GOOD HEALTH

EDITED BY FRANKLIN RICHARDS, M.D.

January 1, 1909.

New Year's Wishes.

A PEARL-STREWN pathway of untold gladness,
Flecked by no gloom, by no weary sadness,
Such be the year to thee!
A crystal rivulet, sunlight flinging,
Awakening blossoms, and joyously singing
Its own calm melody.

A symphony soft, and sweet, and low,
Like the gentlest music the angels know
In their moments of deepest joy;
'Mid earth's wild clamour thy spirit telling
Of beauty and holiness, upward swelling,
And mingling with the sky.

A radiant, fadeless Eden flower,
Unfolding in loveliness hour by hour,
Like a wing-veiled seraph's face;—
Such be the opening year to thee,
Shrouded though all its moments be,
Unknown as the bounds of space.

Blessings unspoken this year be thine!
Each day in its rainbow flight entwine
New gems in thy joy-wreathed crown;
May each in the smile of Him be bright,
Who is changeless Love and unfading Light,
Till the glory seem to thy trancèd sight
As heaven to earth come down.

—*Frances Ridley Havergal.*

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CANVASSERS for GOOD HEALTH are meeting with encouraging success. There is still room for recruits. The New Year is a good time to commence.

CONTENTS

JANUARY, 1909

An Ideal Country School in New Zealand

GOOD HEALTH

A Teacher of Hygiene

Vol. 13. Cooranbong, N. S. W., January 1, 1909. No. 1.

Editorial Notes.

FOLLOWING THE MONKEY.

I HAVE been following the monkey this morning, and I enjoyed the sport immensely. The monkey is an early riser, so I began my imitation by getting up in good season. The monkey is a great believer in the benefits to be derived from morning exercise. He starts the day with a scamper through the tree-tops, thus getting an air and light bath and a thorough flicking and brushing by the leaves and branches amongst which he gambols. He takes his exercise in a play spirit, another important point. In case it rains, or the dew hangs heavy on the foliage, the monkey gets a shower bath or cool friction. In any case he has a rub-down of some sort every morning. So far as possible in all these particulars I imitated my instructor. Rising at half-past four or five o'clock, I began the day by taking an "eye-opener" and "bracer" in the form of a cool friction bath. This is decidedly more stimulating than a smoke, a glass of brandy, or a cup of tea, and it leaves no ill after-effects. I did not take my rub-down in the tree-tops, because I did not sleep among the branches, but in these respects I must admit that my own ways are far inferior to the monkey's. When monkeys are compelled to sleep in houses they soon get consumption and die. So do men. I am going to imitate the monkey by sleeping out-of-doors on the verandah as soon as the mosquitoes can be screened out.

The monkey not only sleeps, but he also eats, in the tree-tops. And while he munches his food he gets a lot of agreeable exercise in scrambling about from bough to bough after the choicest fruits and most nourishing nuts.

Everything points to the fact that monkey-food is man's natural diet. I am personally acquainted with hundreds of people who have been greatly benefited by a return to a monkey-food diet of fruits and nuts, cereals, milk, etc. Not long ago a well-known society woman, who had recently been under treatment at the Sanitarium, told me that her friends were having a great deal of fun over her food. She did not drink tea or eat meat, and they hardly knew what to get for her to eat. However, all were unanimous in saying, "Monkey-food seems to agree with you, anyway. You are looking wonderfully well." And why shouldn't monkey-food agree, pray tell me? It was man's own original diet.

On the particular morning in question, I decided to follow the monkey by breakfasting in an apricot tree in the garden. The fruit was in prime ripe condition, and I thoroughly enjoyed my fruit feast. Fruit fresh from the tree is so different from fruit which has been handled by many, carried about through the streets, and exposed for sale in the dust and filth of the city. Then, too, there are the happy and peaceful surroundings to be taken into account,—the sweet fresh morning air, the fragrant flowers, the sunlight and the shade, the flutter of the green leaves overhead, the azure sky, the cheery sounds of countless living things,—all these add pleasure to the monkey-meal and make one almost wish he were a monkey, or at least, a more monkey-like man. Contrast the stuffy shop, the counting-room, the factory, the office, the city restaurant, with the garden home of the monkey. Which does the healthy, normal man prefer? Contrast also the diet of the monkey and the diet of the average man. Which has chosen the more wisely? Contrast the drinking, smoking, swearing habits and immoral practices of the man with the healthy amusements

of the monkey, and tell me, Which shall we follow?

* * *

ORIENTAL RUNNERS.

THE custom of the Orient requires certain men to serve as runners. Every official or great personage must have a number of runners, from four to a hundred or more, running before or about his carriage when he goes abroad from his home. These runners are fed most frugally. Coarse bread with a handful of olives, a few dates, a radish, or a cucumber, and rarely an egg or a bit of dried fish,—this is the complete and seldom changed bill of fare of the runners of the East.

On this simple and low-protein diet prodigious feats of endurance are often performed. A *stratir*, as a runner before the king is called in Persia, keeps ahead of his master's horses, even though they may break into a smart gallop now and then. A runner is supposed to be as tireless as a horse.

According to Chartin, a stratir was known by him to have run, without stopping to rest, a distance of one hundred and twenty miles in fourteen hours. Will some meat-eater undertake to make a better record than this?

Anti-Worry Suggestions.

BY ALAN RUSSELL.

MANY writers in books and magazines take pages to tell their readers what they already know,—the evil effects of worrying; then these writers stop: they give no advice as to a method of breaking off this mischievous habit.

To cure worrying we must not merely know the evil effects; we must get at the causes.

BAD HEALTH

is undoubtedly one of the causes of worrying, but as many GOOD HEALTH articles give directions to put people on the road to health, we need not linger over this cause.

A BAD CONSCIENCE

also gives rise to much mental trouble. Speaking from experience, I may say that I have always repented of doing wrong, never of doing right. I think the reader's experience will coincide with mine. So, therefore, what is the good of being bad, of acting contrary to the promptings of conscience, of making ourselves miserable?

Generally speaking, a good conscience gives one a sense of security, a feeling that nothing else matters so long as one is doing right. Nevertheless, there are people who are conscientious and yet worry. Such people usually suffer from a—

LACK OF HUMOR,

of sympathy, and of observation. Which of the three is the chief cause of the trouble I am not quite certain; probably it is the lack of humor. These unfortunates somewhat resemble Bunyan's Mr. Fearing.

They should try to think less of themselves. When walking in the street they should observe the human drama being enacted before them instead of being absorbed in gloomy thoughts. They should learn to realize that great truth, "The way to be happy is to make others happy." They should associate with people different from themselves, those who are humorous, sympathetic, and observant. If such friends are rarely to be met with, the same cannot be said of the books of men who possess these characteristics, books which reveal and send off, as it were, the bright thoughts of their writers.

SHORT OF WORK.

Then again, unhealthy, unquiet thoughts are often the consequence of abundant leisure. No work to do! How blind you leisured people are. Whether you are young or old, strong or weak, clever or stupid, there is a task awaiting you somewhere. Arise and set to work.

TOO MUCH WORK.

On the other hand, there are those who worry because of too much work, especially if it is uncongenial. Well, it is a pity, but make the best of it. The harder your work, the greater your responsibility, the less you can afford to lose nerve force by worrying. And do try to have a hobby. Choose one which is as much unlike your work as possible.

TO ALL.

Inspiring books, fine music, communion with the beauties and wonders of nature,—these are influences often out of our reach, but not always. Come under these influences when you can, for they will help you to bear life's burdens with a tranquil mind.

The Hygiene of the Voice.

BY S. HUDSON MOKUEN, M.D.

THE hygiene of the voice includes the hygiene of the whole physical organism, for there is scarcely any portion of the body which is not related directly or indirectly to the mechanism of the voice. Disease of any kind is reflected in the voice as clearly and as undeniably as in the face, and the cheerful ringing tones of exuberant health are known to us all. Therefore, whatever contributes to the well-being of the physical organism contributes also to the well-being of the voice.

It is a mooted question among specialists whether catarrh of the stomach is the cause of catarrh of the upper respiratory and vocal passages, or whether catarrh of these passages is the cause of catarrh of the stomach. This much we know, that the pharyngeal and oral cavities are continuations upward of the alimentary canal, and are lined with the same membrane; that the color and general condition of the tongue are clear indications of the condition of the stomach below. A coated tongue means a coated stomach, and, if I may use the expression, a coated voice. The care of the digestion, then, is of the first importance to the vocalist, both because of its direct influence upon the organs of voice and because of its indirect influence through the circulatory and nervous systems. Strong healthy nerves are essential to a good voice, and these nerves are dependent upon good blood properly circulating; and this, in turn, is dependent upon good digestion; and this, upon good food properly masticated. Articles of food affect the voice also by direct contact with the organs, and therefore highly-seasoned and stimulating foods should be avoided. Tea, coffee, liquors, and the after-dinner cigar may injure the voice in the same way. The man who cares more for his stomach than for his voice will never make a great singer or a great speaker. The vocalist must eat to live, and not live only to eat; and no little self-denial, in this, and in other respects, is the price which must be paid for a well-preserved voice.

The cutaneous surface of the body should be classed among the organs of respiration. Indeed, it has been called the "outer lungs," on account of its absorbing and eliminating capacity. The skin should be kept active, therefore, by suitable exercise and judicious bathing. Many people bathe too much, and many more bathe too little. It should be remembered that the hot bath extracts heat from the body, and heat is only another word for energy. Only the very vigorous should take frequent hot baths, and they should be taken only upon retiring. The cool, daily plunge may be indulged in to advantage by many; but perhaps the cold hand or sponge bath, both morning and evening, is better for the average person. The feet, the upper chest, the neck, and the face should be hardened by frequent cold douches. These parts are the vulnerable ones in the singer and speaker.

As to the matter of dress, I am inclined to think that the less dress the better. As some one has said, "Man is not by nature a clothed animal." Whole races have been swept from the face of the earth with not one left to tell the tale, because they were compelled by their conquerors to wear clothes. Heavy winter flannels, which may not be changed to suit the conditions of the moment, are positively contraindicated because they interfere with the breathing of the outer lungs. In other words, they interfere with the natural functions of the skin, throwing its work upon the mucous membrane or "inner skin," as it has been called. The natural result of this overwork of the mucous membrane is congestion, with all its deleterious effects upon the voice. We say that we have "taken cold"; but "cold" does not express it any more than would "heat" or "indigestion," for either is probably a more frequent cause of the condition.

VOICE TRAINING.

This brings us to the training of the voice, which is, after all, the most practical part of our subject. "There are methods and methods," as some one has said, "and there is good in every one of them, but no one of them has a monopoly of the good."

Methods have their origin in the necessities of certain cases. We are too apt to reason in this way: My method eradicated my faults in vocalization and developed my voice to its present magnificent proportions; therefore it

will eradicate your faults and develop your voice—forgetting that no two of us are exactly alike, and that my faults are not necessarily your faults, nor is my voice your voice.

I do not believe, therefore, in so-called methods for the training of the voice, any more than I believe in iron-clad rules for the treatment of disease. Quinine is a good thing for malaria, but not every case of malaria may take quinine. The vocal teacher should use methods just as the skilled physician uses remedies. He should study the necessities of the case, he should make a thorough diagnosis, if you please, of the conditions as they exist, and then decide upon his plan of procedure, thus putting vocal training upon a scientific basis. Written rules for the training of the voice are impracticable. One must have the living teacher, the choice of whom should be made with great care, for more harm than good is often done by bad teaching.

The ear is also an important factor in the training of the voice. It must be taught to stand guard over every tone, to become a fair and unprejudiced critic, exacting to the last degree. Defective hearing, therefore, is one of the greatest obstacles to vocal development. The man who cannot see his faults, will rarely, if ever, eradicate them; and every man must perceive his vocal imperfections through the medium of the ear. Therefore the greatest care should be taken to preserve the functions of this organ. Acute inflammation of the ear should be promptly attended to by a skilled aurist; and at the first intimation of uneasiness in the ear, or beginning deafness, professional advice should be sought, for then, if ever, can the hearing be saved. An ounce of prevention at this time is worth a ton of cure later on. The cause of deafness is often traced to some catarrhal trouble in the nose or throat; and, fortunately, the vocalist generally discovers this trouble before the ear becomes seriously affected.

Beef Tea for the Sick.

NOT long ago I was asked by the solicitous friends of a sick man, "Would a little beef tea give him strength?" "No," I was obliged to reply, "I am afraid it would not"; and now I will give you my reasons for not recommending beef tea or meat juice or Bovril or any other meat extract as a suitable food for the sick. But as I am a vegetarian physician and may therefore be prejudiced against meat preparations, I will quote Dr. Robert Hutchison, of London, an eminent authority on foods, who is not a vegetarian, and who, therefore, if prejudiced at all, should be prejudiced in favor of meat extracts. Dr Hutchison recently said in a lecture to medical men:—

"Beef extracts, in the ordinary sense of the term, are of very little, if any, food value. They contain hardly any proteid; what they chiefly contain are the extractives and mineral matters. Experiments have shown that the extractives are only of use in so far as they stimulate appetite; they have no other action whatever, *they are not foods, they are not true stimulants*, and they have no particular influence in the body except that of increasing the desire for other food. So the place for them is in the kitchen and not in the sick-room. That was fully recognized by Liebig, and was lost sight of only by his successors. But then there came people who tried to make meat extracts of food value. They added to the extract meat fibre as, for example, in the case of Bovril, and said that by adding this fibre one gives the preparation the value of a food; and so, in the strict scientific sense of the term, one does. But *how much* food value does bovril contain? If you take a teaspoonful of it you will find it is equivalent to an ordinary piece of lean meat about half a cubic inch in size.

"TABLE I.—SHOWING THE COMPOSITION OF BEEF EXTRACTS.

Food.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.
Water	18.3	44.4	21.82	15.55	87.17	30.1
Proteids	9.4	16.94	21.42	8.73	5.4	4.1
Gelatin	...	...	..	2.16	5.03	...
Extractives	30.0	20.32	39.6	43.23	1.01	46.9
Minerals	23.6	18.32	17.16	25.91	1.39	18.9
Ether extr'ct	18.6	...	...	4.12	...	...

No. 1.—Liebig's Extract; analysis by Tankard.

No. 2.—Bovril; analysis by Stützer (quoted by Voit, *Munchener Medicinische Wochenschrift*, No. 9, 1897).

No. 3.—Bovril for Invalids; analysis supplied by the Company.

No. 4.—Armour's Extract; *Food and Sanitation*, December 16, 1893.

No. 5.—Brand's Essence; analysis by Dr. Candy (unpublished).

N.B.—"Marmite" (No. 6.) is a purely vegetable product, but is included here for convenience.

"You cannot take a great quantity of Bovril without producing diarrhœa and thirst on account of the disproportionate quantity of saline matters and extractives which it contains. So the reply to people who assert that Bovril is a food is that their statement is true in theory, but that if you give enough of it to serve as a food in practice you would certainly produce unpleasant results. What is true of Bovril is true of other similar preparations in equal measure.

"Next let us take the beef juices. Beef juices come under a different heading from the extracts. As a matter of fact they contain the fluid proteid of meat in an uncoagulated form. If you examine them with the spectroscope you will find that the most of them yield the spectrum of hæmoglobin (blood). You will see in Table II analysis of most of the common ones.

"TABLE II.—SHOWING THE COMPOSITION OF BEEF JUICES.

Food.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.
	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.
Water	51.21	36.6	81.09	59.15	44.87	74.10	49.51
Proteids	9.65	30.33	13.98	15.45	38.01	8.3	13.0
'xtr'ctives	11.16	19.16	3.4	16.55	...	9.54	8.1
Minerals	10.84	9.79	1.02	8.85	17.12	7.51	14.20

No. 1.—Valentines; analysis by Dr. Candy.

No. 2.—Puro; Fresensius (*Leyden's Handbuch der Ernahrungstherapie*).

No. 3.—Bovinine; *Food and Sanitation*, December 23, 1893 (analysis by Chittenden).

No. 4.—Brand; analysis by Dr. Candy (unpublished).

No. 5.—Wyeth; *The Lancet* analysis (quoted by the makers).

No. 6.—Armour; analysis by Dr. Attfield (supplied by the makers).

No. 7.—Burgoyne; analysis by Dr. Candy.

"You will observe that the richest of them in proteid is the preparation called Puro. It is a German preparation, which is of some interest, because originally I believe, Puro was the concentrated juice of meat preserved in a special way. But on examining recently another preparation of Puro I found that it contained a large proportion of egg albumen. In fact, it amounts to this: That it is a preparation artificially enriched by the addition of white of egg, and I object to paying for white of egg when I am supposed to be paying for the juice of meat. When you ask for meat juice people have no right to give you white of egg. Valentine's is the most expensive of all the juices; it is inferior in nutritive value to most of the others, and I know of no respect in which it is superior to any other except in the matter of price. If you must use a meat juice, one of the best is Brand's. Bovinine is another extremely interesting product. It hails from Chicago. It yields the spectrum not of hæmoglobin, but of altered blood (methæmoglobin). One point about it is that it contains so little extractive, while all the others are rich in extractives. In fact, Bovinine is suspiciously low in extractives, and one comes to the conclusion from the spectrum examination that it is not properly a meat juice at all, but *blood preserved with glycerine*, a conclusion which has also been arrived at by Professor Chittenden, of Yale University. That accounts for its extremely low price and the absence of extractives.

"That disposes of most of the meat juices. You may say of them, as you may say of the extracts, that they contain relatively so little proteid and so much extractive and mineral matter that they are practically not foods at all because you cannot take enough of them.

"You can manufacture 'meat juice' yourself at a very low cost. Here is a bottle of it which I made this morning. Take the white of egg, add an equal quantity of water, and strain through muslin, then flavor the mixture with any quantity of Liebig's Extract dissolved in a little warm water which you think suitable. By that means you get a preparation extremely rich in coagulable albumen, which you can produce at one penny per ounce; and it is one of which the patient can swallow a pailful, if he can get it down, without it doing him any harm. So I see no necessity to buy any of the juices in the market so long as hens exist. That which you make in this way is as good as what you buy, for egg albumen is as nutritious as meat albumen, and it is vastly cheaper."

Egg-white in pineapple or other fresh fruit juice is infinitely better adapted to the digestive powers and needs of the sick than beef extracts or juices. For directions for preparing palatable and satisfactory substitutes for beef tea, chicken broth, etc., see the Home Department.

I HAVE no hesitation in averring that gigantic as are the evils arising from the use of strong drink, those of smoking exceed them. —*Joseph Bormond, Temperance Advocate.*

The Upper Air-Passages.

Their Uses and Abuses.

BY FRANKLIN RICHARDS, M.D.

A KNOWLEDGE of the arrangement and uses of the upper air-passages is of the greatest practical importance in the prevention and cure of disease. Such a knowledge enables one to avoid not only coughs, colds, and sore throats, but other more deadly diseases which gain access to the lungs through inattention to the proper use and care of the nose and throat.

The upper air-passages consist of (1) the nasal chambers; (2) the pharnyx or throat; and (3) the larynx or voice-box. The mouth is not an air-passage.

THE NASAL CHAMBERS.

The nasal chambers are the long, high, narrow, hall-like passages into which air enters through the nostrils. They are the ante-chambers to the lungs; in them the air is prepared for use by the lungs. Each chamber has a floor, a roof, two walls, and also two doors. The doors are the anterior and posterior *nares* or nostrils, through which air enters and leaves the chamber. The floor lies level with the tip of the nose; the horizontal part of the roof is in line with the lower eyelids. The height of the nasal chambers is therefore about two inches, and their length nearly three inches. Their spaciousness may be felt during deep breathing as the air is drawn high up beneath the base of the brain.

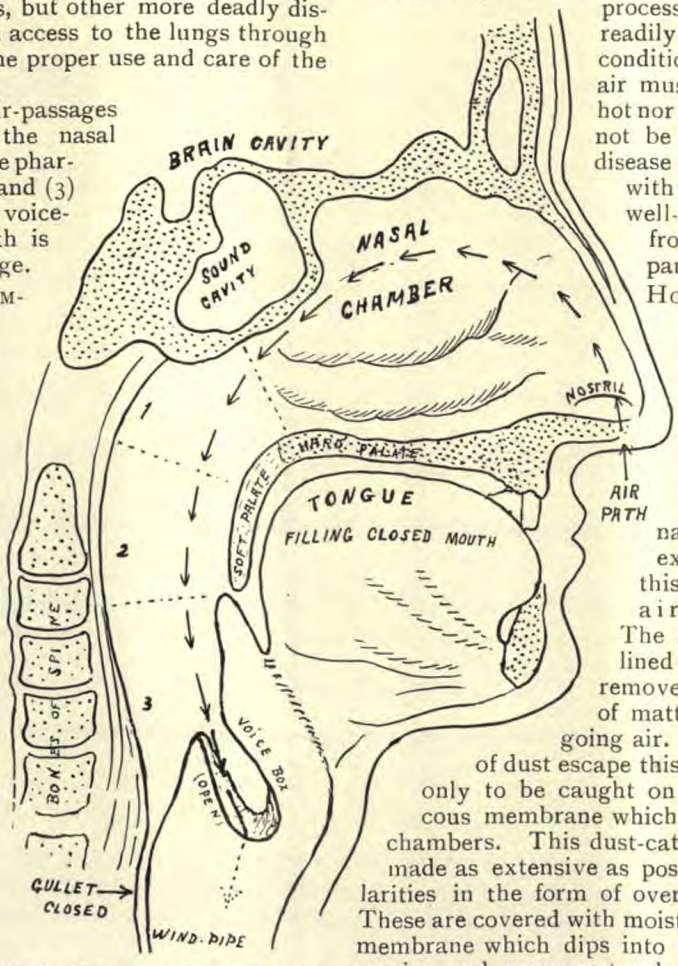

Fig. 1 Diagram showing position of parts during breathing.

Before air can be used in the body it must receive a thorough preparation. The interchange of gases in the lungs is a very delicate process. It takes place readily only under ideal conditions. The inspired air must be neither too hot nor too cold; it must not be too dry; and if disease is not to enter with the air, it must be well-filtered and freed from every harmful particle of matter.

HOW THE AIR IS PREPARED.

The more closely one examines the nose, the clearer becomes the conviction that the nostrils and nasal chambers are exactly fitted for this work of perfect air-preparation. The nostrils are well lined with hairs which remove coarse particles of matter from the ingoing air. Finer particles of dust escape this coarse air-sieve only to be caught on the sticky mucous membrane which lines the nasal chambers. This dust-catching surface is made as extensive as possible by irregularities in the form of overhanging ledges. These are covered with moist, warm, mucous membrane which dips into every crack and crevice, and serves not only to filter the inspired air, but to moisten and warm it as well. After having been thus purified, moistened, and warmed, the ingoing air leaves the nasal chambers through the posterior nares, passing backward and downward through the pharynx into the larynx, thence through windpipe and bronchial tubes to the lungs.

Some idea of the amount of work done by the nasal chambers may be obtained from the fact that as much as three pints of water may be added to the inspired air in twenty-four hours. This water comes chiefly from the eyes through the tear ducts.

Our Three Throats.

The throat, or pharynx is divided into three parts,—the upper throat, or *naso-pharynx;* middle throat, or *oro-pharynx;* and the lower throat, or *laryngo-pharynx*. (See Figure I, 1, 2, 3). Through the wide-open mouth only the middle throat can be seen. In order to examine the upper and the lower throats, a strong light and mirrors must be used. It will be seen from our illustration that the upper throat is really a continuation of the nasal chambers, the highest dotted line indicating the position of the posterior nostril. Two structures of great importance are located in the upper throat,—the *pharyngeal tonsil* (Fig. II, 4) and the *Eustacian tube* (Fig. II, 6). The first, like the faucial tonsil (dotted oval, Fig II), is a germ-trap. The dotted line inclosing the figure 4, shows the space filled by a moderately enlarged pharyngeal tonsil. It will be noted that even so moderate a degree of enlargement causes partial blockage of the air-passage, thus inducing the habit of mouth-breathing, and that it also causes deafness by closing more or less completely the tube which ventilates the middle ear. A child with enlarged pharyngeal tonsil is said to be suffering from *adenoids*. The treatment consists in removal of the diseased part of the tonsil. If this is not done early the health suffers, nutrition is interfered with, and growth seriously retarded.

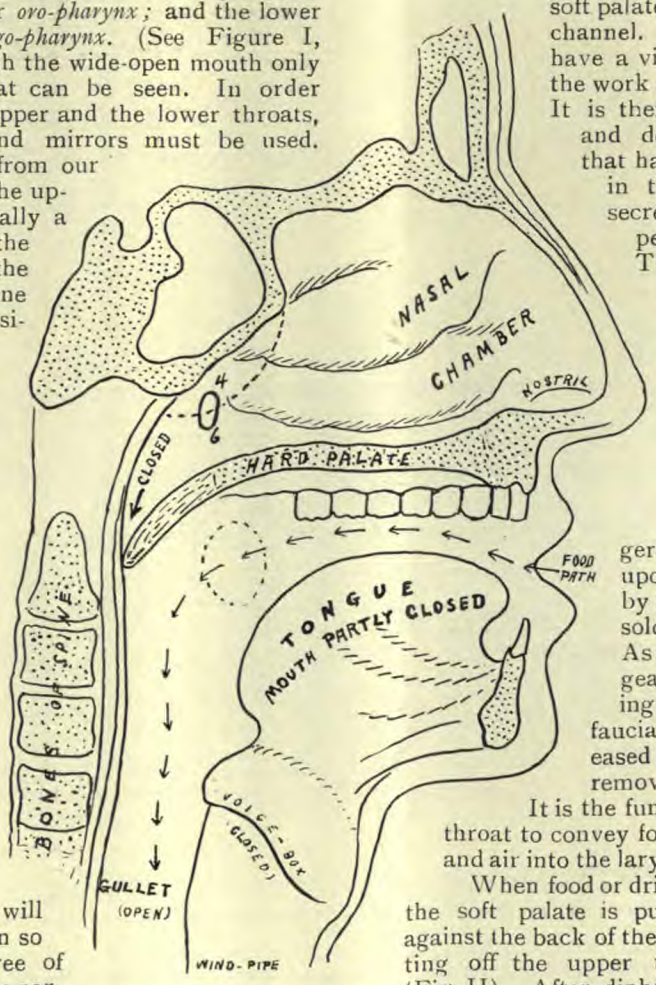

Fig. II. Diagram, position of parts during swallowing.

The middle throat serves a double purpose. It is both an air and food passage. It is an air-passage during nasal breathing, being closely shut off from the mouth by the closure of tongue and soft palate. The tonsils (dotted oval) which are in the middle throat, are thus thrown behind the soft palate into the open air-channel. Now the tonsils have a vital part to play in the work of air-preparation. It is their duty to entrap and destroy any germs that have been entangled in the sticky mucous secretions of the upper throat and nose. These secretions containing germs are swept along by the brush-like cells which line the nose and throat (Fig. III) into the crypts of the tonsils (Fig. IV). Here the harmful germs are pounced upon and devoured by the phagocytes, or soldiers of the blood. As with the pharyngeal tonsil, projecting portions of the faucial tonsils when diseased may require to be removed.

It is the function of the lower throat to convey food into the gullet, and air into the larynx.

When food or drink is being taken, the soft palate is pulled by muscles against the back of the throat, thus shutting off the upper throat and nose (Fig. II). After diphtheria, the palatal muscles are sometimes paralysed, so that fluids instead of being swallowed are forced up into the nasal chambers and out through the nostrils. Such an accident is always attended by much sputtering and a feeling of impending suffocation.

An important point to which the attention of the reader is directed is the intimate relation

existing between the nose, throat, and ear. We will now see—

How Disease Reaches the Ear.

It will be seen from the illustrations that the nasal chambers open freely into the upper throat, and that from the upper throat a tube extends on either side to the ear; that is, to the *middle ear;* for not only has man three throats, but he also possesses six ears! Figure V conveys a very clear idea of how the throat and middle ear are connected by means of the Eustachian tube. It is because of this free communication between the cavities of the nose, throat, and ear, that disease so often spreads from nose to throat and from throat to ear. Thus inflammation of the middle ear, causing earache, and catarrh of the middle ear, causing deafness, are both secondary to inflammation and catarrh of the nose and throat. *Prompt and intelligent treatment of colds and sore throats prevents this extension to the middle ear, and so prevents middle-ear disease and deafness.*

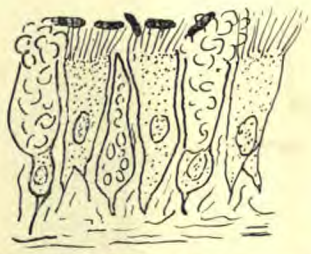

Fig. III. Brush cells, mucous cells, and microbes.

Fig. IV. A tonsilar crypt into which germs are being swept to be devoured by phagocytes.

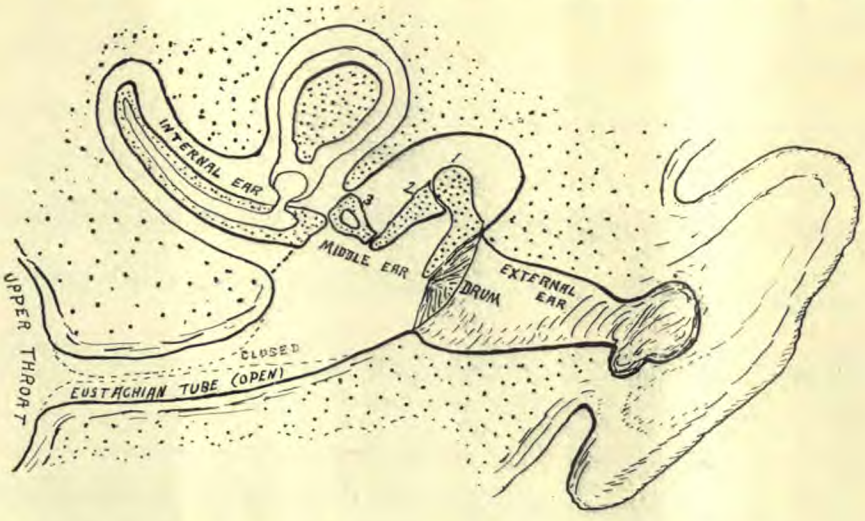

Fig. V Diagram of the ear and Eustachian tube. Nos. 1, 2, 3 are the mallet, anvil, and stirrup, the small bones of the middle ear.

(To be continued.)

What's in a Name?

"Good morning, Aunt Fannie; they tell me Charley is dead."

"Yes, chile, he's dead and bur'd in de commissary."

"What was the matter with him?"

"I doan't know; I warn't thar, but they tells me he was tucken with a streak ob moralisis."

Is Flesh Essential for Strength?

BY A. W. SEMMENS.

THE inferiority of meat as a producer of energy is very clearly shown by the facts presented in the following table, based upon the more recent researches, the results of which are given at length by Atwater and Bryant and other authorities:—

	Food Units per Pound.
Milk	312
Beef	791
Potatoes	303
Bread (Brown)	1,183
Chestnuts (Fresh)	918
" (Dried)	1,384
Peas (Dried)	1,612
Cocoanuts (Prepared)	3,003
Corn Meal	1,612
Rice	1,591
Malted Nuts	2,438
Peanuts	2,560
Almonds	1,600
Walnuts	1,406

By reference to these tables it will be clearly seen that lean meat contains only about one-half as many food units as cereals. In other words, the value of beef as a source of energy is only from one-fourth to one-half that of the best foods of purely vegetable origin.

Science has determined that man requires from 2,000 to 2,500 food units daily to furnish him with the needed supply of diet energy.

But flesh food is inferior to the products of the vegetable kingdom in the quantity or proportions of energy-producing elements which it contains. The proteid or albuminoid substances of which flesh food is largely composed, are chiefly used in replenishing or repairing the wastes of the body, and are decidedly inferior to vegetable foods in energy-producing value. For example, an ounce of meat contains 50 food units, while an ounce of rice contains about 100 units, and an ounce of peanuts 160 food units.

The following tables according to Parks and Letheby will also help to make this point clear:—

Flesh Foods.	Force-producing Elements.
Lean Beef	3.6
Lean Mutton	4.9
Poultry	3.8
White Fish	2.9

Vegetable Foods.	Force-producing Elements.
Granola	78.17
Granose	77.33
Wheat Flour	72.5
Barley	76.7
Oatmeal	69.4
Indian Meal	73.2
Rice	80.2
Peas	60.8
Beans	50.4
Lentils	58.6
Potato	22.2
Banana	20.2
Dates	56.0

It thus appears that flesh food is inferior in force-producing qualities even to those cereals that contain a large proportion of starch and that are often regarded as light diet, such as rice, an ounce of which contains twice as many food units as are contained in like weight of lean meat, while the food value of an ounce of peanuts is over three times that of an ounce of beef.

Foods of the vegetable kingdom contain no poisons, or at least but a trace of such irritating substances, to deteriorate or injure the tissues. Flesh foods do contain certain poisonous substances which interfere materially with the highest degree of muscular activity, and which limit to a great extent the flesh-eater's power of endurance.

These substances are the waste, or excrementitious elements, consisting largely of an intensely poisonous substance, known as "fatigue poison," which naturally results from muscular effort.

Hunters feed their dogs upon corn meal, mush, or some similiar food, knowing well that the meat-fed dog has poor wind or little powers of endurance, from which it appears that even carnivorous animals are able to manifest more energy and greater endurance when fed on a non-flesh dietary.

That magnificient race of men, the Japanese wrestlers, has for years been fed on rice and beans, and it is said that when they use the flesh of animals their strength departs from them.

The gladiators of ancient Greece were fed on barley and similiar grains, and fruits.

The noble Spartans during their prosperity under Lycurgus, were vegetarians; the Romans also, in their early days were vege-

tarians, and it was only when they commenced to indulge in flesh and other forms of luxurious living that they, a noble race, began to deteriorate and go to ruin.

According to Herodotus, the men who performed the prodigious task of building the pyramids, were fed upon onions, garlic, and lentils, and at the present day the native of Egypt is still practically a vegetarian.

De Lesseps declared that without the help of the vegetable-eating Arabs and Hindus, the prodigious work of cutting the Suez canal could never have been performed.

No one who will stop and watch these Arabs loading the great Orient liners with coal at Port Said, and see the way they carry those large baskets up an inclined plank, with the agility of a cat, and with a rapidity that astonishes the most sceptical, can doubt the result of vegetable diet in their case. All this is done on the diet of a few lentils and dates. They can soon tire out a flesh-fed Englishman. There is not the slightest doubt that power of endurance can be obtained from a non-flesh diet.

Those who live on a vegetarian diet are, as a class, harder in muscle, heavier, capable of greater endurance and of performing greater feats of strength, than those who live on a mixed diet, as proved by Professor Forbes from experiments on flesh-eating Englishmen, porridge-eating Scotchmen, and potato-eating Irishmen; the Scotchmen being superior in height, weight, and strength to the Englishmen. (See "Chambers Information for the People,"—sheet on the Physical Testing of Man.) The Laplanders living on flesh are a diminutive race, while the Finns, who *inhabit the same climate*, and live chiefly upon the products of the soil, are as fine a race as are the Swedes or Norwegians. "The difference," says Dr. Lamb, "must be attributed mainly or entirely to diet." Sir Edwin Arnold stated that the finest body of men he ever saw in his life was a regiment of native Sihks in India who had never tasted meat. It is also noteworthy that the beef-eating Englishman when he goes to climb the icy Himalaya Mountains gets a rice-eating Hindu to carry him on his back.

Flesh-eating unquestionably, almost more than any other practice, leads to that deterioration of the tissues whereby the system loses power to destroy germs, or to resist their attacks on the body. How?—By causing an accumulation of wastes within the tissues, and by saturating the blood with waste substances, and thus lessening the powers of the white cells to combat germ invaders. The liver is likewise overwhelmed with poisons derived from meat, and from the decomposition of flesh food in the alimentary canal, producing a condition which is familiarly known as torpid liver, or biliousness. Such a state is simply an open invitation to disease, for a crippled liver cannot arrest and destroy the poisons brought to it by the blood, and the poison-laden blood carries them to every tissue and cell in the body.

It needs no argument to show that a man or an animal feeding upon flesh food and thus adding to the poisons generated in his own body those developed in the body of another animal, must accumulate within his body an abnormal amount of waste substances, or fatigue poisons, sooner than one who with other conditions identical abstains from the use of flesh foods. The quantity of fatigue poisons generated in the body of an animal by its activities is so great that physiologists have found it possible to produce in a fresh animal all the symptoms of fatigue by simply injecting the blood of another animal greatly fatigued by prolonged and violent exercise.

This fact affords a scientific explanation of very many interesting observations in relation to the competitive strength and powers of endurance of flesh-eating and non-flesh-eating animals. The elephant and the hippopotamus, which are among the strongest of all living animals, subsist upon the coarsest of vegetable foods. The reindeer, the fleetest and perhaps the most enduring of all living animals, replenishes its store of vital energy from the coarse moss that covers the frozen earth of the inhospitable region in which it lives; the horse and the ox, those splendid magazines of energy, which have rendered such priceless service to the human family, are strictly vegetarian in diet, as are also the orang-outang, the chimpanzee, and the gorilla, who rules the forest in which he lives, but never slays to eat. The gorilla is said to be a match for the lion or the leopard in strength. He has often been known to kill a hunter with a blow from his club or his fist, and will snap a hunter's rifle in his hands as if it were a twig; but though he slays the hunter he does not eat him.

Would the horseman with an extra long drive before him think of adding to the ordinary diet of a horse a beefsteak or a mutton chop as a means of preparing him for the extra exertion required?

The Home Department.

CONDUCTED BY MRS. E. SISLEY RICHARDS, M.D.

How Shall I Feed My Baby?

THIS is a question of vital interest to the many mothers who are so unfortunate as to be unable to nourish their infants in the natural way. It is by no means an easy matter to provide a suitable substitute for mother's milk, as cow's milk differs in a number of important points from human milk. However, by exercising due care it is usually possible so to modify cow's milk as to make it suitable to the average healthy infant.

Following are simple and detailed instructions for the proper feeding of an average baby from two to three months of age:—

Allow one quart of rich whole milk previously sterilized to stand four hours or more; then carefully ladle off the upper third of the quart for baby's use.

Take one part of this top milk to two parts of barley water, or preferably granose water. To prepare the latter, boil one granose biscuit (or its equivalent in weight of flakes) in one pint of slightly salted water for five minutes. Strain through butter muslin.

To one pint of this milk mixture add one ounce of milk sugar (obtainable from the chemist) and one ounce of lime water.

Feed the baby regularly every three hours during the day and not more than once at night (that is, from 10 p.m. to 7 a.m.). This will make about seven feedings in twenty-four hours. About three and one-half ounces of food should be given at each feeding. Obtain an ounce measuring glass, also a pint measure marked off into fourths, so as to make measuring easy and accurate. It will be seen from the above that about one and one-quarter pints of food will be required for the twenty-four hours. In order to simplify measurements make it one and one-half pints. That would mean then one-half pint of the top milk to one pint of the granose water and one and one-half ounces each of milk sugar and lime water. Do not limit the baby to a certain number of ounces of food at each feeding. Let the figure mentioned above serve as a guide, remembering that the baby's capacity will be constantly increasing. Always put in the bottle a little more than you think the baby will require so that you may be sure he has had enough.

If baby is fed regularly and the food is of proper strength, he is not likely to take too much at once. If too much is taken it is usually returned promptly at the close of the feeding.

Weigh the child every week to ascertain if he is making a proper gain in weight. Keep a record of the weekly weights.

If the baby is doing well he will gain steadily in weight, from four to six ounces a week during the first five months of life, and about a pound a month for the remainder of the first year. He will also sleep well at night and will enjoy one or two long naps during the day. The motions should be yellow in color and free from large curds.

Gradually increase the strength of the food as baby's digestive ability increases. This is done by increasing the proportion of milk and lessening the proportion of gruel or diluent. The proportion of milk sugar and lime water should remain the same throughout. If for any reason cane sugar is used, only half the quantity mentioned for milk sugar should be employed. The quantity of food given must also be gradually increased from time to time.

Once daily the child must be given some strained orange, or other *fresh* fruit juice. This may be given as freely as the child desires. The only conditions are these: The juice must be extracted from ripe fruit which is sound and good, and it must under no circumstances be given in connection with a milk feeding. It should be administered to the child about two and one-half hours after one of the morning feedings, and from one-half to one hour before the next feeding, this time depending upon the quantity of juice taken. The fruit juice is given for the purpose of preventing "scurvy" and other infantile diseases so prevalent in children who are artificially fed.

Instead of Meat Broths.

IT falls not to our lot in this department of the journal to tell why meat extracts should not be used, but rather to tell what may be employed in their place.

There are quite a number of vegetarian broths which are quite as tasty as and much more nourishing than meat extracts, yet strange to say, they are almost unknown in the sick-room. Doubtless many will appreciate instructions for the making of these excellent substitutes for meat extracts,—beef tea, Bovril, chicken broth, etc.

One of the most savory and nourishing of the vegetable broths is made as follows:—

BROWN LENTIL BROTH.

Thoroughly wash a pint of brown or German lentils and then soak in cold water for several hours. Put in to stew in the same water in which they have been soaking, and allow them to simmer gently until quite tender (from two to four hours). If necessary, add boiling water from time to time. The flavor of the broth is greatly improved by adding a small onion and a little olive oil while stewing. Let the lentils continue to boil until the broth is rich and savory, then add salt to season. Drain off the broth and serve either alone or with zwieback. A little boiled rice or vermicelli may be added to the broth if desired. This broth is delicious if properly made, and the secret of success lies in the prolonged stewing.

HARICOT BEAN BROTH, and BROWN BEAN BROTH

May be made in the same way and are equally palatable and nourishing. A little strained tomato juice may be added to the broth by way of variety, also the seasoning may be varied if desired.

A simple sick-room soup which greatly resembles chicken broth is made from the water in which macaroni is boiled. Stew the macaroni in boiling salted water until it is thoroughly done, then drain off the water and season it nicely with a little thick cream and a scraping of onion if desired. In preparing broths and soups for the sick, great care must be taken not to season them too highly. Just a mere suggestion of onion or herb makes the soup palatable but not indigestible.

PROTOSE AND NUT MEAT BROTHS.

A delicious meaty broth which possesses a high food value can be made by stewing either protose or nut meat in water. The cooking should be gentle and prolonged, as in making real meat broths.

EGG IN FRUIT JUICE.

The invalid who can take raw eggs will find nothing more palatable and at the same time more wholesome than an egg in fruit juice. Beat an egg until light and add it to half a glass of unfermented grape wine or fresh pineapple juice. The pineapple juice is particularly well suited to this purpose as it contains a substance which assists in the digestion of the egg. However, if pineapple juice is not obtainable, other fresh or stewed fruit juices may be employed, as orange, cherry, plum, strawberry, blackberry, or currant juice.

In the Sick-Room.

NOTHING is gained, and much time that is very valuable is wasted, by allowing ourselves to become nervous and unable to be of the slightest use in the sick-room.

Although we may consider a person too ill to be aware of what is taking place about him, he is sometimes fully cognisant of the merest trifles, and always more or less susceptible to any and all things going on. For that reason, conversation about the condition of the patient carried on in whispers, or in any mysterious manner, should be avoided, and an air of quiet cheerfulness always maintained.

Nothing is so annoying as to be asked continually if we do not want the pillows changed, the bed-clothes straightened, the blinds closed or opened, some nourishment brought, or any small details attended to. Better by far to see for one's self, and do quietly without disturbing the patient. Particularly if they are disposed to sleep, do not at once get a newspaper of the kind that has the greatest possible amount of rattle in it, and seat yourself in a rocking-chair, regardless of the possible effect it may have upon the nervous condition of your friend.

When it is time for nourishment, or medicine, be prompt to give it, but always without talking it over too much; and if it is the bitter cup that is to be prescribed, have something agreeable to follow, and a cheery word. If it is the food or broth, have it prepared outside the sick-room, and brought quietly, and above all, in an attractive form, bearing in mind

that a little, daintily presented, will be much more acceptable, and partaken of with more benefit, than a larger quantity.

An invalid is oftentimes better nourished by partaking of a little sustenance at short intervals, and the manner in which one is cared for has much to do with one's improvement.

Twelve Don'ts about Children.

DON'T worry children.

Don't worry about them. Guardian angels still exist, even in the twentieth century.

Don't lose your temper with children.

Don't give way when you have decided on any plan for them.

Don't leave them too much with servants.

Don't repel their little confidences.

Don't get impatient at their most unanswerable questions.

Don't indulge them foolishly.

Don't forget to encourage them and praise their little efforts to please you.

Don't show favoritism.

Don't disagree about them. The father and mother should always be in unison in their training.

Don't forget that they are God's children, lent to you for a season.

A Correction.

A TYPOGRAPHICAL error occurred in our issue of last month in the Editor's article on mosquitoes. The cuts on page 230 were all labelled as though they belonged to the malarial *parasite*, when, as a matter of fact, they illustrate various stages in the life of the malaria *mosquito*, and in a general way of all mosquitoes. A careful reading of the text makes this quite clear. It will be seen that the first illustration on the page, which is said to show the "Eggs of Malaria Parasite" really shows the eggs of the malaria mosquito; the second shows the larva of the malaria mosquito; and the third, the pupa of the malaria mosquito. The parasites which cause malaria and are carried by the malaria mosquito will be illustrated in another article on the treatment of malaria which is soon to appear in this journal.

Answers to Correspondents.

Questions from subscribers pertaining to the preservation of health, the treatment of disease, and kindred topics, will be answered by the Editor, in this department. Answers to questions received during the current month, will appear in the issue of the following month. Write plainly and concisely, give full name and address, and enclose stamp, as it is often expedient to reply by post.

178. BLEPHARITIS.—A. R. B., West Maitland: What can be done for a little boy suffering from blepharitis? He complains of seeing "spider webs with bright spots on them." *Ans.*—The child is evidently suffering from a refractive error. He should have his eyes examined by a competent oculist, and should have proper glasses fitted. The inflammation of the lids would then probably disappear. Zinc ointment may be used. This should be applied to the lids at night.

179. DEAFNESS AND SWOLLEN NECK.—G. W., Dunedin: 1. How may relief be obtained for deafness which affects both ears and causes slight discharge? *Ans.*—It is impossible to say without a careful examination and further knowledge of the case. The advice of a local ear specialist or general practicioner should be sought.

2. What is the best treatment for goitre? Is it similar to mumps? *Ans.*—No, there is nothing in common between mumps and goitre. The treatment of the latter consists in taking only boiled or distilled water as a beverage, and making local application to the enlarged gland. The local treatment usually employed is iodine cataphoresis. This treatment must be given by a physician, nurse, or other qualified person.

180. WHOOPING COUGH.—A. R., Patterson: Kindly advise the best way to give treatment to children suffering from whooping cough. *Ans.*—Children suffering from whooping cough should be given the best of care possible as to clothing, feeding, bathing, and general hygiene. The diet should be nourishing, but easily digested. The clothing should be just sufficient to keep the child comfortably warm without over-heating. It should be evenly distributed, care being taken to keep the extremities warm. The skin should be kept active by frequent tepid or warm bathing, oil-rubbing, etc. The bowels should act at least once daily, and oftener in the case of very young children. The cough is best relieved by means of fomentations to the chest and back twice daily, followed by a chest pack which remains in position for an hour or two. This pack may be worn during the night. It consists of a thin muslin roller bandage which is wrung from cool water and quickly placed about the chest. The wet bandage should be covered with a flannel roller bandage of sufficient length to permit of two or three thicknesses of flannel over every part of the chest. When the pack is removed, the chest should be rubbed with a friction mitt or coarse towel wrung fairly dry from cool water. This cool friction is followed by dry friction and oil-rubbing. In the case of youny children a simple emetic such as salt and water ig sometimes necessary to remove the accumulates mucus.

181. FLESH FOOD AND ENDURANCE, SMOKING, BOILED AND CONDENSED MILK, DISINFECTANTS.—M. D., Port Adelaide: Is flesh food really injurious to feats of endurance? If so, how is Tom Burrows's club-swinging record of sixty-six hours' continual swinging to be accounted for, as he relied principally on "Bovril," and is a meat-eater? Would he be capable of still more astonishing feats were he a non-flesh eater? *Ans.*—Your question has been answered at length in a previous issue of GOOD HEALTH in an article entitled "Diet and Endurance." In this article the results of the Yale experiments are given. These experiments prove conclusively that flesh-eating diminishes endurance. Many similar experiments point to the same fact, as does also the practical experience of the Japanese, and other flesh abstainers.

2. Do you consider smoking in any form harmful when one has grown to manhood? *Ans.*—There is not enough difference in the constitution of the boy and the man to make smoking injurious to the one and harmless to the other. Smoking is injurious at all ages. Read the Smokers' Number of GOOD HEALTH.

3. Should milk be boiled for use? Does it lose its strength thereby? *Ans.*—Boiled milk retains its full food value. It should invariably be boiled, or at least sufficiently heated to destroy the germs of consumption and other bacteria which it frequently contains.

4. Do you consider condensed milk a good substitute for the fresh article? *Ans.*—Condensed milk cannot be considered a satisfactory substitute for fresh milk. Particularly as a food for infants, condensed milk must be considered a very inferior article.

5. Is paint a disinfectant, or is the use of whitewash to be preferred in places where milk and cream are stored? *Ans.*—Paint does not possess very active antiseptic properties. It serves, however, to cover over and seal in disease-conveying dust. Storerooms for milk and cream are best disinfected by the frequent application of lime.

182. VARICOSE VEINS.—M. I. M., Adeliade: Kindly advise treatment for sprained wrist injured twelve months ago. *Ans.*—The alternate hot and cold arm bath, followed by gentle massage should be employed. The support of a thin, slightly elastic flannel bandage would prove grateful.

183. SCIATICA.—M. L., Rockdale: 1. What treatment would you advise for sciatica? Pain not constant, but shifting and shooting. *Ans.*—I am not quite satisfied that this patient is suffering from sciatica. His disorder is more likely neuralgic in character. I should advise rest and a change, with carefully regulated diet, massage, and electrical treatment. A course of treatment in an institution should bring about an improvement.

2. Do you approve of blistering? *Ans.*—The counter irritant effects of blistering are more safely and surely secured through the proper use of hot packs and radiant heat.

184. LEEK WATER FOR GRAVEL, RHEUMATISM. —W. W. W., Timaru: 1. Will leek water taken medicinally as a drink dissolve gravel? *Ans.*—Before giving opinion on this question, it is necessary to state briefly the nature of gravel. Gravel consists for the most part of accumulations of uric acid and oxalate of lime. Free water-drinking helps to keep the uric acid and lime dissolved, and so aids in flushing it out of the system. In this way leek water may aid, but it probably has no special virtue. Ordinary plain hot water would probably do just as well. The acid fruit juices such as lemon and orange are useful in the elimination of uric acid and oxalate of lime.

2. In the event of the leek being out of season will the water from the leek seed boiled produce the same result? *Ans.*—The water from the leek seed would probably be too pungent and irritating.

3. Would you consider either of the above in any way harmful? *Ans.*—Yes, I believe their habitual use would tend to produce gastric catarrh.

4. What kind of oil does the leek contain? *Ans.*—A pungent, irritating, volatile oil, similar to that contained in mustard, pepper, and other condiments.

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