmic, and does not absorb sufficient iron from her food. The cereal foods and eggs, especially the yolk, all contain iron. There could be no objection to taking some form of iron. The scaly preparations are the best, such as the citrate of iron and ammonia. Take as much as will go on a threepenny piece after each meal. We do not consider iron as a drug, as it is a natural constituent of the body. Sponge the body daily with cold water, and the throat three times daily. Take as much outdoor exercise as possible, and sleep in a large, well-ventilated bedroom. The less the voice is used the better until it is again strong. The long sea voyage would do good.

**342. Bronchitis**

"Bronchitis" writes: "What is the chief cause of bronchitis? and why, whenever I 'catch cold' the result is generally an attack of bronchitis?" He states that he follows the general principles of health reform as advocated in *LIFE AND HEALTH*, except that he is a moderate smoker, and yet he is liable to attacks of bronchitis.

*Ans.*—Although the attack of bronchitis apparently clears up perfectly, still

some abnormal state of the bronchial mucous membrane remains. The length of time habits are maintained in the system is remarkable. A tolerance for drugs and alcohol may remain in the system for years. The writer, for instance, knows of one case where large doses of anti-pyrine up to thirty grains were frequently taken for headache, and finally even these doses were ineffectual. There was a tolerance for the drug set up. This tolerance has continued for over twenty years, although during that time practically none of the drug has been taken. Similarly once any part of the body has become the seat of repeated attacks of any disease, the liability to the disease will ever remain, and extra care is rendered necessary. Perhaps the tendency to the disease will never be fully eradicated. We would advise "bronchitis" to continue "his moderate walking exercise, deep breathing exercises, regular bathing (cold), wholesome diet." Undoubtedly smoking also predisposes to bronchitis; it keeps up a regular irritation and unhealthy condition of the bronchial mucous membrane. The beneficial results of abstinence from tobacco may not be seen at once. The leaving off of all injurious habits are generally associated for a time with some unpleasant results, but these soon pass away. The general health and the digestion must be maintained, the daily bathing of the body, and especially the neck and chest, is advisable. When hot baths are taken, they should always be followed by a cold sponge or a shower bath. Be careful to avoid all foods that cause sluggishness of the digestive organs, as these produce an impurity of the blood which tends to irritate the bronchial tubes. Exercise in the open air and well-ventilated bedroom are necessary.

**343. Noises in the Head, etc.**

"Anxious" writes about her daughter who is suffering from "noises in the head, especially on lying down at night followed by headache during the day. She has a scaly rash behind the ears and back of

the head, with a red appearance underneath, also one or two patches on the back of rough raised scaly eruption, also red underneath. . . . She has had doctor's treatment, and most of the symptoms have disappeared for a time, but recur again."

*Ans.*—Probably the doctor's treatment was not continued a sufficient length of time. A personal examination is really necessary in this case, as the symptoms may be due to quite a number of diseases. The noises in the ears may be due to digestive disorder, sluggish action in duodenum, catarrh of ears, anæmia, or congestion of the brain, etc. Skin eruptions especially need to be diagnosed before suitable treatment can be given.

#### 344. Neuralgia in Different Parts of the Body

"Mania" writes: "I am suffering with neuralgia of the nerves, the pain comes in any part of my body. Could you give me any advice? Is quinine any good to take? I study my diet, and am a vegetarian. I would like to know of any special food that might build me up."

*Ans.*—The term neuralgia simply means "an aching of the nerves," and it has different names according to the nerve affected. "Sciatica," for instance, is an aching of the sciatic nerve; "pleurodynia," an aching of the nerves supplying the intercostal muscles of the ribs, etc. In this case there is probably some general condition causing the neuralgia in various parts. A personal examination would probably reveal the trouble. We would recommend the following foods: Milk, rice, lightly cooked eggs, gluten, granola, and malted nuts. Cold sponging and fresh air as recommended in present number of "Chats" are advisable.

#### 345. Marasmus and Falling Out of Hair

"E. M.," "Sexton," asks: "Could you tell me the best treatment of baby nine months old, which has an abnormal development of the head, whilst the remainder

of the body is weak and feeble, without any development at all. At night the head breaks out in a heavy perspiration, whilst the hands, legs, and feet are icy cold. Could you also give a simple home treatment to prevent the falling out of hair of a young man who is in good health?"

*Ans.*—The child's life will depend altogether on the obtaining food that is digestible, and which it can assimilate. No food can be recommended that would be suitable in all cases. "Albulactin" added to milk often proves of great value. Mellin's Food will often suit these cases well. The child needs the constant supervision of a medical man. The falling out of the hair is probably due to dandruff. The scalp should be treated by shampooing twice weekly with some good soap. We would recommend the use of the following ointment:—

R̄	Ichthyol	m. x
	Resorcin	grs. x
	Sulphur precipitate	̄ p
	Adeps	̄ j
	Apply at night.	

#### 346. Tiredness—Auto-intoxication

"Judbury" writes: "My husband has been suffering for over a year. He has been treated by two doctors, but has not received any benefit. The symptoms are tiredness and a twitching in the right leg and foot. Urine very thick with a jelly-like sediment, and very frequent. He has a headache, and is drowsy."

*Ans.*—This is a case of auto-intoxication, and is due to imperfect digestion in the duodenum—the first part of the bowel. Dieting is very important. Do not drink with meals, especially tea, coffee, and cocoa. Do not take flesh more than once daily. Avoid all fried foods, and foods cooked with fat at a temperature above boiling water. Use sparingly sugar and all articles containing sugar. Keep the bowels regular by the use of brown bread and fruit at the meals. Drink freely of cold water between the



meals. A little acid after each meal would be beneficial. The acid is advantageously combined with dandelion root as in the following mixture:—

R <sub>x</sub>	
Acid Nit. Mur. dil.	ʒiiii (3½ drams)
Succus Taraxaci	ʒii (2 ounces)
Aquam ad	ʒviii (water up to ounces)

Tablespoonful three times a day in water after meals.

### 347. Deficient Development

“Mack” writes: “My son is eleven years of age, and his height is only 3 feet 8¼ inches. He suffered from weakness which used to come on about every six months, until the last two years. It seems to have quite left him. He is big-boned and healthy every way except that he breaks out in sores on his face. He is getting much stronger, but seems to have stopped growing. Is there any means by which he could be made to grow. Do you think physical culture would do him good? He is very yellow about the eyes, and at times has a very yellow skin.”

*Ans.*—We certainly think that physical culture combined with good, substantial, plain food and attendance to the general health would be useful in this case. There is no food equal to good milk for the development of children. Milk, generally speaking, is better sterilised by being brought to the boiling point; although if the cow be healthy, and the

milking carried out under hygienic conditions, we believe it is more easily digested and assimilated in its natural condition. When constipation does not exist, there is no objection to sterilisation by boiling. Milk is better taken with some cereal food such as rice, oatmeal, granola, gluten, toasted corn flakes, and bread. All these foods are excellent for the development of the child, they are much superior to the more complicated dishes. Outdoor exercise, daily cold sponging, and sleeping in well-ventilated bedroom are all necessary. We would not advise the use of any medicines or patent preparations.

### 348. Shortening after Fracture

N. A. writes: “My husband broke his leg about four months ago. It is now an inch shorter than the other. The bone was broken on the slant, and is overlapping a good deal. Can anything be done to make it the same length as the other?”

*Ans.*—Shortening frequently results from the overlapping of fractured bones. This is especially so with the thigh bone. With the most careful treatment some shortening often takes place. When the shortening is very marked, an operation is necessary to wire the two ends together in a favourable position. With only one inch shortening this certainly is not advisable. The sole of the boot on the affected side can be thickened to compensate for the shortening. In a few months the shortening will hardly be noticed.





## The Child's Clothes

LAURETTA KRESS, M.D.

**A** VERY important part of the mother's duty is to clothe her children so as to keep their bodies in health. This responsibility begins at the time the child is born, and increases as the days go on. Much error is taught about the clothing of children; and as a result, sickness and disease are increasing with remarkable rapidity, because of failure to understand the organization of the body.

### Garments Should be Fitting

Mothers who are careful to have their own garments hygienic, are careless regarding their children. They place upon them ready-made clothing, bought at a "very reasonable price" in the shops. These have been made in large lots, without any consideration as to the form of the specific body to wear them, and do not fit. They are tight in the arm-holes, often measuring the same in the front and the back, leaving no room for expansion as the child stands erect and takes a deep inspiration. All these particulars are very essential to the development of a healthy child. There must be an abundance of room in the chest as well as about the waist.

The proper way for each mother to do in making garments for her child is to allow sufficient cloth in seams and about the chest and the waist, so that they can be made larger as the child grows. Frequent measurements of the chest and the waist should be taken, in order that the

mother can be sure the clothing is not binding, or hindering the growth of the body, or displacing any organs.

### All Parts Proportionately Clothed

Great care should also be taken to have all parts of the body clothed proportionately. The arms should not be left with a thin covering over them, while the trunk of the body has many thicknesses. The legs and the knees need, correspondingly, as much clothing as the thighs and the trunk. If these are not properly clothed, the blood on its way to the extremities and to the skin is chilled by contact with the air from both the morning and the evening breeze, and is driven internally, congesting the digestive organs, also the lungs, and other organs contained in the body.

The knees and the legs, being bare, cause a great deal of disturbance with the throat and the nose. Physicians who are studying into these things have noticed for a number of years that there has been an increase in disease where the arms and the legs of children have not been suitably clothed, and many deaths occur that might not have been had some heed been given to this great essential by the mothers.

In the autumn and the winter, the limbs require to be clothed with flannel or wool. Long combination undersuits coming to the ankles and the wrists, with woollen stockings coming over the knees, will keep the hands and the feet warm,

and increase the assimilation of food very remarkably. If children have cold hands and feet, some disturbance of the digestion will surely follow. For colder weather it is quite necessary that the legs and the arms should be well protected.

#### Careless Clothing and Illness

For out-of-door wear there is need of extra clothing for the limbs as well as for the trunk. Many a serious illness has resulted from lack of care in this respect. Whatever degree of warmth is required for comfort for any portion of the body, is necessary for other parts as well. Therefore a child's out-of-door outfit should be such as will secure an equal additional increase of warmth to the entire body proportionate to the severity of the weather.

Many other points in addition to that of healthfulness require consideration in the question of clothing for children. No child ought unnecessarily to be required to wear unbecoming garments. Many a little one has been made self-conscious and unhappy by being obliged to wear some article of clothing so out of harmony with beauty or good taste as to make the wearer a target for comment and even ridicule.

#### Graceful and Artistic

Healthful garments are not, as many seem to imagine, of necessity so peculiar in design as to be ungraceful or inartistic. God has clothed the flowers of the field in beauty and loveliness, and it was certainly not intended that human flowers should be clad in ugliness. Not all the vagaries of fashion should be followed; but when purchasing or making children's clothing, the mother may aim to choose that which is adapted to the peculiarities of the intended wearer, and so to combine harmony in colour and simplicity in style as to make an unobtrusive garment answer every hygienic requirement and also satisfy the innate love of the beautiful.

To dress a child simply is always in

good taste; and while all the clothing should be made neatly and well, for ordinary wear it should not be of such delicate material as to subject the little wearer to the slavery of constant care lest he spoil his clothes. Not only does such a bondage of thought and care concerning dress mar the happiness and curtail the freedom of the child's activity, but it so emphasises the subject to his mind as to foster vanity and a love of dress.

Children's attention should be called as little as possible to dress as an adornment. Teach them early in life that it is the clean, smiling face, ruddy cheeks, and upright, healthy frame that should be the chief attraction; that dress is simply the setting for the jewel; and that while it should always be whole and tidy, it should not be the thing in itself to attract admiration. Teach the principle that it is the sound body, the perfect poise, the near approach to God's ideal, that gives the charm, and not the furbelows of a fashionable attire.

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#### Home Efficiency

AN article from the pen of Edward Earle Purinton, in a recent number of the *Independent*, contains some timely suggestions on this subject, which is of vital interest to all our readers:—

"Efficiency is the keynote to success in any line of activity, and efficiency depends upon our home life. Energy is perhaps the most important bodily factor in efficiency. Energy is a product of pure, wholesome, abundant food, properly chosen, combined, and prepared; of sound, refreshing sleep in a quiet, clean, airy, restful room; of comfortable, hygienic clothing made of the right materials in a manner that becomes the individual; of daily bath and exercise; of rest and relaxation in the evening, away from business and in the company of those you love. These things must be had from the home.

"At least forty per cent of man's efficiency lies in the hands of women. . . .

The most valuable mental trait in efficiency is probably enthusiasm—a blend of courage, optimism, kindness, and alertness. These qualities are manufactured daily as by-products of a normal household. . . . Home is the great power house of human electricity. Our nerves are the wires, our emotions the currents, our actions the manifestations of light, energy, and influence carried from home. . . . In a power house we employ the highest-priced electrical engineers to handle the machinery with faultless care. But in the kitchen we hire cheap maids totally ignorant of the digestive machinery, the science of marketing, the principles of household economy, hygiene, sanitation, organisation.

“Certain articles for home use cost less from mail-order houses, others cost less from local dealers. Which are they, in each list? At certain seasons of the year, bargains may be had regularly, in clothing, furnishings, foods, and so forth. Do you buy accordingly? In the kitchen, there is a science of utilising ‘scraps’ and leftovers. Have you learned it? A pound of beans, of wholewheat grains, or of nuts contains from two to three times as much pure nourishment as a pound of best steak, and costs perhaps half as much. Do you consult modern tables of food values in ordering the daily meals?”

“In this violently practical age, when even schools and churches are made for utilitarian purposes, the home is the only place where we can satisfy our souls with grace of line, symmetry of form, harmony of colour, beauty of texture, poetry of symbolism. . . . A cottage costing £600, planned by an artist for the needs and the tastes of the members of the family, is a better investment than a £6,000 mansion void of the magic touch of refinement and affection.

“Hurry is the chief cause of worry, and a home is the haven of rest where we can smile at our haste, and watch the world go by. . . . One of the sure tests of a real home is that the very thought of it relaxes our nerves, mind, muscles, and gently and firmly restores our peace and faith in the goodness of God’s great plan.

“Real education starts with inspiration, leads to action, and ends in satisfaction of teacher and taught. The inspiration comes from the mother’s heart, the action must be guided by a father’s strength and skill.

“By hospitality I . . . mean the outflow of heart and overflow of spirit which moves you to give a feast to the poor, to search out and hearten up the victims of a ‘hall room’ desolation, to throw your doors wide open to the waifs in the street. A home is not a home until it shelters the homeless. The reason is a secret; you must find it out for yourself.

“One of the first duties of a mother is to make her children proud to wait on her. But, alas, few mothers learn this until they are too old to begin and too tired to care. Each member of a family has certain duties and responsibilities to every other member. These are usually ignored and often violated. . . . When ‘family pride’ is changed into community feeling, and community feeling grows to be race fellowship, we shall have made the home what it should be—a starting point for service.”

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### Even When She’s Well

A MAN went into a flower shop the other day and selected a few flowers, saying, “They are my wife’s favourites.” The young lady expressed sympathy at the illness of his wife. “Ill!” he exclaimed. “My wife is as well as you are, thank you.” The assistant apologised, saying, “I beg your pardon for my mistake, but, to tell you the truth, husbands don’t usually buy flowers for their wives unless the wives are ill or dead.” It is a poor, foolish thoughtlessness which leaves the expression of love until the day of sickness or death.—*Christian Herald*.

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“MANY of the misfortunes from which we suffer most are those we never experience. They are the misfortunes of imagination.”

## Handicapping the Children

"THERE you go, Mary! What an awkward child you are!" exclaimed a mother as her little girl tripped over a rug and fell just as she was leaving the room where she had been called in to greet a caller.

"That's Mary, all over," remarked the mother, half laughingly, to the visitor. "If it's possible to do a thing in an awkward way, she will do it."

Poor Mary! She certainly lived up to her reputation. She grew more and more awkward and self-conscious as she grew older until, by the time she had reached womanhood, it was positively painful to be near her. Would this have been the result had she not been handicapped almost from babyhood by the suggestion that she was "awkward"?

The mother who repeatedly calls attention to a physical defect or an uncouth habit on the part of the child is impressing that characteristic so upon its mind that it will be positively handicapped by it—perhaps throughout life.

No mother would ever wish to handicap her child, yet how often it is done unintentionally.

On the other hand, the mother who is constantly praising her child in its hearing, who is in the habit of repeating before it all its smart sayings and "cute" actions, is handicapping her child almost as much as the one who calls attention to its defects, and who makes it awkward and self-conscious. Judicious commendation is necessary for the proper growth of the child, and praise and encouragement should be given without stint; but there is such a thing as making a child too egotistical, making him feel that he is all-important, unfitting him to take his proper place in the world's work. "Paranoiac" is the name given to the person suffering from that form of exaggerated egotism to be found in insane hospitals. There are many who are afflicted with it who are not confined in asylums, and it is

largely the result of early training, the "spoiling" by too weakly indulgent, proud parents.

"When are you going to tell about *me*, mother?" questioned a precocious little chap who was used to hearing his mother relate his many achievements and smart sayings and who was growing weary of the conversation which did not include him and his doings.

This mother was handicapping her child unwittingly. If he grew up to be arrogant, assertive, prone to "show off" on every occasion, would this not have resulted from his early training?

"Olga depends on me for everything," laughed another mother as her child, who was called upon to make some decision, seemed completely at a loss to know her own mind, and deferred hopelessly to her mother, accepting her advice on the instant.

It is necessary that a child should be guided by its mother, but the mother who decides every question for her child, and does not allow it to think for itself, to develop its own individuality and that self-reliance which every person should possess, is handicapping her child and making its future harder for it.

Comparatively few intelligent mothers now allow their children to handicap their health and weaken their constitutions by staying up late at night, eating indigestible food, rich pastry, and too much candy; but once in awhile we come across one who thus errs, principally through lack of knowledge. If such mothers realised how seriously they were handicapping the children's health and future welfare, they would take prompt measures to remedy such a course.

"I never make my girls help about the house," says another mistaken mother. "They will be young but once, and I want them to enjoy themselves. I never ask them to do any work at all."

The girls do "enjoy" themselves now,

but when they are married and have homes of their own what an uphill road they will be forced to travel! They will have to learn by hard experience that which would have come easily to them had they been early instructed in household duties. A girl can "enjoy" herself and at the same time do her share of the work of the home, and receive the training which every future wife and mother

winners, the mother who does not provide some means by which her daughter may support herself creditably if such a course becomes necessary, is neglecting her duty.

In these and many other ways, children are handicapped, unknowingly, by their parents. Every mother should ask herself whether or not she is doing her full duty by her children in this respect. If she is not, then let her avail herself of



Sears Photo., Melb.

Lover's Walk, Warburton, Victoria

ought to have. Even the homely tasks can be made pleasant and beneficial if they are taught properly and undertaken in the right spirit. The mother who does not see that her girls are versed in the art of housewifery in all its branches, is positively handicapping them in their future lives.

Again, in these days of uncertain fortunes, when it is not always possible for girls to be sheltered in the home, when they are often forced, at a moment's notice, to go out into the world as bread-

the remedy for such a course at her first opportunity. To her belongs this responsibility. The remedy will differ with the case, but, "There exists a remedy for every ill."—*Anna G. Neil.*

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"BEING patient is the hardest work that any of us has to do through life. Waiting is far more difficult than doing. But it is one of God's lessons all must learn one way or another."

## Keeping Young Children Well

CHILDREN do not cry without cause any more than do grown-up people. There is something wrong somewhere when the little folks are cross and fretful, and so, instead of scolding and whipping them, "to give them something to cry for," try calmly and intelligently to discover just what is troubling them.

Years ago, before the safety-pin was invented, when a baby cried it was often necessary to undress it to search for the busy little pin which was responsible for many a squall. But to-day the source of trouble is usually just as obvious.

When the little ones are tired and sleepy, they are usually cross, and also when they have been confined to the house for several days. Sometimes they may be hungry or thirsty, and not quite conscious of it, or, what is more likely, a slight touch of indigestion is affecting them. Sometimes too much or too strong soap is used, irritating the skin. Then there is the question of clothing. The child may be too warmly clad, or too cold, or there may be something too tight, or something scratching the tender little body. Children's shoes are often uncomfortable, and frequently their stockings work down, and the wrinkles hurt their tender little feet.

Children are naturally fretful when suffering from mumps, whooping-cough, measles, and children's other diseases, but as this is invariably accompanied by some fever, a loss of appetite and a coated tongue, it is usually recognised as something more serious than merely being cross.

Imperfect digestion is quite common among children when they begin to eat solid food. It is often caused by their swallowing their food before it is thoroughly mixed with saliva. Mothers of the uncivilised world in some cases obviate this difficulty by the very simple habit of masticating the food first in their own mouths. Indeed, I have seen this

done by women in our own country. This may seem not merely disgusting, but unfair to the child, and especially in the case of an unhealthy mother. However, when you consider a vigorous, healthy mother, with a mouthful of sound, white teeth, this practice is partly robbed of its unwholesomeness, especially as it insures a child against indigestion. Of course this plan is not recommended, for one can never tell what infection the mouth may contain, but I have mentioned it to show the necessity for a sufficient use of the saliva. As soon as the child has teeth it can easily be taught to masticate its food. Give it a dry crust or a piece of toast now and then at meal time, which it will be obliged to use its teeth upon.

A breast-fed baby is seldom troubled with indigestion, unless fed too much or too often. Bottle-fed babies are not always so fortunate in this respect. Sometimes the stream of milk coming from the bottle is too large, and thus not mixed with saliva. This is easily remedied by procuring a new nipple and making smaller holes in it. Sometimes modified milk should be given, as though for a younger infant.

Eating between meals among older children is another cause of indigestion, for it destroys the appetite, which is undoubtedly the most important factor in digestion. The skin becomes sallow or very flushed, while the tissues grow soft and the teeth decay. Cankers appear in the mouth from time to time, and the bowels are not normal. Many a case of so-called summer complaint, attributed to the heat or to fruit eaten, is the direct result of irregular or over-feeding.

The symptoms of indigestion as a rule are easily corrected by giving the child plenty of water to drink, particularly warm water, and by giving the stomach a rest. Never encourage a child to eat. It doesn't matter if one or two meals are

missed. A warm bath, a little cuddling and a long sleep will do the rest.

Observe some sort of regularity in the feeding, as well as in the matter of sleep and other requirements, and give only wholesome foods. It doesn't need cakes and is better without them. Don't be afraid of fruits. There is nothing in the world which will avert a bilious attack or a cold so quickly as orange juice for an infant or lemonade for an older child. Be careful not to give starchy foods too early, before the salivation is well established. A child of six months is not ready for mashed potatoes, white bread, or corn starch pudding. Do not feed the child with meats nor allow it to taste tea or coffee. Even cereal coffees and cocoa are mildly stimulating, and may prevent the child from sleeping. There are enough foods which a child may have, suitable for its age, to furnish sufficient variety to insure appetite, without the use of pastries or heavy vegetables. See that the child gets a drink of water often, and that this is either from some good spring or filtered. Never refuse it a drink, no matter if you have to get up in the night to fetch it.

To keep the children healthy and sweet-tempered, they must get plenty of fresh air. They cannot get too much. Try to get out with them at least once each day; let the breakfast dishes stand, and take the little folks out for an hour or two in the fresh, early morning air. It will do you all so much good that you will feel more than repaid for the setback in your work, while they will sleep longer and tighter for it during their daily naps, and give you a chance to catch up. When the weather is too stormy to venture forth, put the children's wraps on them and throw the windows wide open. Do this also just before the afternoon naps, and you will see the beneficial results. Always when the little ones are asleep and warmly tucked in bed, have all windows wide open, so that every breath will be as pure as if they were out-doors. Even a young baby should have this fresh air, and it will not take cold.

Neither will it cause colic. Colic is caused by the pressure of gases in the stomach and intestines, as the result of fermenting foods; while colds are developed from the over-abundance of wastes which the body tries to throw off. So get the child out-of-doors every day, and *especially* if it is ailing.

It is a prevailing superstition that one cannot escape the contagious childhood diseases, such as measles, whooping-cough, chicken pox, scarlet fever, diphtheria, mumps, and the like. We are told that we should try to have them while we are young, "get them and have them over with," assuming that everyone is bound to contract them sometime, and that they are less dangerous in childhood. Sickness is looked upon as a natural instead of an abnormal condition, and the statement that anyone has never been ill in his whole life is regarded with astonished incredulity.

Any trifling indisposition on the part of the child is often regarded as the forerunner of a contagious disease. "He is coming down with something," the mother fears, and forthwith the little one is housed, bundled, and drugged until he bids fair to do justice to her fears.

There is perhaps no blame to be attached to anyone, least of all to the hard-working and devoted mother who wears herself out in the service of her family. There is no doubt she does the best she can with the knowledge she has—certainly no one would grieve more than she to know that through her ignorance and misdirected efforts she had done her child more harm than good. But parents must be educated in the care of children.

There is really no reason why a child should ever be sick. I feel perfectly certain that children reared under proper conditions of life would not "catch" these diseases, even if exposed. It is the child with the lowered vitality that is subject to them. Depend upon it that there is something wrong somewhere when the little one gets whooping-cough, measles, scarlet fever, and the like. Doubtless there are disease germs lurking



everywhere and in everything, and no one can escape eating them and breathing them at every turn. Our dwelling places are not ideal, and we cannot chemically analyse every morsel of food and every drop of water consumed. We cannot control the sanitation of the schools, the condition of the streets or our neighbours' homes, or the health of other children. But if good health is maintained a power of resistance is established that effectually baffles all efforts upon the part of these germs to settle down and make trouble. The body normally has the power to destroy disease germs, but as soon as the system becomes run down, these germs gain a foothold and multiply, and illness is the result.

When a child is in seeming good health, uncertain foods and unfiltered water are consumed without notice, and it is only when the child is actually ill that some sort of attention is paid to it. However, if the special attention was of the right sort, the child might even at the eleventh hour escape a serious illness. But with the usual ignorance in regard to the laws of health and the nature of disease, parents in general are almost certain to do the wrong thing and then the child is

sure to have something. Windows are closed, if by any possible chance they had been open; extra clothes are piled on the little one, and it is coddled and given anything it wants, because it is sick.

At the very first sign of illness, look to the ventilation. You cannot have too much air. This may be accomplished without having a direct draught blowing on the child by opening windows in an adjoining room, and allowing the air to circulate gradually through the doorway. If the time is winter, furnish plenty of heat so that the open windows will not chill the air too much. The cost of burning a little extra fuel will not be nearly so great as what is usually spent for doctor's fees.

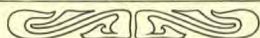
Allow the child to fast as long as possible, for the system is in no condition to digest and assimilate food. This will not be difficult, as in any illness there is usually no appetite.

If the child is fed regularly, its diet well balanced with plenty of fruit, if the bowels are normal and the youngster bathed often, and provided with an abundance of fresh air, the mother may consider the little one quite immune from disease.—*Edith M. Bates Williams.*



## Unpedigreed Children

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I KNOW a man who has a dog that's got a pedigree,  
And he is just as proud of him as any chap can be,  
And careful, too: he never lets him loose except he's there  
To see he doesn't run away and lose himself somewhere.  
He never goes to bed at night until he's been to see  
His fifty-dollar dog is in the place he ought to be.

I know a chap who owns a horse, a splendid thoroughbred.  
He never eats his meal until the animal is fed;  
And every minute he can spare, out to the barn he goes,  
To comb and brush his glossy coat or gently rub his nose.  
No stranger's hands have ever tugged this horse's silver bit—  
They might abuse his mouth, and so he couldn't think of it.

I know a man, the father of three splendid, manly boys.  
But when he's home, they're not allowed to make the slightest noise;  
And they can roam the streets at will, and play with whom  
they choose,  
And he is not at all afraid that one of them he'll lose.  
In strangers' hands they're often left to do just as they please;  
For boys are not at all like dogs with splendid pedigrees.

Whene'er I see a man who owns a fifty-dollar pup,  
Or keeps a thoroughbred that he alone must harness up;  
Whene'er I see the care that's paid a bulldog or a horse;  
I always feel a touch of pain, of pity and remorse,  
Because I think of boys and girls about me everywhere  
Who really need, but never get, such tender, watchful care.

— *Selected.*



## The Latest and Greatest Dietetic Discovery

DAVID PAULSON, M.D.

**T**HE discovery of vitamins is unquestionably the greatest find in dietetics for a generation at least.

If you leave a tiny screw out of a watch the watch is put out of commission. We now know how frequently we have been leaving a screw, as it were, out of our dietary, and as a consequence it has put us out of commission the same as the watch.

Some years ago Professor Eykman of the University of Utrecht, Germany, was over in Java studying a very prevalent and almost incurable Oriental disease called beri-beri, somewhat resembling our scurvy. He was impressed with the fact that it was particularly those who lived almost exclusively on *polished* rice who had the disease.

### Pigeons Destroyed by Polished Rice

He then undertook to feed pigeons on polished rice, and made the interesting discovery that in three weeks' time they became ill, began to be crippled, were unable to hold up their heads, and even their throats became so paralysed they could not swallow, and in another day or two they would die, from a condition strangely resembling the beri-beri in human beings.

Then Eykman made this startling discovery: He took the shavings that had been removed from the polished rice, soaked them in water, passed a little of this fluid down through a tube into the

bird's crop—or if they had not reached the stage where they could not swallow, fed them a little of these rice shavings. And then this astonishing thing happened: In three hours' time they began to recover, and before the day was over were apparently as well as ever. It seemed like a veritable miracle.

In other words, God had put something into the covering of the rice that the birds absolutely needed, and nothing else could replace it. But as little as three-tenths of a grain of this mysterious substance—like the tiny screw in the watch—was all that was necessary for the restoration of their health.

Other observers noted that all over India and some of those other exclusively rice-eating countries, as soon as our modern polished rice was introduced they began to have diseases something like scurvy; the teeth became loose and fell out, and inflammation of the nerves was developed. It was also observed that when the old-fashioned rice was reintroduced the disease disappeared.

### The Discoverer of Vitamine

Three or four years ago Casimir Funk in England undertook to *isolate* this mysterious substance that was present in unpolished rice, and also to determine what other foods contained it, by what means it is destroyed and what influence it has on health.

He was fortunately successful in his

search, and named this mysterious but absolutely indispensable substance "vitamine." He made the important discovery that when fowls were fed exclusively on our modern steel-roller process white flour, in three weeks' time they were afflicted just the same as when they were fed on polished rice. In other words, the vitamins are in the *outer* layers in the wheat just as they are in the rice. The ordinary nice white flour that everybody wants in order to have nice white bread has the vitamins eliminated. God put the vitamins in the bran and in the yellow layer immediately under the bran, that the modern miller knows so well how to separate from the flour and sell as feed for cattle.

The thyroid gland, or "Adam's apple" as it is sometimes called, produces a secretion that is absolutely essential to the human body. Children who are born with little or no thyroid gland have hair resembling that of a horse. They have less intelligence than a monkey. Their faces appear shrunken; they are a pitiable sight to behold.

Some years ago it was found that if fresh thyroid glands were procured from a slaughter house, and thus a little thyroid extract was secured and given to such children, in a few months' time they would blossom out and become like other children. This gives a striking illustration of how indispensable the thyroid gland is to the human system.

There are at least half a dozen other equally important ferments, or hormones as they are called. We are now beginning to realise that the body cannot make these indispensable substances out of proteins, starch, sugar, and fats. It is now believed that vitamins are the *mother* substance for the thyroid extract, for pepsin, and these other wonderful substances which are present in such minute quantities in the body but which are so necessary for its normal activity.

#### What Is Scurvy?

Everybody knows that in former days when sailors were fed for a number of

weeks on canned meats and dried foods without any fresh food or green stuff, they would develop scurvy. Their gums would become diseased, certain nervous and digestive symptoms would develop, and in a short time they would become entirely prostrated, just as the pigeons did when fed on polished rice. And every one knows that if they could get into some port and secure some green garden stuff they would speedily recover.

Dr. Evans, formerly health commissioner of the city of Chicago, says that few ordinary people ever develop this extreme type of scurvy. But he adds: "Yet a large part of the population will have a touch of scurvy in the near future. With some it will go no farther than repeated spells of bad breath; with others a multitude of vague aches and pains variously called rheumatism, sciatica, lumbago, gout. With others there will be attacks of sore gums. With others the face will be pale and a little bloated, with dark circles and slight bloats around the eyes. With others there will be patches of skin eruption. The reason is plain: For several months we have lived on 'hog and hominy,' or what is equivalent to it. Certain needs of our systems have not been met."

#### Foods That Contain Vitamins

When people live on the fruits, grains, and vegetables that God originally provided for man (Gen. 1:29), and refrain from entirely spoiling them by so many of our modern processes and inventions, there is no danger of having a touch of scurvy.

In 1830 Sylvester Graham led out in one of the mightiest health movements that has ever visited this country. Multitudes who had been considered incurable were restored to health by adopting his dietetic ideas.

What was the secret of it? He advised the people to eat whole wheat bread that the other people were despising, just as the nations in the East are beginning to despise unpolished rice, and suffer in consequence. He introduced the people to a

normal, natural dietary. He taught them the importance of fresh green foods containing vitamins in all their strength. He hit on the idea of giving the people the very foods that contain vitamins. It must have been an inspiration from God. We are now beginning to learn the scientific reason for the things he recommended.

Raw milk contains vitamins more in summer than in winter, for then the cows have access to green things, which are particularly rich in them. Raw meat also contains vitamins. All whole grains contain them; so do yolks of eggs. Potatoes and carrots are particularly rich in vitamins. Green garden produce is a vitamin food; so are legumes. Limes, oranges, and lemons are especially so.

#### How Vitamins Are Destroyed

Vitamins may be *peeled* off from the grains, may be *burned out* by high temperatures, and are invariably absent in *dried* foods. Baking heat, generally speaking, destroys vitamins. Those who live exclusively on baked and toasted foods and fail to add to them others containing vitamins, will sooner or later begin to suffer with symptoms of some of the various deficiency diseases.

Who has not observed over and over again babies who were fat and healthy looking when they left their mother's breast, yet when they had been fed a few months on condensed milk and patent baby foods with the vitamins burned out of them, on white flour bread where the vitamins had been removed by the modern milling process, and on sweets and a few other foods which are wholesome and nourishing in themselves, but vitaminless—who, I say, has not seen such children become pale, anæmic, scrawny, nervous, and begin to develop rickets, for exactly the same reasons that the pigeons became ill when fed on polished rice? A few teaspoonfuls of vegetable broth added to their food, a little fresh food, some gruels made from genuine old-fashioned whole wheat flour, would in most instances have completely restored them to health.

#### Is Pellagra a Deficiency Disease?

Thoughtful observers are beginning to believe that pellagra, like scurvy and beriberi, is a deficiency disease. It is particularly prevalent among people who eat little or no garden produce or other foods containing vitamins, but who live largely upon corn from which the vitamins are removed in the milling process and burned out in the baking, and on roasted bacon, which, of course, contains no vitamins for the same reason.

Dr. Deaks, the noted Panama hospital pellagra specialist, is having wonderful success by feeding these patients eggs, green vegetables, lettuce, celery, onions, carrots, tomatoes, spinach, beets, peas, string beans, and fresh fruits of all kinds; and he adds some meat, but religiously avoids sugar.

Dr. Combe, the great European specialist, believes that pellagra is due to a diet deprived of vitamins. It is, of course, not yet absolutely established that this is the only cause of pellagra, but it is certainly significant that the most successful cure is feeding the patients on a food that is rich in vitamins.

There are many specialists who are beginning to believe that tuberculosis is largely a malnutrition disease, that the tubercular germs flourish in a soil that has been made favourable by living upon a one-sided diet that was especially deficient in vitamins.

Cancer is probably another deficiency disease. One thing is certain: That cancer is almost unknown among those who are living close to nature and on a natural, wholesome dietary. We shall no doubt have positive evidence in the near future that a *predisposition* to many other well-known diseases is induced by living on a diet which is deficient in these important, mysterious, protective substances that are so absolutely essential to the natural, normal function of the human system.

It must also be plain that such conditions cannot be cured by merely swallowing drugs, tonics, and bitters, but only by a *reform* in the diet.

### Too Many Improvements

Some of our many modern inventions are undoubtedly a snare of the devil, for which we are paying dearly in human suffering. For example: Whole rice contains nearly four per cent mineral matter, while polished rice, that nearly everybody is eating, contains only *one-eleventh* as much. That is what we sacrifice for appearance's sake.

The best part of our wheat is taken out by the modern steel-roller milling process because people want *white* bread. The old-fashioned stone-burr miller furnished us all the vitamins and the mineral matter in the flour because he did not know how to remove it. But the new-fashioned process takes it practically all out, and what is left and served on every modern table is just as much a deficiency food—and if used by itself would produce disease just as the polished rice did to the pigeons. Much of our excessive cooking and baking is unquestionably a curse to humanity—the cause of many of our deficiency diseases.

### Worshipping False Gods

We are surprised that the children of Israel worshipped idols and went after false gods. But have we not also been chasing after false gods? We have sold good, wholesome food to the market, and then bought some of it back again, paying several prices, for the sake of having it put up in fancy packages with the vitamins "processed" out of it.

Then we have gone to a doctor and begged him for a prescription that we did not need nearly so much as we needed to be reformed. We have taken it to the druggist and paid him to put it up for us, have taken it according to the directions, and then continued to go astray.

### Shall We Dispense with Physicians?

By no means. The conscientious and intelligent physician knows that diseases do not come without a *cause*, and he endeavours to trace human disorders to their source, to point out what needs to be avoided and what needs to be done.

He knows that he can no more heal the sick than the farmer can *grow* corn. What the farmer can do is to *cultivate* corn. What the physician *can* do is to cultivate health, and that is what he is paid for doing.

We are fast coming to appreciate that health instruction is ten times more important than "drops," that in many instances only smother symptoms and permit the patients to be *comfortable* when they are really miserable. It is too late in the day to continue healing the "hurt of the daughter of My people *slightly*, saying, Peace, peace; when there is no peace" (Jer. 6:14), while "My people are destroyed for *lack* of knowledge." Hosea 4:6.

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### Diet and Alimentary Canal

A FRENCHMAN who has made an examination of the food canal in mammals has measured the length of it in 280 specimens that belong to thirty species. He has found that the ratio between the length of the canal and the length of the body is smallest in the carnivorous animals, larger in those that are called omnivorous, and largest in the vegetarians. In other words, the length of the food tract seems to vary with the digestibility of the kinds of food that are consumed. The rule holds true in birds as well as in animals. In man the alimentary canal is about thirty feet long, usually from five to six times the length of the body.

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THERE has been obtained from China the "water chestnut," the tubers of which, eaten raw or in stews, are much liked by the native epicures. They are also sliced and shredded for soups.

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NEXT to dieting, the best help to a useful life is to rest, if you can, when tired, and sleep when sleepy. Take eight hours' sleep every night, and more if you feel the need of it and can get it.



*N. J. Caire, Photo.*

A ROCKERY IN THE MELBOURNE BOTANIC GARDENS

# Taking It All Back

## Darwinism and the Science of Eugenics

GEORGE MCCREADY PRICE

AND so Darwinism has received another severe setback. This time it is the new "science" of eugenics that has repudiated the part of Darwinism bearing especially on this work. In other words, the leaders of eugenics have at last become convinced that Galton's "law" is all a mistake, and have sorrowfully given it up in favour of the results of Mendelism. But I fancy that my terms may sound like Greek to some of my readers; and so shall undertake to explain myself.

The science of eugenics arose just a few years ago under the fostering care of Sir Francis Galton (then Francis Galton), who had become the most famous authority in the world on the subject of human heredity. Eugenics is primarily a movement for the accumulation of data regarding human heredity, the dissemination of the lessons to be drawn therefrom, with the idea of influencing public opinion (and possibly civil legislation) in adopting such rules and regulations regarding marriage as shall ultimately result in improving the human stock, the human breed. Perhaps it would be more accurate to say that it was adopted in the first place with the idea of postponing or counteracting the well-known tendency of modern civilisation towards degeneracy. Too many of the racially unfit tend to survive and propagate; and it was to counteract this widespread tendency that the movement known as eugenics was started. So far so good.

But Sir Francis Galton worked under many disadvantages. In the first place, it will be remembered that he was himself a grandson of Erasmus Darwin, and thus a nephew of Charles Darwin, and accordingly was early schooled in all the intricacies of that doctrine which took the world so by storm a generation ago, and which modern science is now trying

so hard to unlearn piece by piece. Thus Galton, several decades before he died, propounded his famous "law" of ancestral inheritance, which said that a child receives one-quarter of his heredity from each of his parents, one-quarter of one-quarter or one-sixteenth from each of his grandparents, and so on. This was very plainly in full accord with what we should expect from the theory of Darwinism, and together they seemed backed up by an array of scientific authority that very few had the temerity to question *sotto voce*. Galton's method was almost wholly statistical; and this added another element of terror to his results, for who would dare to question the hard array of cold figures so laboriously gathered from all sides and classified and arranged with an industry that was simply amazing?

But in the meantime an Austrian, Gregor Mendel, born the same year as Galton, or in 1822, had been working away on the problem of heredity in a more truly scientific manner. He grew various kinds of flowers in his garden at Brunn, keeping a careful record of his results, and found that there are numerous distinct elements or "characters" that are separately passed on to the posterity. These separate elements we have since named "unit characters." Thus in the case of sweet peas, in crossing a tall and a dwarf, the result was always a definite number of tall and dwarfs, but none half-way between. In colour also it was the same thing; so that it was easy to predict just what the result would be of the blending of any given types.

Some quotations from recent scientific literature will bring out some more of these very interesting and important principles. Thus we have the following from Professor Thomas Hunt Morgan, of Columbia University:—



It is generally recognised to-day that the central idea of Mendel's discovery in regard to heredity is that when two contrasting elements enter a hybrid, one from each parent, they separate in the germ-cells of the hybrid, so that the germ-cells are *pure* like those of the original parents in regard to each element.—*Popular Science Monthly*, January, 1914.

This idea of "germ-cells" may not be clear to some, and I may explain that the germ-cell is a theoretical part that is passed along from one generation to another but never lost, based on Weismann's theory of the continuity of germ-plasm. This much is theory; but the general results of Mendelism are beyond theory, they are demonstrated facts. They are no more to be questioned now than the formulas of chemistry or the mixing of paints, and as we shall presently see, they remove forevermore one of the main foundations of the theory of biological evolution.

I quote again from William A. Lacy's book, "Biology and Its Makers":—

The great discovery of Mendel may be called that of the purity of the germ-cells. By cross fertilisation of pure breeds of peas of different colours and shapes he obtained hybrids. The hybrid embodied the characteristics of the crossed peas; one of the characteristics appearing, and the other held in abeyance—present within the organisation of the pea, but not visible. When peas of different colour were cross-fertilised, one colour would be stronger apparently than the other, and would stand out in the hybrids. This was called the *dominant* colour. The other, which was held in abeyance, was called *recessive*, for, though unseen, it was still present within the young seeds. That the recessive colour was not blotted out was clearly shown by raising a crop from the hybrid, a condition under which they would produce seeds like those of the two original forms, and equal in number; and therefore the descendants of these peas would *breed true*. The so-called purity of the germ-cells, then, may be expressed in this way: "The hybrid, whatever its own character, produces ripe germ-cells which produce only the pure character of one parent or of the other."—Pages 315, 316.

Putting with these facts that other far-reaching discovery of Weismann, that *acquired characters are not transmitted* to offspring, we readily see that there is not much left for Darwinism to work on, not much left of the theory of biological evolution. For how are new characters to be added to a stock that were never latent in the ancestry? True the stock might degenerate, and might thus transmit freaky characters like extra thumbs, and extra toes, or congenital cataract of

the eye, as well as various skin affections and nervous diseases, which are now known to be transmitted as *dominants*, but none of these are in the direction of that higher development that the evolution theory requires. But Mendel's law, combined with that discovered by Weismann, must end the chapter on Darwinism for everyone not bound by mental inertia or deceived by the loud protestations of so many leaders of modern thought who are so reluctant to surrender a theory that has already changed the whole current of modern thought into materialistic and anti-Christian channels.

The following from William Bateson, the highest modern authority on this subject, confirms my statement that Mendel's law blends with and confirms that of Weismann about acquired characters not being transmitted:—

The essence of the Mendelian principle is very easily expressed. It is, first, that in great measure the properties of organisms are due to the presence of distinct, detachable elements [unit characters], separately transmitted in heredity; and secondly, that the parent cannot pass on to offspring an element, and consequently the corresponding property, which it does not itself possess.—*Sci. Amer. Sup.*, January 3, 1914; reprinted from the *Lancet*.

Mendel's investigations were carried on in the sixties of the last century; but he dropped this work, and the world knew nothing of it until 1900, when DeVries and others simultaneously rediscovered these results with the very natural consequence that our whole conception of heredity in both plants and animals has been revolutionised. The battle is not quite over, for a few like Karl Pearson are still contending hysterically that this or that human character has not been proved to be "Mendelian;" but it is a losing battle, and there can be no question of the result. Five years ago Dr. C. W. Saleeby, the friend and scientific heir of Sir Francis Galton, and one of the leaders of the eugenic movement in England, reluctantly repudiated his master's "law" of ancestral inheritance, "which would be of such importance for eugenics [and Darwinism] if it were true, but which cannot stand in the light of our new genetic knowledge."

In a recent number of the *Forum* the latter writer has a very interesting article, which is also amusing in its frankness. In the following passage we can almost read between the lines the extreme reluctance with which these discoveries of Mendel were received, and it throws some light on the conspiracy of evil that kept these discoveries covered up for over forty years. I do not mean that any scientific worker was guilty of thus deliberately joining a conspiracy of silence; but I do mean that in this instance, as in so many others, we can read the plain evidence of evil spirits doing their best to keep the light from shining on the pathway of mankind. I quote from the issue for April, 1914:—

The fact is that any practical science which depends, above all, upon heredity, must reconsider its statements and its intentions from first to last in the light of our new knowledge. To the breeder of wheat or roses or racehorses this statement applies, but it applies no less to those who seek to serve human parenthood and the future. The laws of heredity are not as Galton understood them, and they are not to be elucidated by the methods which he employed, and which Professor Karl Pearson has since elaborated and still employs. It was a tragedy for biology at large, and above all for eugenics, that Gregor Mendel should have been appointed abbot of Brunn, and should have lost all interest in his own researches, so that Darwin died without having heard his name, and Galton studied heredity for decades, without the key which Mendel had already forged, but of whose existence no one outside Brunn was aware.

That cannot be helped; but what can be helped is the tendency to continue along the old lines, and shut our eyes to the significance of the new methods—which are in fact older than Galton's, though our acquaintance with them is so recent. . . . Our business is to go forward, honouring Galton none the less in that we find ourselves compelled to abandon his generalisations, and to restate the postulates of eugenics in many respects.

Statistical statements of averages and probabilities will not do. When Galton gave the Herbert Spencer Lecture at Oxford, he chose as its title, "Probability the Foundation of Eugenics." It will not do. The probabilities of the statistical method are untrue as biological facts, and they are useless for the service of eugenics.

Thus a saner, a more truly scientific study of this subject is fast getting back to the principle so long ago laid down in the good old Book, that God ordained animals and plants to reproduce "after their kind;" and if Charles Darwin were living to-day he would be compelled to say, "I have laboured in vain, and spent

my strength for naught;" though sad to say, these wretchedly unscientific falsehoods are already so widely accepted, they have gained such an intellectual and social momentum, that it will be a long time before the great crowd who let other people do their thinking for them will wake up to this situation. We are reminded of the old proverb that a lie will travel round the world while truth is getting on its boots.

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THE worst thing you can do in cold, wintry weather, is to shiver over the stove, or hang around the fire. Get out with your sweater on, and climb a hill!

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NEARLY all doctors now agree that nervous weakness results from bad habits of mind. This gets back to the Old Book: "As a man thinketh in his heart, so is he."

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A GREAT deal of intemperance is due, said Lord Justice Bankes at a temperance meeting in England, through lack of variety and proper cooking in the food served to men. "If they only got potted lobster and potted salmon, which gave them indigestion, they went out to the public house. Anyone who could ensure for men more comfort and a better variety of food in their own homes would do a great deal to promote the cause of temperance."

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SOME prominent business houses in the United States have recently taken a determined attitude against the use of alcohol by their employees. The Cambria Steel Company has announced that any man has a right to drink if he wants to, but that no man has a right to drink and expect the company to pay full price for his lessened efficiency. The Philadelphia Quartz Company has promised an increase of ten per cent in wages to each employee who pledges himself to total abstinence.

## Insurance Statistics and Longevity

MAY human life in general, asks the *Literary Digest*, be prolonged by utilising the investigations which the life-insurance companies make to ascertain which persons should be charged low, and which high, rates of insurance? It is the opinion of Arthur Hunter, actuary of the New York Life Insurance Company, that this

a large part of all those with which insurance statistics deal. Our citations are from an address delivered by Mr. Hunter at the eighth annual meeting of life-insurance presidents in New York, and now published in pamphlet form. Says Mr. Hunter:—

“I have no doubt that the knowledge



Fruit Cultivation is a Natural Aid to Longevity

is undoubtedly possible. His argument is simple and easily understood. If insurance statistics show, for instance, that users of alcohol are poorer risks than abstainers—that is, that they die earlier, on the average—it requires no deep thought to reach the conclusion that one may prolong his life by abstaining. This applies to all conditions that may be altered at will; and such conditions form

which the life-insurance companies have acquired from their investigations regarding the mortality among their policyholders may be applied by individuals toward lengthening their own lives; but the difficulty arises of getting such information before the public in a form which can be readily understood. The investigations undertaken by the companies were primarily intended to assist them in

determining which types of persons could safely be accepted for insurance at the regular rates of premium, which types should be charged an extra premium, and which should be declined. The purpose of the preparation of these statistics was not to excite public interest or curiosity, but for actual use in a great business. No haphazard methods have been used, but the most approved and scientific known to actuaries and medical directors; their knowledge of mortality is based upon the actual experience of companies with all sorts and conditions of men and women, and naturally appears in the form of statistics. Lest the word 'statistics' should frighten you, let me point out that true progress in any science is made through recording the result of actual experience or of experiments, and that my statistics will be of this nature. They will constitute, in fact, a brief record of what has happened to mankind under certain conditions, and will not be difficult for the layman to follow.

"Forty-three of the leading life-insurance companies in the United States and Canada agreed in 1909 to prepare their collective experience on many different classes of insured. They decided to put the investigation into the hands of the Actuarial Society of America and the Association of Life-Insurance Medical Directors. The companies supplied their records on about 2,000,000 lives, covering a period of twenty-five years. It is the largest and most comprehensive investigation ever undertaken by insurance companies anywhere. The object of the investigation was to determine from past experience the types of lives among which the companies had a higher mortality than the average. The results of the investigation have appeared in four volumes, and the fifth is in press. It has taken the Central Bureau about three and a half years of continuous labour to produce the results, using the most up-to-date machinery in the way of electric sorters and tabulators. A card was supplied for each of the policies issued from the years 1885 to 1909 among certain

types, the history of the person being given on such card.

"The insured were divided into many classes, of which the following are the chief groups:—

"1. Those who were in occupations involving hazard.

"2. Those who had a family history of consumption.

"3. Those who had a defect in their personal history, such as an attack of appendicitis, renal colic, rheumatism, syphilis, etc.

"4. Those whose physical condition was not normal.

"5. Those whose habits with regard to alcoholic beverages were not satisfactory in the past, or who used liquor steadily at the time of application for insurance.

"6. Those who were distinctly overweight or underweight.

"It would be impossible to cover in a brief paper any but a very few of the important classes. Before describing these classes I should like to emphasise the fact that all the lives involved in the investigation had been carefully examined by competent physicians, and that, in general, the more hazardous the occupation, or the greater the defect in physical condition, in family history, or in personal history, the more care was taken in selecting the lives. For example, in the case of applicants who were twenty per cent overweight insurance would be granted in the majority of cases, but among those of extreme overweight very few would be accepted, and these would be the best of their kind. In order to determine the relative mortality, a standard or 'measuring rod' was prepared, representing average mortality among insured lives, based upon the experience of the forty-three companies among all their insured. It is not necessary to describe this standard—merely to point out by an example the method of using it. When a class is said to have ten per cent extra mortality, it means that where the experience of the companies would have resulted in 100 deaths among their insured as a whole, there were 110 deaths in the specified

class. Another way of making the needed comparison is by showing the number of years by which the average lifetime will be reduced, and this manner of exhibiting the degree of hazard will be used in some cases. In this connection it may be well to point out that a reduction in the average lifetime of, say, five years among a large group of men is a serious matter. It does not mean that five years is taken off the lifetime of only those who have reached age sixty-five or seventy, but that the average lifetime of all men is reduced by five years. If in an occupation employing many men, such as mining, there were such a reduction, it would mean an economic waste in the United States equivalent to about five years of the lifetime of one million men, or a reduction of their productive lifetime by about one-sixth."

Mr. Hunter goes on to point out in detail some of the facts, or classes of facts, brought out in these voluminous reports. Some of these, for instance, are the high mortality among railroad men—sixty per cent above the average in the case of locomotive engineers alone; the fact that liquor dealers are a bad risk; the proof, "beyond peradventure of doubt," that abstainers live longer than users of alcohol; the failure of statistics to show definitely whether or not predisposition to tuberculosis is hereditary; and the material effect of marked overweight is decreasing length of life, especially at the middle and older ages. In conclusion, we are told:—

"The statistics of the Medico-Actuarial Mortality Investigation were not compiled with intent to prove or disprove a particular theory, as so frequently happens when partisans engage in the preparation of statistics in support of their point of view. The companies put their records in the hands of a committee of actuaries and medical directors, and asked them to determine what the true experience has been. The statistics, therefore, represent the facts.

"This investigation shows effects of incorrect living, and frequently indicates the way in which improvement may be

made. The officers of the companies are glad to have such information given to the public, since they know it will be of direct benefit in reducing the death-rate, and because they are interested also in such matters from the standpoint of the general welfare."

## Shall We Vaccinate?

Martha N. Canfield, M.D.

YOU mothers who are harrowed over having the children vaccinated have my sympathy. Of course you feel that *you*, rather than the legislature, have the right to decide concerning this question.

But you must not forget that smallpox was once a formidable disease, and that occasionally yet it appears in a virulent form. Smallpox once swept America and Europe with frightful epidemics, claiming its multitudes, and leaving in its wake those disfigured, maimed, and often blind or deaf, for the remainder of their lives.

### How Vaccine Was Discovered

Finally, about the beginning of the eighteenth century, a British physician named Edward Jenner discovered that milkmaids who had cowpox, a disease communicated by infection of their hands from the cow, did not have smallpox. Using this as a basis of investigation, he proved the value of vaccination. A young boy was first inoculated, or vaccinated, with cowpox lymph. Six weeks later, he was vaccinated by the use of smallpox virus; and as Dr. Jenner predicted, the boy did not take smallpox.

Since the days of Jenner, vaccination has been widely practised, in spite of continuous opposition.

A method first used was the transfer of virus from one individual to another; but a possibility of transferring disease led to the abandoning of this method.

### The Care in Preparing Vaccine

Whenever I hear a mother say, "I do not want that poison stuff put into my child's arm," I think of the visit I paid

to an institution where vaccine was manufactured. The remarkable care used to have a perfect product has forever removed from my mind any prejudice against smallpox vaccine. Healthy young calves were used to obtain the serum, and every step in the work was done with aseptic precaution. After the serum was obtained, the calf was killed, and a microscopic examination of its tissues was made, to be sure these were healthy; and finally, a test was made from every "batch" of the inoculating fluid, and its reliability was not established until all this was done.

You may have noticed that there is only a tiny bit of the vaccine fluid in an air-tight tube. It is designed to produce but a mild indisposition; and if it does not make the child a little sick, then it does not "take," and he is not protected from smallpox.

The point I want to make is, that there are other sources than the vaccine to cause trouble in the matter of vaccination. The physician may be careless in his work. His own hands should be clean. The place vaccinated, which is on the upper outside of the left arm, should be thoroughly cleansed. A sterile dressing—cheesecloth will do if it is sterile—must be secured in place over the point vaccinated. This had better be held on by surgeon's plaster, in order that it shall not slip off. The child must not touch this with his fingers, lest he introduce germs. Careless handling of the wound has produced many cases of so-called "blood poisoning," bringing vaccination into disrepute.

By the way, the New York State department of health has investigated those cases of death reported to be caused by vaccination, and the death certificates of the attending physicians revealed that not one of the deaths was remotely connected with vaccination.

#### One Failure Through Carelessness

A case is reported of a young boy who had been vaccinated and was wearing a mask over his arm. One day when he

was engaged in a game of ball, the mask troubled him, and he laid it on the ground until the game was finished, and then resumed the mask. In the course of a few days, he died of lockjaw due to the tetanus germ introduced from the ground through the mask.

#### Over Three Million Successes

The story of the cleaning up of the Philippine Islands is an object lesson for all time. It ought to prove conclusively the value of vaccination; for over three million people were vaccinated, without the loss of a life or a limb, and six thousand lives were saved annually from death by smallpox.

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SIR VICTOR HORSLEY continues to protest against the issue of rum to the troops in the trenches. In the *British Medical Journal* he points out that "the temporary flush caused by taking alcohol is due to the slackening of the arteries, which drives the blood to the surface, and that a lowering of the temperature inevitably follows. In the American Civil War, after a month of spirit rations in the Northern Army, the medical officers reported that their effect was entirely injurious, and they were withdrawn. In the present state of medical knowledge, the issue of rum with the commissariat supplies, in and out of the trenches, to any man who will accept it, is particularly deplorable. Sir Victor stakes his professional reputation on his declaration that rum causes loss of resistance to cold, encourages frostbite, and reduces efficiency in shooting by forty to fifty per cent."

#### Elizabeth Reforms Her Family

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ELIZABETH had never noticed how plain and provincial her people were until Mr. Hodson began calling on her. Then she began to wish her bluff, good-natured father had a club to go to, and that her mother would not always come into the parlour smoothing her apron. As for Jack!

"Mother," Elizabeth said, one evening, when she had reason to expect Mr. Hodson, "won't you please make Jack go to bed early to-night?"

"Why, Bess, I don't tell Jack when to go to bed any more. He's too old for that."

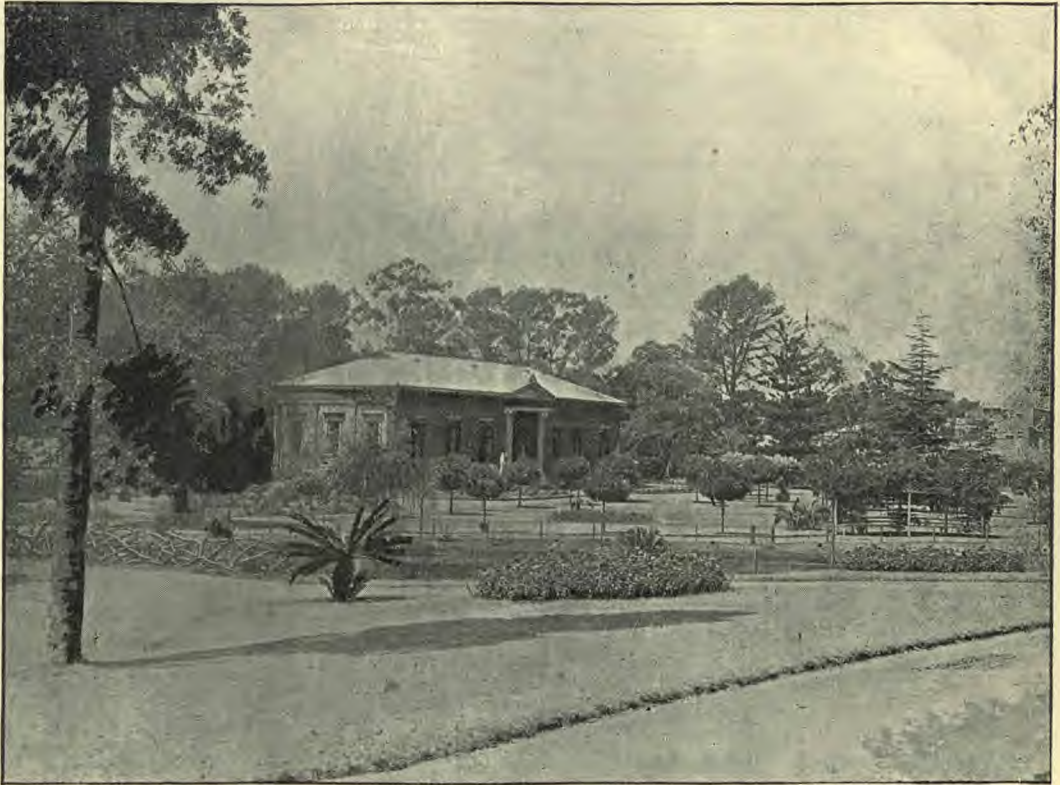
"He's not too old to drink lemonade and eat cake as if he'd never seen refreshments before," complained Elizabeth.

"That's funny! I always feel real dressed up when I have on one of my pretty aprons. But I won't wear one if you don't want me to."

"That's a dear! And mother, do you think you could coax father to wear his coat when Mr. Hodson is here?"

"But your father likes to be comfortable ——"

Just then the doorbell rang. Eager to



A Picturesque Spot in the Adelaide Gardens

S. A. Marchant, Photo., Adelaide

"He acted like a wild Indian the other night. I don't know what Mr. Hodson thinks of him."

"I guess he knows a rollicking boy when he sees one," returned Mrs. Day, comfortably.

"Mother—I wish," faltered Elizabeth, "you wouldn't wear your apron when you come into the drawing-room. It looks so —bourgeois."

"So—what?"

"Common."

get there before her brother, Elizabeth ran and opened the door herself.

"Getting awful anxious, aren't you?" called Jack.

As soon as Elizabeth and her visitor were seated in the parlour, Mrs. Day appeared. She greeted young Hodson pleasantly, and then, glancing down at her apron, precipitately fled from the room. She soon returned, consciously smoothing her apronless skirt.

Elizabeth's annoyance increased when

Jack bobbed in, calling lustily, "What time are you going to have supper, Bess? I'm going down to Brown's, but if there's to be anything to eat, I want to be on time."

"Oh, Jack ——" began Elizabeth.

"Run along, boy," said Jack's mother. "I'll save you something if we have anything to eat. Oh, there's father!" Mrs. Day's face beamed with welcome, then suddenly clouded over. "Father, don't you think you ought to have on your coat? It's chilly."

"Gammon, mother! You know I never wear my coat in the house. Say, Hodson, these women are always fussing at their men-folks. Some day you'll know what it is to have a wife worrying about you."

Elizabeth's face turned scarlet, but Hodson laughed. "I certainly hope so," he said.

"Now, father, come out in the dining-room. I want to show you something," Mrs. Day smiled at her own tact, and led her husband away to be gently lectured on the subject of wearing a coat.

"Do you know," said Hodson to Elizabeth, as soon as they were alone, "I think you are the most fortunate girl in the world?"

"Why?" Elizabeth was visibly astonished.

"Because your family is so genuine and kindhearted and wholesome. I feel like embracing your sweet little mother when I see her wearing that crisp white apron. It takes me back to the time I had a mother down in the country who wore little aprons just like them. And your father! How hearty and kind he is! In these days of affectation it's a privilege to meet people like Mr. and Mrs. Day. And Jack, too? A real boy—the kind that makes a real man. It's the real people who count."

"I'm afraid," murmured Elizabeth, to herself, "that I'm the only one in the family that's not quite real, after all." —*Selected.*

## The Drug Habit

DR. R. ARMSTRONG-JONES, medical superintendent of the London County Asylum, Claybury, makes some significant statements in a pamphlet he has issued on "Drug Addiction in Mental Disorder" (Adlard & Son). What he has to say is based upon an experience of over forty years of the drug habit. The question—why do men and women take drugs? he answers precisely in the same way as the question—why do men and women drink? "Because drugs tend to soothe the mind and to make men and women oblivious to pain, discomfort, and wretchedness, and to give the false idea of a stimulating mental activity; but the happiness is short, the mental energy transient, and the relief is brief." The refinement of the woman is destroyed, and the virility of the man is extinguished, and the material framework and the mental endowment are equally shattered.

The form of the drug taken is, according to Dr. Armstrong-Jones, much more frequently an opium derivative than any other kind, and morphia heads the list. More than half his cases took morphia, chlorodyne, or laudanum: "Some took opiates by the mouth, drinking it as laudanum or chlorodyne, and others used the hypodermic syringe as well as drinking the solution of morphia. Cocaine, either alone or with cannabis indica or atropine, was also taken. The new synthetic drugs caused several persons to become victims, such as veronal, trional, and sulphonal; but sedatives, 'sleeping draughts,' 'nerve tonics,' and 'headache powders' also figured . . . the chloral, paraldehyde, and the bromides were considered to be the cause of mental breakdown in the case of five persons (out of forty-one). . . . Chloroform vapour was used in two cases, and ether in one; in another smoking opium was the method and the sedative. The largest quantity of opium taken was twenty grains per day, afterwards increased to fifty grains of the acetate." In some of the morphia cases the limbs of the body were, Dr. Armstrong-Jones



adds, literally scarred all over by the hypodermic syringe, the skin of both arms, the abdomen, and thighs being often pigmented through and through by the needle.

The conclusions which Dr. Armstrong-Jones arrives at are that—“(1) Drugs, and the habit of drug-taking, are a cause of insanity and are a public danger. (2) The symptoms are a serious injury to health, and a deterioration of all the elements of the mind, but mainly of the moral faculties. (3) The victims are mostly among the cultured, the artistic, and the best brain-workers of the community. (4) Such a destruction of the ablest and best minds is preventable. (5) Restriction of the sale of dangerous drugs is urgently needed in the public interest.” How difficult it is for sufferers from the drug-habit to control their own destiny by abstention is well known. Coleridge, we are reminded, went so far as to hire men to prevent his getting opium, and yet he dismissed them for doing their duty!—*Southern Cross*.

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### Music

IN a typical county of a Middle Western State [in America] a careful study has been made of girl life in the open country and the small village. Among the questions asked was this: “What is your favourite accomplishment?” Of the 269 girls who replied, 238 named music. The second preference, which was for embroidery, had only nine votes in its favour.

As the love of music is not exceptionally great in that particular neighbourhood, what a light the answers throw on the puzzling problem how to create an acceptable social life for young people in the country!

The old-fashioned singing school, so dear to the hearts of our country grandparents, should be revived. It might be difficult to get again the old-fashioned singing master, but it is quite possible to

form a singing club, and to select from the neighbourhood the person who has had the best training for musical leadership. If no fitting person can be found, some one from a near-by town could be employed. Much has been done in some places through the church choir. In one case a minister made a notable success. He gathered the young people from the farms into his choir, and trained them so well that not only were they a source of joy to their own community, but they were invited to sing at festivals all over the State. He revived the beautiful old idea of the Easter serenade, and also brought music and cheer to the old and the “shut-in” through his young people’s choir.

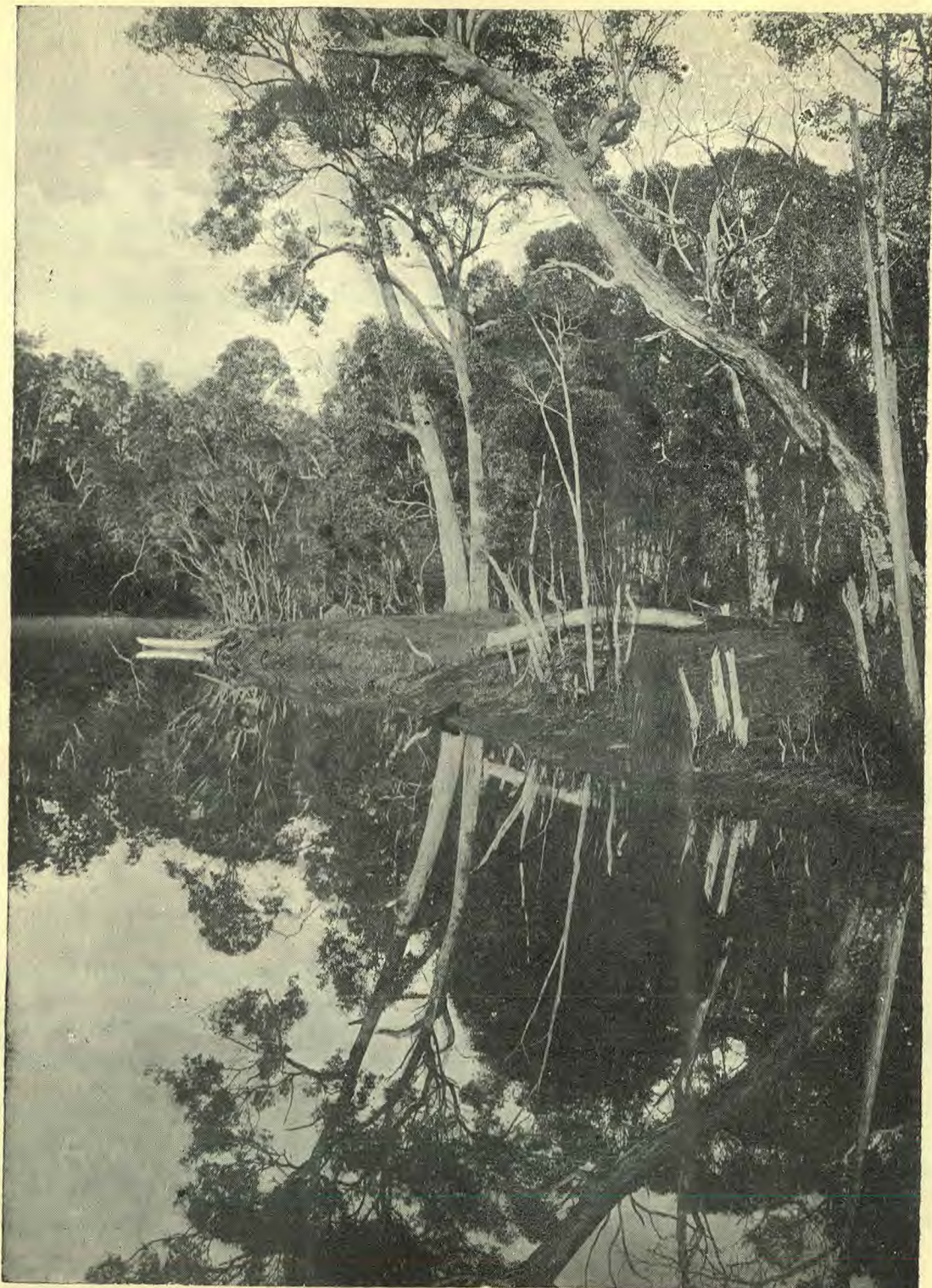
The boy’s band and the school orchestra can also be used to advantage in country regions. One successful country pastor in North Dakota reached some very rough boys and young men in his community through a band, which had as soothing an influence upon their turbulent spirits as the strains of David’s harp had upon Saul.

Not only does music meet the social need of young people, but the habit of singing together fosters the spirit of co-operation. Professor Carver of Harvard has called attention to that fact. In speaking of the improved rural life in Denmark, he says: “Every student who is intimately acquainted with the history of the movement agrees that the popular recreations and festivities have been powerful aids in creating this spirit; and that the popular songs and hymns, and the habit of singing them together on all occasions, have given to these recreations and festivities a patriotic and religious character that is to be found nowhere else to-day on so large a scale.”

We need just that spirit in our own country.—*Youth’s Companion*.

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OBSERVE what direction your thoughts and feelings most readily take when you are alone, and you will then form a tolerably correct opinion of yourself.—*Bengel*.



NATURE'S MIRROR

*N. J. Caire, photo., Melbourne.*

## Do Men Need More Food Than Women

THAT men eat five or six per cent more than women—not because they are gluttons, but because they actually require that much more nourishment—appears as the result of an investigation made in the nutrition laboratory of the Carnegie Institute at Washington by Francis G. Benedict and L. E. Eames, and presented on January 13 to the National Academy. Our quotations are from the paper as printed in *The Proceedings of the Academy* (Baltimore, February). The reason for the discrepancy seems to be that women have a smaller proportion of active tissue than men of the same weight, and more inactive material, such as fat. Say the investigators:—

“From the earliest attempts to adjust food-intake to the energy requirement, it has been recognised that the dietetic needs of men as a class are somewhat greater than those of women. This increase has been commonly ascribed in large part to the variations in the muscular activity, and yet there has been a definite belief that the basal energy requirement for women may be materially different from that for men. In connection with observations made on a large number of normal men and women, primarily for the purpose of comparing them with pathological subjects, we have accumulated the results of observations on eighty-nine men and sixty-eight women, all of whom were in ‘presumably good health.’ The experiments were made with essentially the same technique and with the subject in the same condition of muscular repose and the postabsorptive state, *i.e.*, twelve hours after the last meal. Under these conditions, differences due to muscular activity are entirely eliminated, and we obtain the basal normal caloric output of the individuals.”

The investigation disclosed that the average woman generates only 1,355 heat-units in the twenty-four hours, as against 1,638 produced by the man, or about two per cent more for the latter, per pound of

body-weight. When groups were compared, after careful selection of individuals of nearly the same height and weight, the men were found to produce about twelve per cent more heat than the women. We read further:—

“We rigorously excluded athletes from these comparisons, and hence we are deal-



A Sturdy Vegetarian, Brought up on Sanitarium Health Foods

ing here with non-athletic men and women of the same height and the same weight. It is thus reasonable to suppose that the actual body-surface of the different groups must have been very nearly the same, and it is not logical to assume that the larger heat-production noted with the men was due to a disproportion between the body-measurements and the body-surface. We believe that these data show a basal metabolism for men

some five or six per cent greater than for women of similar height and weight, and that this increase is due to the fact that in all probability the women, particularly in those groups with the greater body-weight, had a much larger proportion of subcutaneous fat than the men, thus indicating a consequent smaller proportion of active protoplasmic tissue."—*The Literary Digest*.

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### A New Race of Pygmies

THE discovery has just been made in the central portion of the French Congo of a race of pygmies hitherto totally unknown. The members of the race are said never to surpass 1.5 metres, about 4 feet 9 inches in height. According to *La Revue*, they live entirely isolated in the territory of Mongimbo. They build huts of hemispherical shape in the forest in groups of from five to thirty. The chief is an old man who exercises absolute and hereditary authority and elects his own successor. They follow a curious custom as to food, the women subsisting on edible roots, while the men live on the products of the chase. According to a legend among them, the former are descended from a hedgehog and the latter from a toad. They have vague notions of good and evil and have a certain cult of the dead, whom they inter with much piety. They are valiant in the defense of their liberty and independence.

---

### Climate and Efficiency

IT is estimated by the Los Angeles Chamber of Commerce, says the *Scientific American*, that labour is twenty per cent more efficient in and about the Southern California metropolis than in eastern cities, where extreme temperatures affect a man's working capacity. Holding that climate is one of the most far-reaching of all factors which influence industrial progression, the Chamber officials state, in a recent bulletin:—

"It affects labour efficiency, it regulates the comfort and the cost of living, it influences the cost of building construction, it controls manufacturing possibilities, it determines the number of possible operating days within a year, and it governs the cost of production. Figuring on a basis of twenty per cent added labour efficiency, Los Angeles' climate would increase the actual labour assets of Pittsburgh more than \$300,000,000 per year. This is because of the almost entire absence of humidity, oppressive heat, and extreme cold."

---

### The War on Alcohol

THE staff of the Melbourne University has taken a very unusual step, one which does honour to the University itself, and which may be expected to influence for good all its students, and to powerfully influence public opinion generally. At a meeting of the teaching staff of the University and its affiliated Colleges, with the president of the Professorial Board (Prof. Masson) in the chair, it was unanimously resolved—"That during the continuance of the war the members of the staff of the University and affiliated colleges pledge themselves to abstain from the use of alcohol, except under medical advice." That resolution, says the editor of the *Southern Cross*, is a declaration that, in the judgment of the picked representatives of educated thought, the use of alcohol as a beverage lessens the effectiveness of human energy. It is for the community what it is for the individual, a curse; a source of deadly peril; an open door to a thousand evils. It makes the brain less clear, the blood less clean. The tremendous struggle in which the Empire is engaged, and on which its very existence hangs, will tax all its resources—human and financial—to the utmost. And so, while the war lasts, alcohol as a deadly enemy to efficiency must be a thing forbid. The best mind of Australia agrees with the best mind of the Motherland at this point. But why should a

resolve so sane and wholesome be confined to the period this war lasts? Will not the need to make the best both of the community and of the individual survive when the war is over?

### For Crippled Soldiers

WHAT is to become of the thousands of soldiers, many of whom are not more than twenty years old, and all of whom are "men in the prime of life," who have been so maimed that they can never again earn a normal livelihood? Every one of the warring nations will have the problem to solve, and France has already begun to work at it. It has made plans for an industrial school for its crippled soldiers, where they can learn some trade that will give them the means of earning a living, and so restore their self-reliance.

Heretofore the Scandinavian countries have done most to provide schools for the handicapped. In 1872, a trade school for them was founded in Copenhagen; but since 1906 there has been a similar institution at Charleroi, in Belgium. It maintains seven departments: shoemaking, bookbinding, harness making, tailoring, basketry, matting weaving and book-keeping. The level of efficiency has been so high that the demand for workers has

always been greater than the school could meet.

The new school, modelled after that at Charleroi, will be opened as soon as possible. Lyons has been chosen as the best situation, because of its wealth both in medical and in industrial resources.—*Youth's Companion*.

### Never Took the Medicine

AN American journal has the cleverest answer to President Eliot's moan about the failure of Christian ethics that we have seen. The Harvard magnate complains that "for nineteen hundred years the ethics of Jesus of Nazareth have been in the world, but have had no effect to prevent or even reduce the evils of war, the greatest of the evils which afflict mankind." In response to this *New York Life* says: "But one can't reasonably complain that a medicine is no good when the patient doesn't take it. Governments have never adopted Christian ethics. Individuals have, and with good results. Even in this present war individuals are kind and humane. The very fact that most intelligent modern men find modern war intolerable is an evidence of the effect of Christian ethics on the modern mind."



## Before I Go to Bed



EACH evening as the clock strikes seven,  
 Directly after tea,  
 My mamma gets me dressed for bed,  
 An' then she cuddles me.  
 Sits down in her own rocking-chair  
 An' takes me on her knee.

She tells me then such lovely tales,  
 How all the stars and flowers  
 An' clouds are splendid castles grand  
 With shiny rainbow towers.  
 I fink that I would like to stay  
 An' listen there for hours.

An' 'fore she kisses me "good-night"  
 She softly strokes my hair,  
 While I kneel down beside her knee  
 An' say my evening prayer.  
 An' when she tucks me safe in bed,  
 She says I'm in God's care.

So I'm not frightened of the dark,  
 'Cause mamma says it's clear  
 That children who have trust in God  
 Need never have a fear;  
 For angels watch them as they sleep,  
 An' God is always near.

—Selected.





### MY LIVE DOLLY

I've plenty of other dolls you know ;  
 There's Mademoiselle Susette—  
 She came from Paris a year ago,  
 And I haven't played with her yet.  
 The lace on her clothes is real, they say,  
 Entirely too good for every day.

Dinah's the mammy doll, of course ;  
 Daisy is pink and white,  
 And Mary Jane is the dearest thing,  
 Though mother calls her a fright ;  
 That's 'cause she's made out of rags, I guess,  
 With a green and violet calico dress.

But none of my dollies are half so sweet,  
 None of them half so dear ;  
 And I don't love one of them half so much  
 As the one in the go-cart here—  
 My baby brother—can't you see,  
 He's the loveliest doll in the world to me ?  
 —Selected.

### “Mrs. Friend”

I AM just a tabby cat, and I am going to write the story of my life. Perhaps you have never heard of a cat who could write a story. Neither have I, but one day I heard of a dog who wrote, so I thought that I might write, too, because I think that cats are quite as clever as dogs.

The first thing I can remember is living in a shed with my mother. I can't remember much about her, as I was very little when I was given away to a little boy. I lived with him for about four years. That seems a long, long time ago now. I am nearly nine years old, and you know that is quite old for a cat, so I don't remember much about what I did there, either. They used to call me “Tabby,” but I don't like that name. So many other cats have it, and we don't

like being called common names any more than people do.

Just before I left there, the little boy bought some rabbits, and he was always so busy with them that he used to forget me. I had a little kitten then, and it didn't like being neglected for the rabbits, so I thought I would look for a new home for it. Then I remembered a house, just up the line from ours, where they had a big, old cat called Tom. I had been talking to Tom the day before. He had told me that the little girl there was always trying to play with him, and he was too old to like it. I thought that this would be just the place for my kitten. The next day we set out for the house. When we arrived, Tom was having his breakfast in the garden, and he asked us to have some with him. We had had no breakfast that morning, and we were very hungry. We had just begun when we heard someone say, “Oh, Betty, come and see! Tom is having a breakfast-party.” Then a little girl came running out to look at us.

“Do you think they will stay with us?” she asked her mother, who had followed her. “I wish the kitten would. It would be so nice to play with.”

“Perhaps it will if we give it some milk,” said her mother.

And I decided right then to let him stay. The next day I went to see him. He told me that they had named him “Friend,” because Betty said that he was a friend of Tom's. He seemed to be quite happy, and I used to go up and see him every day.

One day I went and Friend was not

there waiting for me. Tom came out and told me that Friend was sick and that Betty's mother had sent for the doctor for him. The doctor said that he had been poisoned, and he didn't think that he could get better. I was very sad after hearing this, but I knew that I couldn't do anything, and that Betty's mother would do all she could. The next day I came and Tom told me that "Friend" was dead. While he was telling me, Betty came out. She was crying because her kitten was dead.

Seeing me, she said, "You are poor 'Friend's' mother, I think. I wonder if Tom told you that 'Friend' is dead. I wish you would come and live with me." I was so pleased to think that she wanted me to live with her I almost forgot about "Friend." I ran up to her and rubbed myself against her feet, purring. Another girl came out then. "Oh, isn't it nice," Betty said. "This cat is going to live with us, I'm sure. Look at her rubbing my feet. I'm going to keep her because I think she must be 'Friend's' mother. I'll call her 'Mrs. Friend.'"

So I stayed there for about a week. Then my old master found out where I was, and came for me. I did not want to go a bit, and as soon as he let me out I ran up to Betty's house again. He saw then that I wouldn't stay with him, so he did not come again. The next day Betty took him down three goldfish in exchange for me.

I've been living here for more than four years now. Every summer I go away in a basket to the country. Sometimes on the train Betty takes me out of the basket and lets me look out at the window. I didn't like it at first. It is so queer to be sitting still and having all the country run past so quickly, but I like it now. The country is a lovely place to live in. I would like to stay there always, but I have heard that it is very cold in the winter, and, besides, Betty would not be there. In the winter I like to sit by the fire, and go to sleep. I am quite happy where I am, and I hope I will always be allowed to live here.—*Southern Cross.*

## The Boys and the Turtle

O. C. Godsmark, M.D.

I WAS once engaged in holding a series of gospel meetings. I was known as the "boy preacher," and was assisting the late evangelist, J. M. Rees, in a tent effort.

Having been a medical student, it naturally fell to my part to deliver the regular weekly lecture on the subject of temperance. We were having large crowds in attendance at our meetings, and I had spoken freely on the poisonous effects of tobacco, showing how paralyzing it is to the vasomotor system, and illustrating the same by relating how we had, upon several occasions, killed cats by placing a tiny drop of nicotine from tobacco upon their tongues, it requiring but twenty to thirty seconds to produce the cat's death; while a dog would succumb to the same treatment within fifty to sixty seconds.

We laboured hard to impress upon the boys, especially, the evil effects of the use, in any way, of tobacco, how it literally destroys the fine fibrils of the nerve-cells in the gray matter of their brains, so that no man who uses tobacco has as perfect control of himself and can think as quickly or reason as clearly as he could were his system not poisoned by the deadly nicotine. The following day while sitting by our tent door reading, I noticed a group of bare-footed boys coming down the street dragging an immense turtle of the snapping variety. I thought little of the incident until the caravan headed for my door, and halted in an excited manner just in front of where I was sitting. I arose and asked the boys where they had found such an immense fellow, and what they proposed to do with him.

One of the youngsters removed his hat and said respectfully, "Please, sir, we were out to hear your lecture last night, and heard you tell how you had killed cats and dogs with that poison that you say is in all tobacco; and when we boys found this turtle down in the woods, we said we would drag it up here and ask you to try some of your poison on it."



I was dumbfounded. I did not know what to do or what to say. Mr. Rees, who had come to the tent door, took in the situation, and promptly went to the rear of the tent and stretched himself upon a cot and enjoyed a hearty laugh.

I knew that something had to be done, for there the boys were with an animal that has as little an idea of dying as any creature in existence. A cat will readily yield up its nine lives in very short order under proper circumstances, but a turtle of this sort can be literally cut up into inch pieces, and still its heart will beat right on for hours just as if nothing had happened.

The only thing I could do was to meet the issue in an honourable way; so I told the boys plainly that I was perfectly willing to put the nicotine on the turtle's tongue, but that it would be necessary for them to take it home with them and shut it up in a box or shed so it could not get away, and to keep watch of it for at least two weeks, for it would live a full week, or even ten days, in a cool place with its head cut entirely off, and we could not reasonably expect the nicotine to kill it more quickly than an axe would.

The boys saw the point, and promised to be honest with me in the experiment. They said they would keep the turtle as long as I said, and then report his condition to me.

With this promise, I placed upon the tongue of the animal one drop of the poison that is to be found in every leaf of the tobacco-plant, and in just twenty-six minutes, that turtle was dead.



N. J. Caire, photo., Melb.  
An Aboriginal Lubra and Piccaninny

### Ants Have Combs

NO creature is more tidy than an ant, who cannot tolerate the presence of dirt on her body. These little creatures actually use a number of real toilet articles in keeping themselves clean. No less an authority than Dr. McCook says their toilet articles consist of coarse and fine-

toothed combs, hair-brushes, sponges, and even washes and soap. Their saliva is their liquid soap, and their soft tongues are their sponges. Their combs, however, are the genuine article, and differ from ours mainly in that they are fastened to their legs. The ants have no set time for their toilet operations, but stop and clean up whenever they get soiled.—*St. Nicholas*.

---

### Proof Positive

"How are you to-day, John?" said a landlord to one of his tenants, whom he met on the street.

"Vera weel, sir, vera weel," answered John, in his usual way, "if it wisna for the rheumatism in my right leg."

"Ah, well, John, be thankful; for there is no mistake, you are getting old like the rest of us, and old age does not come alone."

"Auld age, sir!" replied John. "I wonder to 'ear ye. Auld age has naething to do wi't. Here's my ither leg jist as auld, and it is quite sound and soople yet."

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### A Lonely Boy

THE loneliest lad in China is said to be Pu Yi, imperial ruler of China when that country became a republic.

His mother is living, but she is not permitted to live with him. He has no playmates. The little son of Prince Pu Lun was for a time allowed to go to the palace to study with him; but they did not play together. But since he was five years old, Pu Yi has not seen a boy or girl of his own age. He sees no one but his attendants and his tutors. The outside world is said to be hidden from him by a wall twenty-five feet high and thirty feet thick, around his palace.

Some of the Chinese think that the republican form of government will soon pass away, and the old form, with Pu Yi as ruler, will be established. Should such

be the case, it is to be doubted whether even then much happiness would come to Pu Yi as ruler of the great empire; for rulers have troubles all their own.

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### At the Zoo

A VERY stout lady at the zoological gardens, says the *Philadelphia Record*, was seeing the lions fed for the first time, and was rather surprised by the limited amount of meat that was given them.

"That seems to me to be a very small piece of meat for the lion," she said to the attendant.

The man looked at her with a glimmer of amusement in his eye. "It may seem a small piece to you, mum," he said, "but it's heaps for the lion."

---

### When the Czar Travels

FOR days before the Czar travels along any railway line, says a newspaper, the latter is patrolled on both sides by sentinels, who are stationed at a distance of two hundred yards from one another. They keep their eyes open, but otherwise are allowed to take it easy, taking what is known as the "first position," the rifle being slung from the shoulder. Six hours before the passage of the imperial train they assume the "second position." That is to say, they shoulder their rifles and march briskly up and down with every mental faculty on the *qui vive*.

An hour before the imperial train passes they assume the "third position," standing with their backs towards the line and the train, and allowing no one under any circumstance to approach within a hundred yards of the track until ten minutes after the Emperor has passed. Should anyone attempt to approach they have orders to challenge, and if the individual continues to approach in spite of the challenge and warning they have orders to shoot to kill.

Sad to relate, not even the soldiers—that is to say, those of the ordinary line

regiments, who are employed for the sentinel duty along the railroad—are entirely trusted by those responsible for the Czar's safety, and what is known as the "third position" has been devised not only for the purpose of preventing any stranger harbouring nefarious design from approaching the track, but also with the object of preventing any one of the sentinels imbued with Nihilist or Socialistic doctrines from discharging his loaded rifle at the imperial train as it rumbles by at its twenty-five mile rate of speed.—*Selected.*

### THE SECRET OF HAPPINESS

ARE you almost disgusted with life, little man?  
I will tell you a wonderful trick  
That will bring you contentment, if anything can—  
Do something for somebody, quick!

Are you awfully tired with play, little girl,  
Weary, discouraged, and sick?  
I'll tell you the loveliest game in the world—  
Do something for somebody, quick!

Though it rains like the rain of the flood, little man,  
And the clouds are forbidding and thick,  
You can make the sun shine in your soul, little man—  
Do something for somebody, quick!

Though the skies are like brass overhead, little girl,  
And the road like a well-heated brick,  
And all earthly affairs in a terrible whirl—  
Do something for somebody, quick!

—*New York News.*

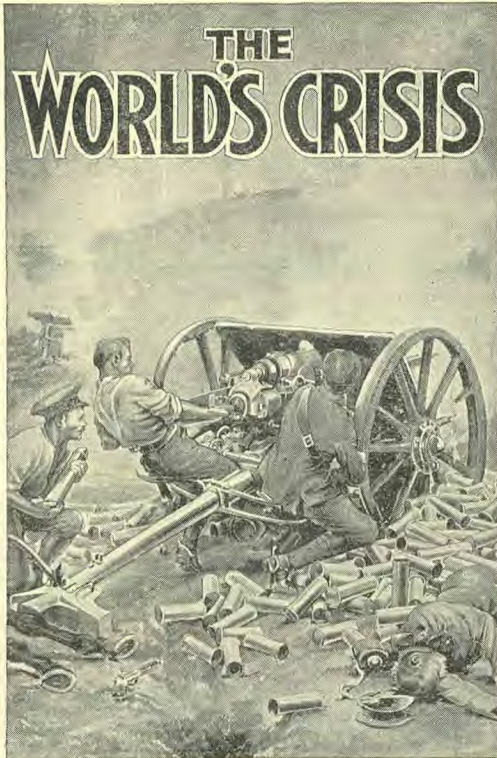
### Afghanistan Sheep

AN extremely curious variety of fat-tailed sheep, native to Afghanistan, is characterised by the immense weight of its tail, caused by development of masses of fat, forming stores of nourishment which are drawn upon during the winter months, when fodder is scarce. The sheep furnish the principal meat diet of the inhabitants, and the grease of the tail is a substitute for butter. The wool and skins not only provide material for warm apparel, but also furnish the country's main article of export. In the city of Peshawar these fat-tailed sheep are kept even in private houses, as a potential source of family meat and oil supply, as well as for profit to be derived from the sheepskins.

AN inch of rainfall is equivalent to 603 barrels of forty-five gallons each to the acre. This amount of water weighs over 113 tons. Think of hauling it to the farms in waggons holding a ton each! That seemingly light air and clouds are capable of handling this enormous amount of water is one of the marvels of meteorology. One inch of rain is not such a heavy rainfall, either.



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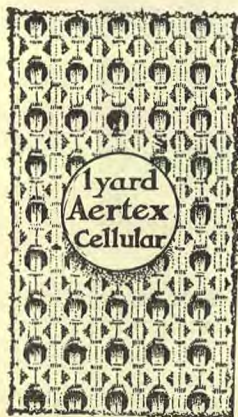
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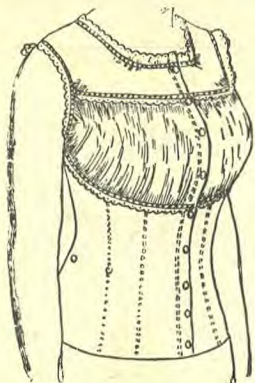
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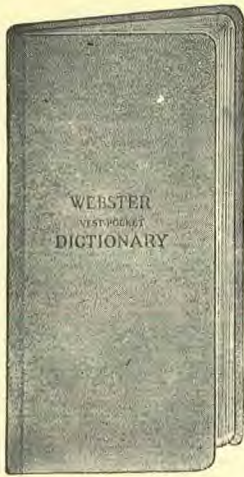
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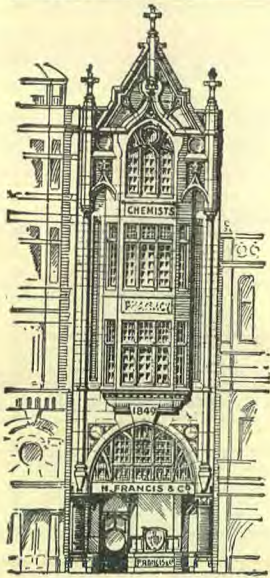
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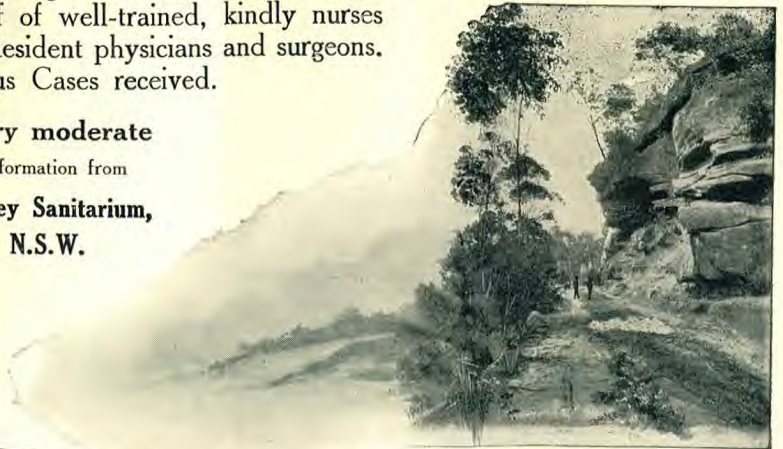
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