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Health

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EDITORIAL

Preventive Medicine

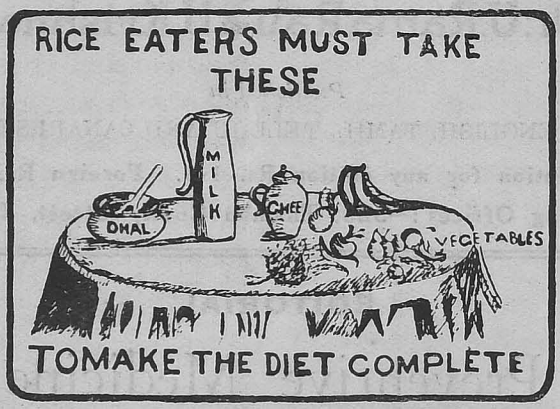
Col. Sir. McCarrison studied the life history of thousands of rats with regard to the prevention of diseases. He bred them in comfort with good ventilation, plenty of light, good food and clean dry bedding. Some of these rats were kept on a diet similar to that eaten by vigorous races of Northern India—whole meal, fresh butter, milk, sprouted legume, raw carrots, cabbage, and a small ration of raw meat and bones once a week, and abundance of water for drinking and washing. Under these conditions no case of illness and no deaths occurred, except a few accidental ones, and the infant mortality was nil.

Another set of rats were kept under similar environmental conditions, but were fed on an ill-balanced diet, such as that in common use in cities—*e.g.*, white bread, margarine made from vegetable fat, sugar, jam, preserved meat and scanty over-cooked vegetables. This batch of rats suffered from a large proportion of the diseases included in the list of the human ailments. On post-mortem examination of these rats, diseases of the various organs of the body as in man were found. These experiments show that properly fed animals remain remarkably free from disease, while improperly fed animals, however well kept, are subject to it.

Thus, good food is as important in the prevention of disease and reducing mortality rate as anything else. However much the State and the Public bodies spend on sanitation, water supply, drainage, slum-clearance, ante-natal clinics, and child-welfare centres, the death-rate and the infantile mortality will be high so long as the people are half-starved and ill-fed. Bad food reduces the

resistance of the man, and will make him an easy prey to any infection; when infected, he will have no stamina to fight out the disease and will easily succumb to it. So, side by side with all health improvement schemes, the economic state of the people must be improved and the man must have enough to eat.

In the prevention of diseases, the soil is as important as the seed. It is not enough if you destroy the seed, the soil must also be made barren and non-fertile to prevent a crop. In such a soil, even if the seed falls by accident, it will not grow. The soil can only be improved by better living. Food, ventilation, sunshine and exercise are essentials in building up a good constitution. It is not only the quantity, but the quality of food that counts. There must be a proper proportion of carbohydrate, proteins, fats and vitamins in the food. Debilitated, rickety children taken from slums if well-fed and clothed, and put to sleep in open air shelters, and play in the open air, have been made robust and happy. By living an indoor sedentary life in warm, stagnant atmospheres, the heat production of the body is reduced to a low level and the fire of life is damped down. The respiration is shallow, the circulation of the blood less rapid, while the abdominal organs are not massaged as they are by deep breathing and active muscular movements. Little food is then required and appetite lessens, or too much is eaten and wrong kinds, when fermentation may occur in the alimentary canal. Every sedentary worker must devote some of his spare time to open-air exercise. By discipline in simple rules of health, life may be extended and joy in living obtained.



Mouth Breathing and Snoring in Children

By

Dr. S. N. Malhotra,

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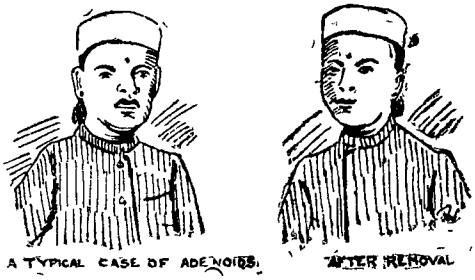
One of the commonest causes of mouth breathing and snoring in children is adenoids. They are soft fleshy masses, lying on the roof and posterior wall of the nasopharynx, that is, the part of the pharynx into which the nares open behind. They are present at birth, and normally undergo atrophy about puberty, and disappear before the age of twenty.

The adenoids tend to hypertrophy, and this generally dates from one of the diseases like measles and whooping cough. Generally the tonsils are also enlarged as well.

The children with adenoids will have recurrent attacks of cold. A running nose in a child is a valuable sign of adenoids, which with mouth breathing and snoring at night, is sufficient for the parents to diagnose this disease.

The child should be operated upon at once, as otherwise certain complications are bound to follow.

The child from recurrent colds will lose strengh and become anaemic. He



Adenoids in school-children.

will feel backward in his mental and physical development. The adenoids being near the pharyngeal orifice of the eustachian tube, which is the ventilating shaft of the middle ear, having hypertrophied, encroach on this opening and will cause impairment of hearing, as the air can no longer get into the ear freely, and the atmospheric air will press the drum inwards. Further, the child may get earache, and later pus discharge from the ear. This will impair the hearing power still further. The discharge will continue till the adenoids are removed.

The air instead of going through the nose where it is warmed and filtered impinges on the delicate membranes of the pharynx, larynx, trachea and bronchi, and will cause inflammation of these structures. In certain cases spasm of the larynx will develop causing urgent respiratory embarrassment and even asthma may come on. Thus the vitality is considerably lowered and such a child falls an easy prey, to many other diseases.

The development of the palate and jaw is also affected. The nose is pinched, the palate high arched, and the teeth irregular and crowded. The child will have a vacant look, and will be backward in his studies. The chest will be deformed like pigeon breast or flat chest, with lower ribs retracted. It is such children who later on in adult life develop phthisis.

The above complications will appear if the children are neglected under the belief, that the adenoids tend to disappear towards puberty. The parents must realise that the ill effects will then be well established; and their children instead of being promising young men, will be wanting in physical and mental development. The chances for them in life will be lessened. Therefore the parents should take such children to a specialist in diseases of ear, nose and throat, and have their adenoids and tonsils removed. The operative risk in skilled hands is very little and the benefit far reaching.

To lengthen life, shorten meals. Dyspepsia is due, in nine cases out of ten, to too much food, too little exercise.—Sir John Lubbock.

The Mystery of the Mosquito and Malaria

By

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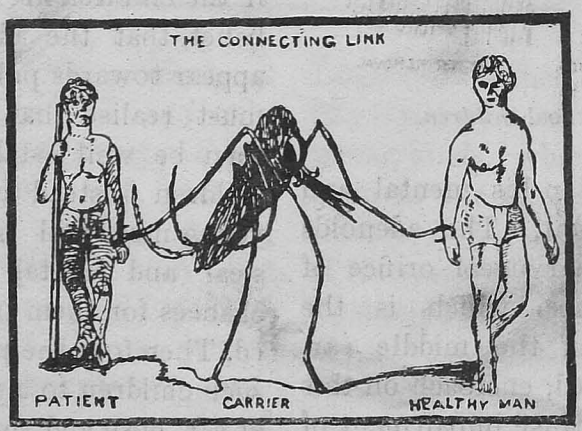
The Malaria Carrier

DURING the end of nineteenth century, the late Sir Ronald Ross discovered that female anopheles mosquitoes carry the germs of the malarial fever from one person to another. The male anopheles are harmless creatures, who feed on vegetable juice only and the structure of their suction tube in the mouth is such that they cannot penetrate it through the human or animal skin and draw in the blood.

Perhaps our readers are not aware that there are many different species of anopheles mosquitœs, each varying in size, formation of body and habit from another and some species are potent carriers of malaria germs while others are completely harmless. Even the same mosquito is not capable of carrying the germs everywhere and a species, which is a powerful transmitter in one part of the country is quite innocuous in another part. This transmitting capacity in a mosquito is influenced by one or other of atmospheric and meteorological changes in a country, such as, rainfall, atmospheric temperature, moisture (humidity) and composition of soil and water.



Malaria is a preventable disease and many highly malarious places have been turned into healthy countries by careful and effective anti-malaria works. To begin with anti-malaria work in a locality, a thorough preliminary study of the anopheline mosquitoes prevailing in this part of the country and factors influencing their nature and habit is essentially required, and which of the species are responsible for malaria transmission, requires to be ascertained. This may be done by catching the adult anopheles from the human quarters and cow-sheds at night and identifying them in a microscope, which is not very difficult as each of them presents a distinct structural peculiarity. These are then dissected under special dissecting microscope and examined if they contain any malaria germs within them. The kind of mosquitoes found harbouring the germs are taken as the malaria carrier in the locality. After the species of the mosquito responsible for malaria transmission has been thus ascertained, antimosquito measures are then adopted to eradicate the species from the locality and to keep the mosquito population in general in its minimum.

Malaria in Man

Malaria is a disease of man as well as of mosquitoes. When an infected mosquito, whose glands contain minute malaria germs, bites a man, some of these germs are set free within the blood, which attack the red blood cells, wherein they develop and multiply. When this process has completed within a cell, the cell breaks through liberating all the new germs into the blood stream, each of which again attacking a new cell. Thus in a short time, they multiply in enormous number at the cost of red blood cells and in each occasion of breaking (sporulation) of the infected red cells a quantity of poisonous material is set free, which is the cause of fever in the individual.

Malaria in Mosquito

When a man suffers from such an attack of malaria for few days together, some of these malaria parasites develop into peculiar forms, which present slightly different appearance. They are called sexual forms (gametocytes) and are responsible for development of malarial parasites in mosquitoes.

When a female anopheles mosquito bites a man, whose blood contains males and females of these sexual forms of parasites, as described above, these cells unite and develop within the stomach wall of the mosquito. In course of time this matures into hundreds of minute parasites, which travel to the salivary glands of the mosquito and when it bites a man some of these newly generated germs enter into the human blood through the suction tube and infect the red cells and thus complete the vicious cycle.

The Antimalaria Measures

Thus we see, if the female anopheline mosquitoes which are found to be implicated in malaria transmission in a locality are all killed, or all individuals are protected from their bites, or the sexual forms or gametocytes, which are essential for parasitic development in mosquitoes, are not allowed to grow in a patient, malaria can possibly disappear from a country. It is not at all possible to eradicate or to kill all adult flying mosquitoes in a country and only a few individuals can protect themselves by living in mosquito proof houses and living under mosquito curtain without exposing altogether. The other alternative is to kill or to prevent the growth of gametocytes *in vitro*, which is to some extent possible now-a-days by regular administration of a new preparation 'Plasmochin' or 'Plasmoquine' to all fever patients; but how far it is possible to carry on, on general population, is a matter of controversy, and we intend to discuss it in a separate paper. The most wide, useful and effective way to control malaria is to kill the mosquitoes in their larval stage and to prevent their development into adults.

The mosquito before assuming the form in which it appears in front of us, passes through three stages, which occur in water. The gravid female lays eggs on the surface of water which gradually develops into small moving insects called '*Larvae*'. After a few days they assume another form called '*Pupae*' which gradually develop

wings and fly on to our houses to taste the sweet human blood. The anti-malaria measures are mostly directed against the mosquitoes in their larval stage and consists of either oiling or spraying ' Paris green '.* Where financial condition permits, the ideal scheme consists of draining the part of the country by under ground drains and thus drying up the surface of the earth which will prevent any mosquito breeding. Only those drains, which cannot be thus drained, require spraying of oils or paris green at regular intervals. But ordinarily where no such facilities exist, all water-surfaces that actually breed or are likely to breed mosquitoes require to be attended and treated with larvicides regularly.

The Larvicides

The development from eggs to adults takes about 10 days and the oiling or spraying of paris green is repeated after every 7 days. Usually a mixture of equal parts of kerosene and crude oil is used by means of spraying instruments, which when sprayed floats on water as a thin film and suffocates the larvae, which attempt to breathe through it. At the same time, some of the oil dissolves into water and acts as a poison, to those which do not apparently come in contact with the oil. The ' Paris green ' is a preparation of copper and arsenic, and when sprayed even in dilution of 1 part in 50 parts of soap stone or any fine dust, can kill the larvae. It is also sprayed by special apparatus and forms a scum over the surface of water. The larvae which always move on the surface of water eat it up and consequently die.

Conclusions

The best antimalaria works have been carried out in countries outside India such as Palestine, Panama canal Zone, Malaya, Phillippine Islands etc. In India demonstrable work has been done in some of the tea estates in Assam under Drs. Ramsay and Manson, in Travancore Tea company's estates, in some places under Bengal Nagpur Railways and some villages of Bengal under the Antimalarial Societies. No permanent antimalaria works in any extensive area have been carried on by the Government except isolated and occasional attempts upto now, though substantial research works are on progress under some of the Provincial, Govts, and the central Government.

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* The less important matters, such as, biological control, cultivation of larvicidal fish, use of other chemicals viz., cresol, for destruction of larvæ etc., have not been included in this paper as they will simply increase the volume and carry false impression to the readers.—J. C. B.

New ways to Normal Sight

By

R. S. AGRAWAL,

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PRACTICALLY most of us living under civilized conditions suffer from some form of defective sight.

What is the cause ?

The cause of imperfect sight is eye strain. We strain by using the eyes in the improper way. We do not know how to use the eyes at different times. The methods which give right eye education relieve the strain.

Relieving the strain by glasses:

It is a common practice of the doctors to prescribe glasses for eye defects. It is true that glasses do enable some people to see better for a time just as any crutch may help a lame man to get about, but when his lameness is gone or his broken leg has mended, he can throw away his crutch. Not so with the crutches of the eyes. In most cases the longer the glasses are worn, the poorer becomes the vision and the stronger must the lens be. Effects have been treated instead of causes ; yet it is plain that the causes must be removed if we are ever to cure the effects.

Relieving the strain by Bates's methods:

Dr. Bates's work and researches are undoubtedly one of the greatest boons of this century that has come to suffering mankind,generations unborn will do homage to him. He has relieved the troubles by curing the causes and not the effects. With the practice of some simple rules nearly every one can regain normal sight without glasses.

1. **Blinking.**—Blinking is a great help to the vision because the eyes obtain a measure of rest when the eyes blink. The normal eye blinks all the time it is open, it is done so rapidly, however, that we do not see it—but in those suffering from defective vision, blinking is very irregular and jerky. All sufferers from defective vision should therefore cultivate the habit of blinking frequently, thus preventing straining.

If you do not know blinking, notice how gently a tiny baby blinks. Learn to blink about three times every two seconds (but without effort), no matter what you may be doing at the time and especially when reading.

This is a very simple but effective way of breaking up strain, and it will be found that a great deal more reading can be done in this way than was formerly the case.

2. **Sunshine.**—The value of sun-shine in all cases of defective vision is very great, and all sufferers are recommended to give their eyes as much of this as possible.

The best way is to close the eyes, face the sun and gently move the head from side to side to ensure the rays falling on all parts of the eyes with equal strength. Remember the eyes should move also in the direction of the head. It should be done for about

ten to thirty minutes two times a day, when possible.

This has the effect of drawing the blood to the eyes, and relaxing the muscles and nerves. (Glasses should never be worn when doing this.)

3. **Water.**—Water is very effective in toning-up the eyes and the surrounding tissues and should be used as follows:

Whenever you wash yourself, before drying, dip your hands in the bowl (palms upwards and cupped) and raise them full of water to within two inches of your closed eyes. Then splash the water on to your eyes smartly, but not violently. Repeat this about twenty times, then dry yourself and rub the closed eyes for a minute with the towel.

This will make the eyes glow and it will freshen them. It is a very good plan to do it whenever the eyes feel tired, but, in any case it should be performed at least three times a day.

4. **How to see distant objects.**—Never fix your sight on any particular part of the object, nor try to see it as a whole at a time; but move your sight frequently on its different parts or see to its right and left. Blink often. Fixing the sight and not blinking causes strain and makes the object dim and gives discomfort.

5. **How to read.**—Move your head from side to side, blink on the first and the last letter of the line. It is a common practice to read without blinking but such people feel their eyes tired after some time. Reading the finest print as close to the eyes as possible, improves near sight.

6. **How to write.**—Watch your pen moving and blink frequently. It is a mistake to watch the back letters at the same time while writing. It is a a very good method even to improve handwriting.

7. **How to see the cinema.**—Now-a-days cinémas are very common and every body is anxious to see them. Cinematograph pictures are commonly supposed to be very injurious to the eyes and it is a fact that they often cause much discomfort and lowering of vision. They can, however be made a means of improving the sight. When they hurt the eyes it is because the subject strains to see them.

While seeing the cinema blink frequently and shift your sight continuously from one side to the other of the screen.

8. **How to Walk.**—Some people feel headache or some other kind of discomfort while walking. It is because they stare towards the objects. Blink on each step. Imagine that the front and side objects of the road move backwards.

While travelling in the vehicle, move your body according to the movement of the vehicle, just as you move yourself while riding. At the same time imagine that the objects are moving in the opposite direction, just as you see while travelling in the train. To imagine the objects stationary causes great discomfort and vomiting.

9. **How to relieve eye discomforts after sleep.**—Eyes remain under a great strain when asleep more than when they were awake. During sleep one is not conscious of the strain. But the first thing in the morning the symptoms of eye strain are prominent, with headache, pain and heaviness, and fatigue of the eyes. Many people

complain that when they awake in the morning they are suffering from pain in the eyes or head and feel as weary as though they had been working hard all night long. They do not recover for an hour or two longer. Vision is found reduced.

Swinging is immensely helpful in relieving the strain. It is to be performed before going to sleep and after retiring. The method is as follows :—

Stand upright with your feet about 12 inches apart, hands loosely at the sides; then, keeping yourself as relaxed as possible, gently sway the whole body from side to side imagine you are the pendulum of the clock and move just as slowly. Raise each heel alternately from the ground, but not the rest of the foot. Swinging should be done before a window, and it will be noticed that as you sway, the window seems to move the opposite way to yourself. 100 swings should be practised at a time. After swinging lie down on your bed and cover them with your palms lightly and imagine the movement of the window.

Early to bed and early to rise also relieves eye strain. Sufficient physical exercise should be done daily.

10. **How to sleep.**—Lie in the convenient posture. Move your eyes to the direction of the head. If you lie to the right side then move your eyes to the right. Moving the eyes in the opposite direction causes a great strain. Before going to sleep close the eyes and remember the whole day work or imagine some good thoughts.

It is an interesting fact to know that different methods of improving the sight can be studied from Dr. Bates 'Principles of Perfect Sight without Glasses' which can be had from Taraporewala & Co., Bombay.

Blood Pressure

By

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"WHERE ignorance is bliss it is folly to be wise". This golden dictum applies with some of the newly discovered facts and things under the sun. Our grand parents never knew of blood-pressure. Only a couple of decades ago it was not a subject in polite society not because it was of an impolite nature but because the study of it was then in its infancy and proved too much for ordinary people. Eversince blood-pressure came to be known, it began to obsess people with imaginary fears and set the society agog. Once we have come to know of it, we should do well to master the elements of the new-complaint just as we understand the significance of a headache or fever.

The blood-pressure is in simple terms nothing but the pressure of the blood inside the blood vessels and is caused by the pumping of blood by the heart into the arteries to get nutrition and to remove waste from tissues of the body. In ordinary and sound functioning of the body some amount of blood-pressure is absolutely necessary and compatible with health. But the greater the pressure of the blood in the blood-vessel, as in ordinary life, the greater is the chance of pipe bursting. It is felt in the pulsation of arteries at the wrist and in the upper arm and it is impossible to tell by feeling the pulse whether the blood-pressure is high or low just as our measuring the temperature is deceived

by the simple touch of the palm. A scientific instrument called "sphygmomanometer" is of course necessary and it must be in the possession of a doctor who has mastered its technique. The case of high blood-pressure in old age or low pressure from loss of blood cannot last long without ending fatally. So much about the elementary phraseology of the subject.

Next let us come to causation of the troubles allied with blood-pressure. Hyperpiesis is generally caused by the accumulated waste products in the blood in chronic constipation, alcoholic excesses and violent exercise. Emotional upheavals will tend to produce changes in blood-pressure.

The cure for this complaint of high blood-pressure lies in fasts, absolute rest and thorough evacuation of the bowels. Butter-milk is especially valuable as it has the property of destroying putrefaction bacteria and thus preventing constipation. Thus it lowers high-blood-pressure and prolongs life. The next important agent to lower this pressure is ultra-violet rays of the sun. Besides these, controlled passions, salt-free foods, cheerfulness and daily morning walks help to prevent high blood-pressure.

The Banana and its Uses in India

By

T. S. IYER.

THE banana (*Musa sapientum* or *Musa paradisiaca*) is a tropical plant, and is cultivated universally in many varieties throughout India for its nutritious and delicious fruit. I shall indicate briefly the numerous uses to which the plant and its products are put in India.

There are three main varieties which are planted on a large scale in the several parts of India, *viz.*, green, yellow and red. They differ in taste. The tree grows to a height of about ten to twelve feet and in some places adjoining river banks to much greater height. The tree and its products are put to various uses, either as food or as medicine, and no part is wasted. As its utility is well recognized, no village or hamlet in the plains of India will be without its quota of the banana.

Tree.—The entire tree without the root but with its bunch of raw fruit is used on important occasions for decorative purposes.

Roots.—The root is useful in the treatment of bronchocele and strumous affections. The root in powder form is used in anemia and cachexia. Its cold infusion neutralizes the intoxication of a drunkard or a person under the full effect of spirituous liquors. The juice of the tender root is used with mucilage for checking hemorrhages generally. The root juice, in which burnt borax and niter are dissolved, is given in retention of urine; mixed with clarified butter and sugar, it is given in gonorrhœa.

Fiber.—The juice of the outer fiber is generally used for kidney troubles and also for children suffering from an overdose of opium. The juice is

also said to be an antidote to the poison of snakes, so that if it is given immediately to a person bitten by any poisonous snake (including the cobra), his life may be saved in most cases. An ounce of the juice mixed with an ounce of clarified butter is a good purgative. The tender green fiber is also applied on the top of the head to reduce the heat. The outer fiber is also used for stringing flowers together and preparing garlands of flowers. The dry fiber is also chemically treated and rendered strong for the purpose of weaving cloths out of them. This has grown into an industry in some places and the cloths are found to be as good as artificial silk.

Tender Stem.—The tender stem inside the tree is also applied to the head to relieve heat. It is cooked as a vegetable and if it is used liberally will promote the free flow of urine. It is also used as a vegetable salad. The juice of the tender stem will also remove the ill effects of Ganja—a narcotic similar in effect to opium. In old times the dry fiber and leaves were burnt and from the charcoal thereof "potassium carbohydrate" was derived.

Leaves.—The leaves are used all over the country as dishes or plates for taking food in. The dry leaves are stitched in the form of cups for serving articles of food in. In South India, people generally use only banana leaves and cups in place of metal or china plates and dishes. The young tender leaves form a cool dressing for inflamed and blistered surfaces: the blister removed, a piece of banana leaf smeared with any bland oil, is applied to the denuded surface and kept in place by a bandage. The tender leaves are also useful as a substitute for oiled silk and gutta percha in the water dressings of wounds and ulcers to retain the moisture, provided the piece used in sufficiently large to cover or envelope the part, and is kept in its place by bandages, etc. The older and greener leaves make an excellent eye shade in eye diseases.

Flowers.—The flowers are cooked as vegetables, and in this form they are useful in diabetes. The juice of the flowers mixed with buttermilk is administered in dysmenorrhœa and menorrhagia.

Raw Fruits.—The raw fruit is useful as a valuable article of diet, especially for those suffering from hæmoptysis and diabetes, and in the dried state, or preserved with sugar it is antiscorbutic; it is also useful in diarrhoea. A special variety of fruit grown in Malabar, on the west coast of South India, is cut into chips and fried in coconut oil or butter, and this preparation keeps well for a long time. This same variety is also dried in the sun, and converted into flour, which is generally used as children's food and for the preparation of cakes and bread. Gruel made of banana flour mixed with milk is said to be an easily digestible article of diet in gastritis.

Ripe Fruits.—The banana ripens best upon its stem; if ripened apart from the stem, it is not so wholesome. The ripe fruit contains vitamins A, B and C and is beneficial to anaemic persons on account of the iron contained in it, and is a valuable food in chronic dysentery and diarrhoea, mixed with half its weight of tamarind

(*Tamarindus indica*) and a little salt. A mixture of equal parts of the fruit and of *Emblic myrobalan* (*Emblica officinalis*), with a little honey, is supposed to reduce the quantity of sugar in the urine and is useful for diabetics. A *fermented juice* of the ripe fruit is given in atonic dyspepsia. A banana well washed and mixed with four ounces of milk may be given three times daily in cases of sprue, diarrhoea and scurvy. Raw fruits are also made into a soup for the same purpose.

Seeds.—Some varieties of the banana have seeds the juice of which is said to relieve the irritation of the abdomen. *A mucilage* prepared from the seeds has been found of great service in the catarrhal and mild inflammatory form of diarrhoea.

Skin.—The ash left by burning the skin of the banana fruit contains soda and is useful for washing clothes. The ash produced by burning the whole plant contains potash salts and is, therefore, useful in acidity. heartburn and colic.—(*Good Health, U.S.A.*)

Planning the Toddler's Diet

By

BELLEWOOD-COMSTOCK, M.D.

THE real problem in feeding children comes when the baby begins to leave babyhood and begins his important transit between this delightfully dependent state and the more independent one of childhood. As long as baby has very little to say in regard to his food, things go all right and his gain in weight and development goes on in the most satisfactory way; but let him once get to the point where he begins to have a taste of the food that so delights his elders, where he has an opportunity to indicate some choice in the matter, and we find him becoming side-tracked into by-paths, and oft-times questionable paths.

And then while baby is very carefully prescribed for during his first year, somehow the plan becomes a bit hazy as he gets well into his second. As he begins to eat the foods that the grown-ups eat, the idea seems to obtain that there need be no longer any very definite or regular system. By the time he is three, he can "eat anything he wants," and to find out *what* he wants and what he *will* eat gradually comes to be a more and more difficult and uncertain task.

As a matter of fact there should be just as much forethought in regard to the children's feeding after the first and second years as there has been before. And just as baby is expected to eat what is set before him during his early months, so should he continue to take such an attitude as a matter of course as his age begins to be reckoned in years.

The plan is this: *Breakfast;* A goodly portion of *fruit*—in the earlier months tender, scraped, mashed, made into a *puree*, and stewed fruit; later any and

all fruits taken by grown-ups. This supply of fruit for breakfast should always be a goodly one and may well form an important part of the meal. Around fruit as the centre are grouped various *starchy foods*, these affording variety from day to day. Give toast, rolls muffins—things that require chewing, not always porridge and soft foods, even though these may take their turn. A very good rule is to plan for a hard food to be eaten directly with one that is soft. That is why toast and apple sauce is a good combination. Milk toast, gruel and many other forms of starch may take the place of the proverbial oatmeal or cream of wheat. Dates and raisins may be cooked in them if desired or sliced banana may be served with them. Or if they are eaten with alternate bites of stewed fruit, the sweet tooth may be in this way very effectively satisfied.

The cereal part of the meal, either as hard breads or softer porridge, and the fruit having been provided for, the third important food for breakfast is to be considered, and that is *milk*. Every boy or girl must have his drink of milk. Milk may be drunk, of course, but it may also be cooked in cereals, served on cereals, served as bread and milk or milk toast. While the butter fat of milk affords a valuable vitamin supply, it is much better that children get most of the butter fat in their milk and perhaps in some added cream rather than in the form of much butter.

So breakfast comes to be for these little tots a *trio of foods*. First, fruit; second, cereal and starchy foods; third, milk in its various forms with the least amount possible of artificial seasonings in the way of refined sugar and greasy fats.

There is another meal of the day that follows the same plan as breakfast. This meal may be lunch or supper, dependent upon whether or not the dinner is served at noon or night. Lunch or supper, whichever it may be, is like breakfast—a fruit, cereal, and milk meal. Fruit may be served in its various forms, or its equivalents—tomatoes or raw vegetables; cereal in any of its many varieties of breadstuffs or grains; milk, as cooked milk, raw milk, buttermilk, cottage cheese, or an occasional egg as a milk equivalent. Vegetable soup of any kind fits in very nicely with such a meal as this, and if made with milk it helps out the tissue-building value of the meal.

The third and very important meal of the day is dinner. Here, again, we must consider an important trio, which is vegetables, starchy foods, and milk or its equivalent. Vegetables may be served as soups, vegetable salads,and cooked vegetables. By salads we do not mean highly-seasoned combinations served with mayonnaise. But most children like raw vegetables, and these can be arranged in many very pleasing ways, with a homely but very healthful dressing made with lemon juice, tinned milk, and a bit of honey or even a little sugar.

Vegetables should be cooked down in their own broth without any fatty seasoning. At first vegetables should be made into a *puree*, but they can be taken by the two-year-old child in almost any simple form. Again milk must form a very important part of the meal, and if drinking milk gets a bit tiresome to the child, he may be

beguiled in its use by its being served in connection with other foods, as in soups, simple desserts, cottage cheese, and in many other ways that the ingenious mother and housewife will be able to contrive. And it is needless to say that the use of pepper, condiments, or rich sauces of any kind should be avoided for the child, or that tea and coffee should be interdicted. Even cocoa should be used only occasionally, and only with the older child; and in the author's opinion, every child is better off if meat is not included in his diet. Extra vitamin-containing juices as orange or tomato juice given daily will ensure the child normal progress away from the danger of rickets and other phases of imperfect nutrition.

The great harm in the feeding of children comes in their being accustomed to the trimmings that civilized people consider so important for flavour. The child unaccustomed to these will eat the plainest kind of food with the same zest and relish that he did when he grabbed his bottle or nursed contentedly at his mother's breast. His unperverted appetite does not crave the seasonings that later in life he may demand.

Extra sweets like ice-cream, occasional cakes, and other like dainties may be allowed him after the age of three, and then occasionally and in moderate amounts as a sort of a reward for having eaten well of his plainer meal. There is then little danger that he will get more of these things than he should.—*Good Health (London.)*

The Why and the Wherefore of Deep Breathing

By

DAVID LAYTON

IT seems rather a presumption to assume that people who are sufficiently interested in matters of health to be regular readers of this magazine are probably ignorant of some of the elemental details of personal hygiene, yet I venture to suggest that many of those who will see this article are unaware of the physiological reasons for some of the rules and regulations which are set out in these columns.

No one likes obeying instructions without knowing the reason. We can all remember, as children, being told to do this or not to do that. The first impulse was always to ask "Why?". If our curiosity was satisfied, and the reason explained, how much more willingly and intelligently we obeyed.

Most of us are not so far removed from childhood as we like to imagine. When we are told in HEALTH FOR ALL that we must "deep-breathe", perform certain exercises, eat certain foods, even the most enthusiastic among us are sometimes tempted to inquire, in the language of infancy, "What for?"

Deep Breathing

For instance, how many people really understand what happens when they breathe? Briefly, the respiratory system, or the collection of organs

with which we breathe, is made up as follows:

Nose. (Please note, the mouth is *not* part of the breathing apparatus and was never designed for that purpose.)

Trachea or windpipe.

Bronchial tubes.

The lungs or "bellows."

The diaphragm—the muscle which divides the thorax or chest and the abdominal cavity.

What Happens when we Breathe

For non-technical purposes I should describe the act of breathing as partly voluntary and partly involuntary. By the contraction and relaxation of the diaphragm the air-space in the lungs is increased and decreased. That is the involuntary part. Unfortunately so many of us just leave it at that.

Why must we breathe at all? Because it is by the oxygen we take into our lungs that the blood is purified and refitted for its fight against disease. We must take that statement for granted, for the present, but it will serve to throw some light upon the vital importance of proper breathing.

Let us go into this question a little further.

The Lungs

The lungs are not just hollow, air-tight bags. They are filled with air channels which gradually diminish in size until at their extremities they become so minute as to be almost invisible. At this stage they come into actual contact with the capillaries which bring the blood to the lungs for purification. Here the air we take in when we breathe, acts upon the impure blood, providing it with its new supplies of oxygen. The importance of deep breathing is now made clear. It is only in the fine, thread-like extremities of the air-passages that the oxygenation of the blood can take place. Thus, it will be obvious that unless we turn our breathing into a voluntary process, expanding our lungs with fresh, lifegiving air almost to the limit of their capacity, only a very modified degree of purification can take place and the vital fluid upon which we depend for defence against the attacks of disease remains sluggish and vitiated and incapable of performing its functions.

Exercises alone are useless

Sudden and vigorous deep-breathing exercises on rising in the morning are of little value, if followed by shallow, lazy respirations during the remainder of the day. The aim must be to exercise for the purpose of forming the *habit* of continuous deep-breathing.

Stir up those lazy lungs by filling and emptying them once every five or six seconds. *Make* them work. It will be difficult at first. For every minute you remember, you will forget for an hour; but gradually, week by week, you will find yourself becoming more consistent.

The Reward

When you have trained your respiratory system to carry out its work properly, you will be astonished at the physical benefit you will derive. The tired feeling that used to attack you in the middle of the afternoon will disappear because the blood, being plentifully supplied with oxygen will be able to feed your nerves and muscles and keep you going through the long-

est, hardest day's work. You will discover that it is easier to keep warm in winter and cool in summer because a perfect circulation of healthy blood is the only thing that can possibly maintain an equable body temperature. Your digestion will improve. You will derive more benefit from the food you eat, because it is only when the blood has been properly oxygenated by sane breathing that it is capable of assimilating as food the various salts that form a large part of our diet.

There are many other reasons for correct breathing, but those given above should be quite sufficient to enlist most hitherto unconvinced readers in the noble army of deep-breathers.—*Health for All.*

Health Tit Bits

Food and Efficiency.—An interesting experiment has been carried out in Coonoor to show how the diets of different parts of the country affect the physique of persons from those parts. It was observed by Colonel McCay that 'from the northwest region of the Punjab down to the Gangetic plain to the coast of Bengal, there is a gradual fall in stature, body-weight, stamina and efficiency of the people. He attributed this to the gradual fall in the nutritive value of the dietaries of the races living in the different provinces of India. The Superintendent of the Food Research Institute at Coonoor experimented with a number of white rats. He put groups of twenty rats of the same size, sex distribution and body-weight into different cages. Rats more closely resemble men in their digestive and nutritional processes than other animals, though their process of development is thirty times as rapid. The experiment lasted 140 days, equivalent to a period of twelve years in a man's life.

The different groups of rats were fed on the common diet of the Sikhs, the Pathans, the Rajputs, the Mahrattas, the Gurkhas, the Bengalis, the Kanarese and the Madrasis, respectively. On the eightieth day the groups were weighed and photographed. The Sikh, Pathan, and Mahratta groups came first in the order named. After an interval came the Gurkhas, then the Kanarese, the Bengalis, and very much behind came the Madrasi rats. The Sikhs, Pathans and other north-west races are wheat-eaters and drink a lot of milk. They also eat a considerable amount of fruit, vegetables, and meat. Further south, rice replaces wheat and a lesser quantity of vegetables, milk and meat is consumed. Correspondingly there is less physical efficiency. Beri-beri is a common disease where mill-polished rice is eaten in quantity, and diseases like malaria, kala-azar and leprosy are more prevalent in those areas where the food quality is poor. India should pay more attention to the nutritive value of its food and seek for a more balanced diet. This is possible in spite of the economic poverty of the Indian masses. By educative propaganda they can be taught to use the

common fruits, such as the banana, and vegetables more than they do now.—*The Treasure Chest.*

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Left-Handedness.—For many years it has been held by physiologists that the cause of right-handedness and left-handedness is that sometimes the right and sometimes the left hemisphere of the brain is dominant. It has also been held by some that left-handed persons are likely to be defective in various ways. Both of these views are now known to be erroneous. Leonardo da Vinci and the famous sergeon Ludwig were left-handed.—*Good Health, U.S.A.*

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Laxative Drugs Highly Injurious.—All laxative drugs are harmful, if habitually used, *The Journal of the American Medical Association* says:

"As every physician knows, senna is a drastic purgative and is especially contraindicated in spastic constipation and in conditions of intestinal inflammation. It is especially to be avoided by persons who suffer from hæmorrhoids.

"The persistent and indiscriminate use of purgatives as a means of reducing weight is not only irrational but dangerous. Whatever reduction may be brought about by such means is due to the fact that the food eaten is hurried through the intestinal tract before much of it can be properly assimilated. In other words, a certain amount of food is totally wasted, while at the same time the digestive apparatus—and especially the lower bowel—is subjected to constant and repeated physiologic insults by the purgative."

All laxative drugs damage the colon, causing colitis, and a spastic condition of the colon; but they do more and even worse mischief. The brunt of the attack upon the body by these harmful drugs is borne by the duodenum or second stomach. Chronic duodenitis is the certain consequence of the habitual use of laxative drugs of any sort.

Duodenitis is the real condition present in most cases of indigestion, so-called hyperacidity, or sour stomach, heart-burn, eructations of gas or belching, pain after meals, "goneness," heaviness, nausea, loss of appetite, drowsiness after meals, tenderness in the region of the stomach and liver, so-called nervous dyspepsia with headache, mental dullness, cold hands and feet, sweating palms, coated tongue and foul breath—these are a few of the symptoms due to chronic duodenitis.

If a laxative secures relief, it is only temporary and makes things worse in the end.—*Health for All.*

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Cheap Source of Vitamin C.—Juice from the lowly turnip is now recommended as a good substitute for orange or tomato juice, says Dr. E. W. McHenry, of the University of Toronto School of Hygiene, in a report to the Canadian Medical Association Journal. Dr. McHenry says that in Toronto one cent will buy 100 vitamin C units from turnip juice, whereas the number of vitamin C units from lemon juice is 180, and from orange juice 220, and from tomato juice 170. Two pounds of ordinary turnips give 15 ounces of juice, which is said to be sweet and not unpalatable. Salt improves the flavour, but for infants the pure juice is advised. The juice may be easily

made at home by grating a section of turnip and expressing the juice from the minced material in a linen or other cloth.—*Science Service.*—*The Oriental Watchman.*

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Pineapple as Pyorrhœa Cure.—Canned pineapple may become a powerful ally to doctors and dentists in their fight against pyorrhœa, according to a report by Dr. J. A. Killian, the distinguished American scientist, on the Nutritional Value of Canned Pineapple, which has just been published in the U.S.A.

This report, which is the result of two years' research at the University of Hawaii, has, amongst other things, established canned pineapple as one of the most consistently reliable antiscorbutics available throughout the seasons. Dr. Hanke, of the University of Chicago, states the report, has found, during an intensive study of dental disease and diet, that many striking cures of pyorrhœa and dental decay have been effected by the consumption of large quantities of antiscorbutics, which are rich in vitamin C. Canned pineapple, it has been established, has as high a vitamin C. content as the anti-scorbutics used in Dr. Hanke's experiments, and has also a high content of vitamins A, B, D, and G. In experiments undertaken in connection with the Indian disease, beriberi, which is a nutritional disorder, canned pineapple was found to contain the vitamin B (BI) in sufficient quantities to prove very valuable in combating the disease.

Canned pineapple, the report adds, was found to be a good source of iron, copper and manganese, essential to a proper diet, in a readily assimilable form. Test meals were given to a large number of subjects, and it was found that the incorporation of pineapple in the meal stimulated the protease activity in the stomach, and definitely speeded up the digestive process.

While the vitamin content of fresh vegetables varied very considerably with the season of the year, the report adds, the vitamin content of pineapple was not injured by canning, and maintained a consistent level throughout the seasons.—*P. D. S. Gazette.*—*The Indian Dental Journal.*

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Heart Stopped yet Still alive.—Nearly eight years ago the heart of Dr. H. W. D. Crook stopped beating.

It has never beaten since.

Yet he is still alive—and active.

He works hard six days a week, and even drives a car.

And, so far from worrying, he takes a sane professional interest in his case, which has startled medical experts.

The history of the case begins on a date years ago, when Dr. Crook, then studying at Guy's Hospital London, several times contracted rheumatic fever.

The valves of his heart became enlarged.

It is these valves which, by opening and closing regularly, keep the blood circulating. The pumping of the valves causes the 'beat' of the heart.

When they are enlarged, the blood flows evenly through, and there is nothing to keep up the circulation.

"*A Lucky Person*".—During his latest illness—in 1926—the specialists

at Guy's found that his valves were permanently enlarged.

It seemed impossible that he should go on living.

"The doctors did not tell him of his condition," said Mr. J. W. Crook, his brother to a "Sunday Express" representative. "They thought that, as a medical man, he would realise how serious it was, and possibly die of shock.

"To their amazement he produced a stethoscope from under his pillow, and told them he had listened to his heart every day and knew its condition.

"It is a very interesting case, he said jocularly.

"I suppose I am a lucky person", said Dr. Crook to a "Sunday Express" representative recently.

"I am absolutely fit and well, and suffer no inconvenience whatever."

"The muscles of my heart have become strengthened in such a way as to compensate for faulty valves."

"Any suggestion thas I am liable to die at any moment is without justification".—*Practical Medicine.*

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Pineapple.—contains a digestive substance called bromelin, which is able to digest meat, the casein of milk, and white of egg, and hence is a good digestive at the end of a meal. Its digestive action has been utilized in diphtheria, to cause the disappearance of the membranes in the throat. If a small slice of pineapple be applied to a corn for eight hours or so, it will soften it and make it easily removable. Warts are cured by application of the juice.—*D. D. Aufergne Wright. F. R. C. S.*

Monotony Puts Us to Sleep.—Pavlov's wonderful experiments on "the conditioned reflex," which revolutionized the science of psychology, demonstrated that sleep is the result of monotony. A continuous repetition of the same sound tires out the contact structures of the brain, causing them to retract, and so interrupt the mental activities on which consciousness depends. It is for this reason that many persons who sleep well on a train so long as it is in motion, awaken as soon as the train stops.

Many years ago, when an ice dam in Niagara Falls stopped the flow of water and so caused the roar of the cataract to cease, the sudden silence awoke the whole population in the middle of the night.

Dr. Andrew White in his "Autobiography," tells the following anecdote of the famous Chancellor Bismarck:

"He once asked me how I managed to sleep in Berlin; and on my answering him, he said: 'Well, I can never sleep in Berlin at night when it is quiet; but as soon as the noise begins, about four o'clock in the morning, I can sleep a little and get my rest for the day.'"—*Good Health.*

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Money Germs.—Numerous bacteriological studies have shown that paper money is a most efficient collector of germs and a very ready means of broadcasting bacteria of various sorts. A recent Dutch observer found as many as twelve thousand to eighteen thousand germs to the square inch on paper currency. Tests for viability showed that typhoid germs survived seven days on paper money; colon germs, twenty days; and pus-forming germs, forty-five days. The hands should be well washed with soap after handling paper money, especially before eating.—*Good Health.* (*U. S. A.*)

Book Reviews

Old Age Deferred—The Prevention of the Disabilities and Diseases of old age—*By Bernard Hollander*, M.D., Published *By Watts & Co.*. 5 & 6 Johnson's Court, Fleet St., E. C. 4.

[Price 3/6- net.

Every individual in this world is anxious to live up to a ripe old age and is in search of some 'Elixir of Life' to accomplish his or her object. Medical Science is trying to help mankind in his endeavour to lengthen life and the attempts of Steinach and Voronoff to revive the activities of the ductless glands, whose degeneration leads to diminution of vital energy, by surgical operation are among the latest discoveries in this line. The author of this book, a physician of international repute, gives a simpler and safer method of increasing vital energy by radium emanation treatment. This book will undoubtedly prove to be of interest to our readers, especially those who are above fifty and who wish to live the life of a centenarian.

The Hand Book of Indian Medicine. or the Gems of Siddha System (in English)—*By Dr. T. G. Ramamurthi Iyer* Medical Officer, Taluq Board Siddha, Dispensary, Avalpundurai P. O., Erode, S. India. Published By Sri Vani Vilas Press, Fort, Erode, 1933. Price Rs. 5/- or 10 *sh.*

In these days of increasing attention paid by the Government to the revival of the Indigenous Systems of Medicine, which cater to the needs of nine-tenths of the suffering humanity in this country, the book will be welcomed as a timely publication. The present day practising physician in the Siddha system of medicinecannot rightly interpret this science which is in the Vernacular of South India in the English language and the student of this system in the Indigenous School of Medicine who is conversant more with the English language than the vernacular is thus heavily handicapped in trying to understand the real import and meaning of vernacular medical terms. To him, this book will prove a boon. The printing and get up leave nothing to be desired and we heartily commend the book to those who are interested in this branch of medical science.

Yoga—*By Shri Yogendra*, Bombay, Annual Subscription Rs. 2/4- Single Copy As. 4.

We have much pleasure in introducing this monthly journal to our readers and the title itself indicates the nature of the contents. The journal has already entered its second volume in January last and it gives us practical hints and instructions in plain, non-technical English language, with illustrations for performing the various Yoga Exercises found in our Vedic literature, which, we are told, gave our Yogins health, strength and longevity besides divine knowledge and intuition. Under the able Editorship of Shri Yogendra the journal will surely have a prosperous and successful career.

Careers.—This is a Monthly Journal published in Lahore, and Vol. I, No. 3, (April 1934) issue which has come to our review, contains useful articles, which will inspire hope and confidence among the educated unemployed and direct them to various walks of life. A page is set apart for the qualified unemployed to advertise themselves free of charge so that they may be able to obtain suitable careers through the medium of this journal. We wish the journal all success.
