ESTD. JAN. 1923.

Health

A Journal Devoted to Healthful Living

Edited By Dr. U. Rama Rau & U. Krishna Rau, M.B.B.S.

Annual Subscription Rs. 1-8. Foreign Rs. 2. Post paid.

Editorial and Publishing Offices :—323, Thambu Chetty Street, George Town, Madras

Vol. XVI. | JUNE, 1938. | No. 6.

Editoria

Snuff-Taking

SNUFF is defined in the Oxford Dictionary as "powdered tobacco, taken through the nose as a stimulant or sedative". It was first introduced into Europe, in the middle of the sixteenth century, by Jean Nicot, the French Ambassador at Lisbon and was used as a medicine, being employed especially in the treatment of migraine, headaches and colds in the head. It soon, however, became a luxury and the habit spread throughout Spain, Italy and France during the early part of the seventeenth century. It Italy and Spain, the clergy became so addicted to it even during Mass, that a Papal Bull forbidding snuff-taking in churches was issued by Urban VIII in 1642 and again by Innocent X in 1650. Snuff was introduced into England at the time of the Restoration by the courtiers and officers who had attended Charles II in France and its popularity increased after the Great Plague. Henceforward, until about the middle of the eighteenth century, the snuff-box played an important role in the social life of the time. There were extravagant praises and denunciations of this new habit in medical works and 'belles letters'. As late as 1870, Dr. J. C. Murray of Newcastle-on-Tyne recommended its use for relief of bronchitis and consumption. He stated his belief in common with others at that period, that snuff was instrumental in preventing scarlet fever, measles, small-pox, pertussis, dysentery, cholera, diphtheria, rheumatism, erysipelas, influenza and malaria. Other authorities such as

Sir Benjamin Richardson, however, ascribed to its use the various ill-effects including impairment of sense of smell, dyspepsia, nausea, loss of strength and appetite, formation of polypi, lead poisoning and tremor of of the hands. Up to 1830, the sale of tobacco and cigars was insignificant compared with that of snuff; in 1850, they began to lead. The Sanitary Commission of 1853 found that snuff was often adulterated with things injurious to health, such as oxide of iron, chromate and oxide of lead, bichromate of potash along with considerable quantities of silica and orris root. If snuff was taken pure, its effects were in the Commission's view, mainly local. There was a definite set-back to snuff-taking in England during the Victorian Era. Queen Victoria abhorred snuffers and objected to persons sneezing in her presence. Thus, a habit which had had a great vogue in court circles sought its last refuge in workhouses and Mental Hospitals. It was said that the London County Council issued about 425 lbs. of snuff to 11 mental hospitals in 1911. In 1934, however, it came down to 300 lbs. though the number of hospitals increased by three. In recent years, there was a rapid revival of snuff-taking and outside mental hospitals, the demand for snuff had increased threefold during the past 7 years. Sir Buckston Browne, we understand, was responsible for this revival and restoration. He told the Society for the Study of Inebriety that his experience of its virtues dated from his early days in practice, when, after operations very early in the morning and seeing patients more or less continuously, until four in the afternoon, he was by that time, when he was due to start out on his carriage visits, in a very tired condition, he procured some snuff and found it refreshing and useful; but he was very careful to follow or to better, the example of Charles Darwin, who, at Down House kept his snuff in jars in the hall so that if he wanted a pinch he had to leave the room to obtain it. Sir Buckston Browne placed his snuff at the top of the house, so that an ascent of the

Tobacco-Smoke blown on a Towel leaves an yellow stain, demonstrating the presence of Nicotine Poison.

stairs was necessary for each indulgence. He attributed his immunity from colds in the head to action of snuff in stimulating the nasal circulation and the flow of mucus. Of course, paper and a number of other powders would induce sneezing but tobacco snuff was more than an irritant; it was agreeable to most people, stimulating at first and then narcotic and astringent to the mucous membrane. "If you think you are sickening for a cold in the head", Sir

Buckston advised his audience, "take a good pinch before going to bed when you will wake up quite well in the morning". But Medical Science has yet to confirm this finding of Sir Buckston!

In India, the snuff habit has taken hold of the masses, in the same way as cigars and cigarettes have done, evidently through contact with Europe. It is significant that even here, the priestly order—the Brahmans—who have been forbidden to smoke, have come to use snuff, in the same way as the clergy did in Europe. We know definitely that tobacco is a deadly poison. M. R. Ferris, in Health Culture, has tabulated the following data relative to the hazard of tobacco using, which are well-worth noting:—

"There is enough nicotine in the average cigar to kill two normal men. It is estimated that one-third of all loss by fire is caused by tobacco.

A leech is instantly killed when it sucks the blood of a habitual smoker.

Two thousand seven hundred Americans begin the tobacco habit each day.

The tobacco expense is greater than the cost of the United States government.

The annual tobacco expense in the United States would build seven Panama canals.

The tobacco habit was begun in America, and has extended to every nation on earth.

In Russia, Turkey and Persia, the use of tobacco has been at times punishable by death.

In 400 years the tobacco habit has fastened itself upon about half the population of the world.

Babies have been killed by breathing the tobacco smoke with which the smoker filled an unventilated room.

Prussic acid is the only substance more poisonous than nicotine.—M. Orfila, President, Paris Medical Academy.

Six Canadian insurance companies find the mortality rate of smokers to increase in about the same proportion as that of drinkers.

Tobacco has been known to produce a nervous condition similar to delirium tremens. Physicians call it tobacco tremens.

At Columbia University 10 per cent of the smokers failed to pass an examination in which 4 per cent of the non-smokers failed.

The Indians used to poison their arrows by dipping them into nicotine, thereby causing convulsions and often death from arrow wounds.

Statistics indicate that 26,000 cases of pneumonia die annually in the United States, that would recover were the patients not addicted to tobacco.

During nine years' study of students at Yale, it was found that the lung capacity of non-smokers developed 77 per cent more than that of smokers."

If still, there are people who think of salvation in snuff and medical men to say that snuff is a specific for colds, we must only conclude that the world is fast approaching demoralization, decay and destruction. India must be weaned from this tobacco habit, either in the form of cigars and cigarettes or in the form of snuff in the same way as it is being weaned now from the drink habit and the sooner the Congress Government take the matter up in right earnest and introduce legislation forbidding the use of tobacco in any form, the better will it be for the health and happiness of the people of India.

References:

(1) The Lancet. (2) The B. M. J. (3) Illinois Medical Journal.

MASSAGE

By

D. D. Sharma, B. A., D. P. E.,

Lucknow.

LET me attempt, dear readers, a brief discussion of a subject with which you are more than familiar. Massage, when translated into Hindustani, simply means "*Malish*". I admit that you do know something about it but, I may remark, you do not know all about it.

Ever since the creation of living things in this world, massage has, in one way or the other, been the commonest and the most natural form of application and manipulation in matters of hurts, pains and sprains. You must have noticed that when a player gets hurt, the first thing he or his friends will almost always do is to rub the affected area: when an infant falls off its bed, the first thing the mother or the nurse does is to rub and press the region of possible hurt. This holds good in the animal kingdom as well. You could not fail to have observed among the domestic animals the importance of tongue rubbing treatment of the injured parts. Apart from this, body massage has ever been a very favourite procedure of relieving one of fatigue and tiresomeness. Physical weariness is morbid and unhealthy. It results from heavy walking, over-exercise, incessant hard work, prolonged muscular contractions and mental severities, causing inconsiderable wastage inside the organic system. The repairing agencies of nature are there at work without doubt. But massage quickens the process of repairing and restoring. The horse that pulls the tonga or ekka from sunrise till sunset needs vigorous body massage before it is plugged to the carriage next day.

Among the Chinese, Japanese, Hindoos, Persians, Greeks and Romans, this form of mechanotherapy has been employed and extensively practised for more than three thousand years. The Chinese are supposed to be the first to use and develop this art. In Japan, it is practised largely by blind men who, though sightless, are considered to be very skilful operators. In India, it is almost a spectacle to watch people so fondly indulging in it, while basking in the sun, along the river ghats. Every wrestler in this country regards body massage as an indispensable part of his training. The ancient Greeks and Romans employed massage in connection with their famous baths and outdoor activities. Hippocrates was one of the greatest advocates of this art and in his works can be found references to its importance as a therapeutic agent.

Comparatively speaking, the occident came to realise and recognise its true utility and scope, as if, only yesterday. Despite the fact that massage has only been used on the European continent for about three hundred years, much has been done to develop the art to a very high degree of perfection. Ling of Sweden, Merzer of Amsterdam and his well-known pupils are in fact among the first who turned massage into a regular art of positive utility. In the present time

massage is universally recognised to be a definitely scientific system of manipulation by which, besides numerous other things, certain diseases can also be combated. Among the oriental races, expert application of massage has from ages been recognised as a measure of immense value in the treatment of pathological cases.

A professional Masseur in the West now-a-days plies his trade alongside of a medical practitioner. He takes up cases of orthopaedic nature in which, in addition to the post-setting manipulation, are included correction of physical deformities, defective postures, ruptured ligaments, sprains, dislocations and displacements. He, further, undertakes to treat cases of varicose veins, constriction in blood vessels and ducts, stiff muscles, ankylosis, rheumatism, gout, lumbago, paralysis or nervous breakdown, glandular disorders, tardy circulation, disturbed respiration, cloggy bronchioles, headache, acute or chronic constipation, convalescent patients and gives a regular massage course of a fixed number of sittings for the pure and simple reason of radiant health and haleness.

There is scarcely any need of pointing out that skilful massaging necessarily implies sound practical knowledge of anatomy and physiology and other allied subjects. A scientific masseur is he who has studied and has understood the intricacies of human body. People in this country have unfortunately to dig for their masseurs from among the barber class. Remember that massage is not a lay man's job.

It is impossible even to touch the various details of the subject in an article like this. Moreover, I do not propose to dwell here upon the technical aspects of the art of massaging. Let us therefore only consider it as an aid to good health.

To begin with, let me make a simple statement. Massage is beneficial at all stages of life. It is a skin tonic. The numberless minute sweat glands under the skin wake up to life and begin to function properly. When general massage is given, even the most superficial vessels dilate and the blood rushes to the skin, producing what is known as active hyperæmia or an excessive accumulation of blood in the part of the body under treatment. The removal of waste products is hastened as the blood hurries on to the organs of elimination like the kidneys, the lungs and the skin. Apart from the accelerated blood circulation, it has been definitely ascertained that the flow of lymph, too, is considerably increased. The lymphatic capillaries are very minute vessels which originate numerously in the organs and tissues of every part of the body. Such a profusion renders them very favourably accessible for mechanical manipulation. Stimulation of lymph is equally important as it absorbs liquids in the peritoneum and in joints and serves to carry away a great deal of dying cells which are not yet waste material and being capable of reorganisation may be adapted for further nutrition.

The effects of massage upon the composition of blood are very definite. The number of red blood corpuscles are substantially increased in two ways. In the first place, the augmented circulation receives additional cells from the reserved stores; and in the second place, the blood-making processes, too, are definitely influenced

so that new cells are actually manufactured. This fact has been clearly proved by the permanent results obtained in the case of anæmic persons who have been regularly massaged. The proteid constituent of the red cells is also increased. Those who suffer from chlorosis or green sickness or bloodlessness, where deficiency in the colouring matter predominates, are strongly advised to take regular massage. Then, again, the white blood corpuscles are also permanently increased by massage. The importance of this fact can be realised when we remember that the white cells serve us by fighting against disease germs and thus keep us free from infection. Therefore, any measure which might help to reinforce our ranks of defence against the constantly invading organisms must really be of immense value.

Massage stimulates the diaphragm and the inter-costal muscles and due to their increased flexibility and elasticity lung capacity is increased and deeper respiration takes place. Every lung cell is filled to normal expansion. The accelerated blood stream on entering the lungs finds plenty of oxygen ready and hastens to shake off its impurities in order to refresh and enrich itself and goes on its way doing good all-over and all-round. The pulmonary vessels receive their share of nutriment from the blood and the lung tissue is strengthened. When massage is employed in connection with deep breathing and other exercises it helps to correct the deformities of the chest. (Refer to my article on Posture Training)

In complaints of the Nervous system, one cannot but seek the aid of massage. Perhaps, a better method of treating nervous disorders is not known. Its usefulness may be considered under two heads: (i) It is a tonic and a stimulant; and (ii) it is a sedative. Fine nerve terminals are lavishly distributed all over the body. Massage can stimulate currents of impulses which are transmitted far and wide. It is, therefore, quite obvious that the stimulating effect produced by the operator is not confined to the part under treatment; the entire system is benefited. You must, however, remember that indivdual cases are handled with individual tricks of skill.

Massage of the abdominal region improves the functions of the stomach, intestines, and the glands by stimulating them to increased activity. This proves to be advantageous in three ways; (i) wholesome digestion; (ii) prompt absorption and assimilation; and (iii) no constipation. It is, again, the increased quantity and quality of the blood supply which strengthens the structure of all the organs of the abdomen. A few guiding principles necessary to be observed in abdominal massage would not be out of place here: (1) At least two hours should be allowed to pass after eating. (2) The bladder should always be emptied. (3) In constipation, a tumblerful of tolerably hot water should be administered; let ten minutes pass before commencing the treatment. (4) Muscles of the abdomen should be completely relaxed. (5) The patient should try to overcome tickling sensitiveness, if any, by sheer will-force. (6) During massage, breathing should be deep and regular. (7) The operator should guard against heavy and jerky movements as this kind of handling is likely to cause pain and thus render the manipulation useless. (8) Start by light stroking from right

to left, describing circles with the palmar sides of the hands. Gentle kneading comes next. Conclude with brisk vertical rubbing, the pressure at all points being equal.

Massage helps to develop the muscular system. Muscles definitely increase in size and tone and their contractile power is wonderfully improved. This is all due chiefly to the abundance of nutrition brought in by the richly loaded blood stream. Even the minutest and the remotest tissues and the fibres are prodigiously fed. Fatigue poisons and waste products are removed at the same time. I have made it a point to recommend massage to all those skinny persons who wish to put on some flesh upon them. This may be accepted as the last and the only specific by such as do not thrive despite the wholesome and well-balanced diet and exercise.

I must point out, at this juncture, that most of our stunt performers and those who practise feats of strength and, again, those numberless young enthusiasts who are very keen on body building through physical exercises, suffer, as it were, from 'Stiff Muscles'. Now, stiff muscles, whatever their growth in size may be, are by no means healthy muscles. It is not the size, but the suppleness of the muscle fibres that really matters. A huge, overgrown, stiff muscle is capable of exerting great force only for a short duration and wearies soon. A supple, athletic type of a muscle will stand continued resistance for a much longer duration. A stiff muscle will, even in most profound repose, remain in semi-contracted state. In other words, it does not completely relax, and this certainly does interfere with normal circulation of blood. This interference is detrimental in as-much-as it makes the tenderest tissues suffer from partial starvation. So, the only best possible method by which stiff muscles could be reduced to the healthy state of suppleness and perfect relaxation is regular massage.

As I have said above, it is not within the scope of this article to discuss, at any length, the detailed technique employed in the treatment of specific troubles and disorders. Besides, the discussion of Medical Gymnastics and Mechanotherapy and a few other allied topics has purposely been left out. I may take it up some other time.

After a thorough massage you experience a feeling of well-being and perfect relaxation which ensures rest and repose. I will advise every one of you to make the whole body massage at least once, if not twice, a week, your most pious habit. If you cannot afford to pay the charges of an expert technician, you may ask your brother, your servant or your friend to do it for you.

Remember that massage should be gentle though brisk. Very hard rubbing is apt to do more harm than good. It often happens that application of brute force injures the delicate muscle fibres and causes slight hæmorrhage or what is simply known as internal bleeding. Massage should be directed towards the heart. If, in the lower extremities, the hair seem to hamper free upward movement, a semi-lateral manipulation is recommended. It is not very difficult to find out the general direction in which the major muscle fibres run. Any good chart illustrating the muscular system will be helpful. As far

as possible the hands should follow the direction of the muscle fibres. To start the process from the extremities is a good principle.

The following methods of manipulation are suggested :—

1. *Stroking.*—Stroking is the movement by which massage should always be commenced. The force applied varies with the comparative tenderness of the part under operation. This should be done first with the palms of the fingers, and then with the palms of the hands.

2. *Kneading.*—This is by far the most important in the process of massage. The operator should concentrate upon mixed movements of rubbing, picking and squeezing with the help of thumbs and fingers and go through it with perseverance.

3. *Friction.*—Brisk rubbing with flat hands with a view to produce frictional electricity and to cause the skin to turn red is highly stimulating.

4. *Tapping.*—This is generally done with the borders of half closed hands or the knuckles and is supplemented with cupping. In cupping the hollow space left in the palm makes the pressure of the air to play its own part.

5. *Vibration.*—This requires deep study of the nervous system and is therefore a difficult manipulation. The underlying idea in this is to tickle the nerves and to stimulate them. Nerve vibrations can be produced by rapidly striking the finger tips across the position of the nerves as in playing upon stringed musical instruments.

'Mustard oil Massage' is very common in this country. Any good lubricant can be used, for, its chief advantage is to facilitate the movement of the hands. It is the manipulation that really matters. Massage can be conducted even without the help of any oil. 'Dry Massage' with some extra fine powder is another useful practice. 'Powder Massage' is specifically advised for swollen joints, ruptured ligaments and where accumulation of fluid is detected. Fuller's Earth Powder is suggested. In case of hurts and sprains, medicinal embrocations available at all good chemists' shops will be highly useful. After-bath, brisk towel rubbing should be your every day care. Warming-up of the muscles by brisk rubbing with your own hands before physical exercise is another noteworthy tip.

Go ; grow with the radiance of blooming health.

What Mussolini says about Coffee

"To begin with, I deny myself coffee and wine. Coffee is never served me at any meal. I perfectly agree with those who regard it as a drug. It is a stimulant compelling by its action a useless nervous effort, and is no concrete good, either for the system or in aiding productivity. Even at breakfast, I will not allow myself coffee. It is never served me after dinner".—*Good Health (U.S.A.)*

Care of the Teeth

— By Dr. S. K. Nilker, L.D. Sc., —

Dental Surgeon, Madras.

SOUND teeth, and a clean and wholesome mouth will maintain health and longevity. If the teeth are sound they will conduce to health and longevity. So, a man or woman should have sound white teeth. Good teeth are also conducive to beauty. The beauty of a person is enhanced by good teeth.

Mouth is the gateway for all disease germs to enter.
Hence keep your mouths always clean and shut.

On the other hand, if the teeth are not sound and all their parts are not in proper order, then they will lead to disease, premature old age, and often to death. Unsound teeth cause general disturbances of the system. The condition of the mouth and teeth is the barometer of bodily health. Unsound teeth and unwholesome mouth cause serious complications of ill-health such as, sleeplessness, nervous derangements, debility, headache, heart-troubles, eye troubles etc. Healthy condition of the teeth and mouth means ending serious

complications of various diseases.

Healthy teeth *i.e.*, teeth that secrete no poison which will lower our vitality, can contribute much for the welfare of the whole body. They are strong. They do their work easily. Food will be masticated almost to a liquid before being swallowed, and that will mean that the first job of the digestive act is well done. Hard crusts are no trouble to these vigorous teeth ; there is no tenderness at the roots to make them shirk their task. Sweet breath and a wholesome appetite are part of their gift.

Teeth in an unhealthy condition will not function as above. Unsound teeth will produce results detrimental to health.

Structure.—When we are adults, we should have 32 teeth, 8 incisors, 4 canines, 8 bicuspids or premolars, 12 molars.

Incisors.—(They bite and cut food). They are sharp and chiselshaped and are in front of the upper and lower jaws.

Canines.—(They tear food apart). They are long and pointed.

Bicuspids.—(They tear and crush the food). So called because of their peculiar shape. They have two cusps on the crown for grinding the food and are to be found between the canines and molars.

Molars.—(They grind the food.) They are the grinders. These teeth have broad crowns with four or five cusps on the top for grinding purposes. At the bottom, there are two or three roots. So, we should take great care about them, for they are so useful in mastication. Many of the laymen think that our teeth are bones. Such supposition is erroneous. True, they are oft-times classed with bones or bony structures of the body, but they are not bones.

The composition of the teeth consists of a hard tubular substance called *dentine*, covered on all sides by a white hard brittle composition called *enamel*. This enamel must be preserved from damage. Impaired in any way, there is no possibility of the enamel growing again. The middle of the teeth is filled with what is termed tooth pulp, a bundle of nerves, lymphatics and blood vessels. The latter give the teeth, their nourishment and when intact, keep them in condition. The teeth are fastened securely in their sockets in the jaw bone by a substance known to science as *cementum* which resembles bone in some respects.

Diet.—All dental troubles can be stopped to some extent, by our diet. Fresh vegetables, fruits and milk are the natural diet of a man or woman. The diet of children and elders must be, as far as possible, nearer to natural state. Human milk is the best diet for infants. In its absence cow's, sheep's, or goat's milk is the best. When teeth are cut, the children should be given milk, rice, oranges, ghee and butter-milk. Tinned milk and condensed milk are not good diets for feeding young children, because they contain starches and artificial sugars. They bring on caries. To keep teeth free from caries, we must take calcium foods, such as butter-milk, oranges, tomatoes and other fruits etc. And these should be given the last thing at meals or between meals. Teeth must be given good exercise and then only the gums will be healthy and strong. Too much of cooked food and sticky food tend to

destroy the teeth. So, eat plenty of hard food, such as crusts of the loaf, nuts, and fruits. To prevent decay of teeth, regularly brush the teeth after meals. Don't neglect to wash the teeth. Don't neglect to observe these simple rules regarding dieting, otherwise food particles will get lodged in the teeth and gums. They ferment, and set up an acid accumulation, penetrate the dentine and cause decay. Avoid sugary and starchy food. Avoid stimulants like alcohol, tobacco, coffee etc. Lozenges, peppermints, biscuits, coffee etc. make the sugary and starchy food debris stick on to, and lodge between teeth and ferment and corrode the teeth. So, we must avoid stimulants and sweets. The habit of taking more often sweets and coffee is not good. Neglect to properly clean or rinse the mouth, after food is a great sin. Mothers must look after their children's teeth, if they fail, it is a grave mistake on their part.

Dental caries and pyorrhoea alveolaris are increasing rapidly, and we are threatened with the menace of becoming a toothless race in the not very distant future. The combined skill of even thousands of dentists are baffled. Now-a-days,a person has habits, which aim directly at the destruction of his teeth, *i.e.* :—

1. He eats too fast, food is not chewed well.

2. He eats soft food which is easily swallowed; unused teeth deteriorate and decay.

3. His food lacks lime and other materials absolutely necessary for teeth.

So he loses his teeth in early age and troubles begin with it.

Therefore, attend to this important matter to-day by visiting your dentist. Let him survey your teeth. Get your mouth examined. It is the portal of entry to your body, through which, health, disease or death may enter according to its condition.

Conclusion. — Remember that a clean mouth with a perfect set of teeth and healthy gums is a sign of bodily health. Nothing worldly or spiritual can be achieved without health. "Health is wealth". Indeed health is the source of all happiness and prosperity. Preservation of health is the first and foremost duty of everyone. "Health is the vital principle of Bliss". Let this wise saying be the perpetual source of inspiration to us all. So, make it a rule to clean your teeth twice a day and have your teeth examined by a dentist every six months; because, your mouth is the gateway of your body and if you were to neglect it, you will have to dig your grave with your teeth.

Why Teeth Decay.

At Johannesburg, South Africa, Osborn, Noriskin, and Staz experimented as to the effects of sugar in tooth decay. A report of these experiments is given in the *Journal of Dental Research*. These experiments suggest that crude cane sugar and whole-grain meal and flour contain some protective agent that is removed by refining. Undecayed normal teeth were used in the experiments. While a certain percentage of the teeth decayed when subjected to crude cane juice or whole-wheat flour, yet the proportion decalcifying when subjected to the refined products was noticeably higher.—*O. W.*

What Should You Do In a Case of Typhoid?

— Capt. J. M. Ghosh, —
— M.B., D.T.M. & H., D. P. H., Nepal. —

You have two-fold duties :—(1) Duty to the patient and (2) duty to the public. The first one you discharge by providing him with the best medical help that can be afforded and seeing that he is kept comfortable, and the second by taking steps against the spread of the disease.

The Sick Room.—Select a well ventilated sunny room for the patient, containing furniture just sufficient for the barest necessity, say, 2 beds—one for the daily use of the patient and the other as a change-bed, if required. The beds should have firm but comfortable mattresses with rubber cloths under the bed sheets.

A locker or a small table to hold the medicine phials, feeding utensils, thermometer (kept in Carbolic lotion) etc. A chair for the attendant. A lotion bowl containing Lysol (to be changed now and again) should be kept in a corner, for the attendant to wash his hands whenever he touches the patient or his bed. Flies should be guarded against. The floor should be swabbed twice a day with phenyle. No visitors should be allowed inside.

The Patient.—He should be kept at absolute rest of body and mind. Keep him clean with the least amount of disturbance. Bed pans and urinals are to be given him. After recovery, he should not be let loose on the family till he is declared 'safe' that is, not likely to carry infection to others.

The Attendant.—He should wear an apron in the sick room. He should never eat or drink anything in that room. He should be of pleasant disposition and never discuss about the condition of the patient within his hearing. He should keep a record of his case, report to the attending physician and carry out the orders given him by the doctor.

Preventive measures. — Injection of T. A. B. vaccines 3 injections at one week's interval, or taking by mouth of Billi-vaccines are the recognised methods. These should not be given to the recently exposed, for they may already be in the incubation period. All articles of food and drink should be guarded against fly-contaminations.

Milk, drinking water etc., are to be boiled. Fruits or vegetables which are taken uncooked should be properly washed in lotions and boiled water. Every one should wash his hands and face before eating or drinking. The patient's discharges are to be mixed up with phenyle or lime, before throwing them into drains or burying. The urinals and bed pans are to be kept covered with a piece of sacking wet with phenyle. All soiled clothings are to be boiled before sending them out for washing. When the sick room is vacated, it should be disinfected. The simplest way would be to close all the doors and windows and all

the cracks and crevices and then burn sulphur (3 pounds for every 1000 cubic feet of air space) in separate pans over water, placed in various parts of the room, for about 3 hours, then scrubbing the lower parts of the walls and floors, and finally lime-washing the room.

Growing Menace of Darkness —How to Dispel it

By G. T. Gopalakrishna Naidugaru, L.P.H.,
Assistant District Health Officer, Chittoor.

Rank Ignorance.—A friend of mine asked me why humanity is created. It is a difficult question to answer; for nobody knows the intention of the Creator. And as if this is not enough, this darkness is enhanced by the ignorance of things passing around us in general and of the several laws of Public Health and Hygiene in particular.

Devastation of Plague in India.—One such instance is the extreme apathy of man in understanding the role of Flea, Rat and Man, and how these three bring about the much dreaded plague. It is not our purpose here to trace out the entire history of Plague in this world, much less, its spread. But the circumstances of its appearance in our fair land, and how it is undermining our nationhood are worth mentioning.

India and China date back to several centuries in civilization. The two countries resemble each other in culture, village polity, and contentment of their poor lot though,they are now attempting to rise up in their economic, social, political and national outlook. The lazy opium eater of China is no longer so, and stands in comparison to our tottering village drunkard, who has begun to realise his responsibility. Due to such resemblance and friendship between the two countries, it is not astonishing that China also contributed its gift of Plague to India, in 1896, though plague epidemics have been reported in India long before this period. During this year, the epidemic spread from Hongkong to Bombay, and thence to Calcutta and has spread its mighty wings over the rest of the country.

Causation.—A description of how plague is caused and how the chain of Flea-Rat-Man is in endless continuity may be interesting. The infected flea which is certainly a macroscopic insect, harbours within its alimentary canal, myriads of Plague Bacilli, (Bacilli Pestis) and when it bites rats, it punctures the skin, regurgitates into the abraded area its stomach contents. The rat gets fever due to the reaction of Bacillius Pestis in its blood, and this is called plague of the rodents. Now, the infected rat comes out of its burrow or drops down from the roof and dies. A little while after, the mischievous guest leaves the dead rat as soon as it becomes cold, and seeks some other rats and infects them. The fleas which have by this time multiplied in large numbers come out and have

free play in the house. They bite the man and regurgitate a full quota of Bacilli in his blood stream in the act of sucking his blood. It is also evident that the Plague Bacilli voided with the fæces of the flea are inoculated into his system by the scratching provoked. Thus, after a period of about 24 hours to a week, he suffers from high fever with signs of bubo generally in the groin, sometimes in the axilla and rarely in the neck. This is Bubonic Plague. Humanity then feels that there is danger to its very existence. It had not cared for the unusual mortality among the rodents till the mortality in its kind occurred.

Spread of the Epidemic.—Now the stupid man runs pellmell for his life with all his belongings. He never understands nor does he want to know that fleas are harboured in these commodities and are conveyed from the infected place to the healthy areas which in turn become infected. Thus, death and desolation are spread from village to village; agony and anxiety lay their firm grip over the masses.

A picture of a Plague-infected Area.—An evacuated village is a sorry spectacle to see. The whole village seems to sleep, rather, to be on the verge of death. Not a crow crows; not a dog barks; nor a cat mews. The last have been found dead. Rubbish in houses and streets has been left unremoved. Bang open the doors of the houses and you see dead and putrefying rats on the floor. Fleas hop about you as if to challenge your entry into their abodes. Really, God's vengeance has gripped the throat of man for not heeding to the words of the Sanitarian. A moving sight is this naked desolation. And yet, man gloats over his intelligence!

Preventive efforts.—This situation has to be improved and man's negligence combated. Aim, therefore, at extermination of fleas which are dwelling in all sorts of shady cool corners. They are seen in rubbish, in the burrows, in the hay stack and in what not. Fumigation by cyanogas is the method of choice now, and when the nozzle of the cyanogas pump is introduced into the burrows and gas pumped in, these fleas and the rats die. In addition to this, rubbish has to be burnt thoroughly and the roofing of the houses removed, for it will serve to expose rat harbourages in the thatch, walls, bamboo rafters etc. Flooring is to be burnt with a kerosine-dipped bundle of clothes tied to the end of a stick. The side walls of the houses have to be disinfected with strong phenyle lotion. Grains and other suspected commodities have to be covered with tarpaulin and cyanogassed.

Permanent Improvement.—It is obligatory on the part of local bodies to force construction of rat-proof godowns and markets. The habitual rat-harbouring mansions have to be ruthlessly levelled to the ground, and in their places, should arise neat rat-proof colonies. Vigilant observation staff has to be appointed so that the trouble can be nipped in the bud. Permanent disinfection stations at communicable borders have to be erected so that grains from the infected territory may be disinfected as a routine. It is not out of place here to tell that among other important

சென்னை சுக + ஆதார சே

MADRAS

ப்ளேக் என்னும் மஹா மாரி.

'ப்ளேக்' எலி.

எலி இல்லையேல் 'ப்ளேக்' இ

ப்ளேக் பரவும் விதம்.

எலிகளிலுள் 'ப்ளேக்' என்னும் கொடிய நோ
பரவுகிறது. 'ப்ளேக்' எலிகளின் தேகத்திலுள்ள பே
கள் இவ்வியாதியை மனிதருக்குத் தருகின்றன.

ப்ளேக் விடுகளில் எலிகள் சேராதபடி வைத்
கொண்டால் 'ப்ளேக்' வியாதி இட்ட தெருங்காது.

ப்ளேக் பரவாமல் இருக்கச்செய்


2


3

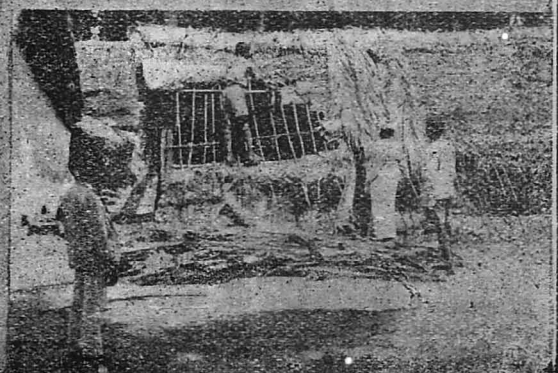

4


5


6


7


8



How Plague Spreads from Rat to Man and How it is Prevented by Inoculation and Segregation.

factors, the location of a disinfection station at the borders of Madura District and Travancore State probably accounts for the almost total absence of Plague in that flourishing Durbar area. One is therefore tempted to exclaim why similar stations should not be erected at the boundaries of the perennial plague infected Mysore State so that the Districts of Chittoor, Salem, Coimbatore, Anantapur etc., may not suffer from the ravages of this fell disease from time to time.

Factors to Note.—The panic in man goes hand in hand with his ignorance. Avoid the former and the latter does not have a place. Man is a reasonable animal, and if once a village or town is infected with Plague, let him use his reason, and not run in panic anywhere and everywhere. Choose a suitable camping ground with all facilities for water, sites for sun disinfection and various other conveniences. Remember the good effects of Haffkine's Plague vaccine and get inoculated. It is generally thought that a plague patient must necessarily die. No, his chances of recovery are as sure as that of any bad case of Pneumonia, Typhoid, or Cholera after suitable treatment and nursing. Close the existing market if necessary and avoid fairs. Inform the local Plague Officer of any unusual mortality of rats or other rodents. Keep open your premises for frequent entrance by these officers for fumigation and consequent annihilation of rats and fleas. At times, you may have to burn the worst infected huts. You should remember that the Plague and Fire of London in 1665 levelled the city into ashes, and exterminated what would otherwise have been a serious menace to London. For God's sake, never attempt to take the infected goods from place to place by road, rail or otherwise, unless necessary disinfection has been effected. It is cruel, it is criminal to go against this mandate. The flea is the Satan's agent and should be exterminated at all costs.

Conclusion. — We are confident that the day will come when darkness in man gives place to light and intelligence, and man will fight against the dreadful flea, thus ridding our country of this dreadful disease.

Our Friends, The Insects !

Each harmful insect has its enemies, and if scientists can discover and isolate them these helpful insects may be put to profitable use in the control of harmful ones, according to Dr. George A. Skinner in "Nature's G-Men," which appeared in the April issue of *Hygeia*.

The subject of insect control through other insects is a vast one, exceedingly important and difficult of solution.

Spider webs are a scourge to the insect world but a blessing to mankind though they do often annoy the house-wife. Built so sturdily that other insects seek them for resting places, or so daintily as to be nearly invisible, they serve to trap untold millions of insect enemies and annoyers. The common house flies, which now nearly every one recognizes as one of the principal enemies of mankind, are destroyed in great numbers by spiders.

Another interesting and valuable neighbour which helps to protect us from various disturbing insects is the "praying mantis," or walking stick. Its powerful forelegs dart out and grasp any insect coming within their reach. It destroys many insects, and for that reason it becomes an important ally in our never-ending war on them.—*O. W.*

Diet and Health • By 'D. V. S.' •

Everybody has a Role in Nutrition Work.

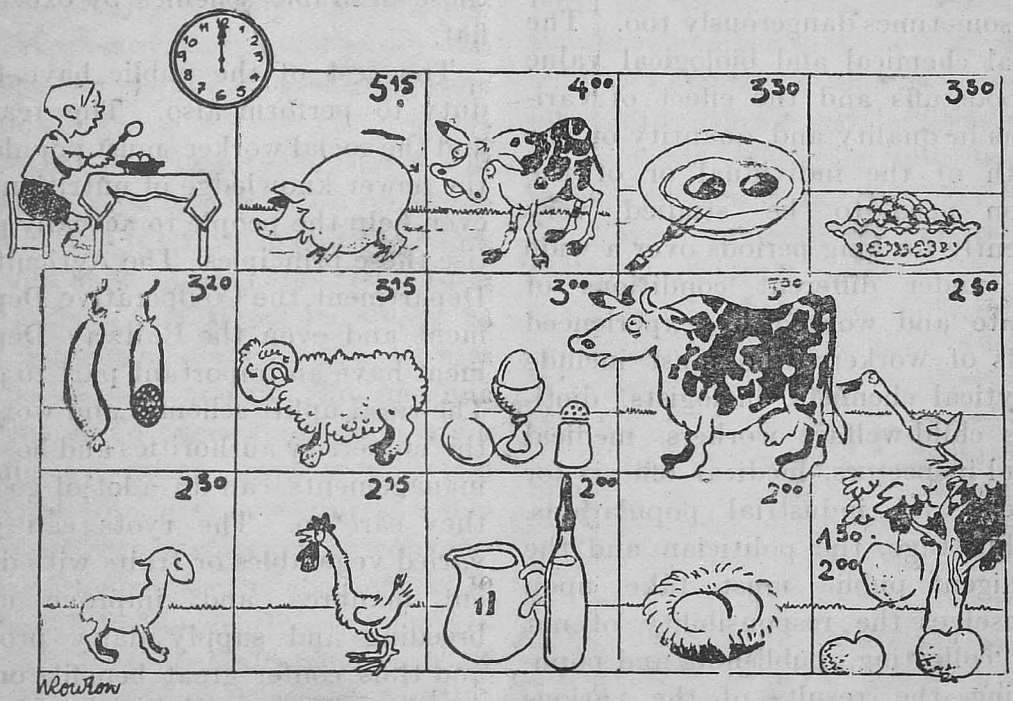
DIETETICS and health are both primarily the province of the medical man and the politician ; but everybody, except these two groups, talks very often and very dogmatically and sometimes dangerously too. The actual chemical and biological value of foodstuffs and the effect of variations in quality and quantity on the health of the individual or of the nation need to be studied very patiently for long periods over a wide area under different conditions of climate and worked by experienced bands of workers who must include analytical chemists, biologists, dieticians child-welfare workers, medical school inspectors, medical officers for hostels and industrial populations. At this stage, the politician and the intelligent public must take upon themselves the responsibility of not only collecting, publishing and popularising the results of the various researches of nutrition, but they must go forward a step further and try to effectively correlate the academic and scientific findings to the actually existing conditions of the particular country or province or district concerned. Careful investigation, frequent consultations with numerous individuals, institutions or departments and wise, expert guidance may all be necessary to re-adjust the individual, family or institutional or national diets according to the economic condition of the people, agricultural resources of the country, the past prejudices and the present fashions and in India particularly, the religious scruples of the various sections of the populace concerned. The politician has still an additional advantage over the medical man as he can bring into existence any legislation and even actually put into practice some of those desirable schemes by executive fiat.

The rest of the public have their duty to perform also. The teacher and the social worker must popularise the newer knowledge of nutrition and even help the people to actually practise these principles. The Agricultural Department, the Co-operative Department and even the Railway Department have an important part to play. The rural uplift schemes and workers, the university authorities and hospital managements can do a lot of good, if they care to. The ryots can grow varied vegetables or fruits with different manures and improve cattle breeding and supply dairy produce and thus confer great benefits on the people. The merchant community can import foodstuffs from different parts of the country in different seasons, foodstuffs that are not available in the locality. They can also try to develop better methods of storing. Therefore every individual or community or profession has a right share and role in nutrition work.

What is Diet ?

Food includes all those substances which are needed by man in order that he may maintain himself alive and in good health. The term is limited to those substances which should be swallowed. It includes,

therefore, not only substances like bread, rice, meat or dhall, but also vitamins, salts and water. All foodstuffs can be divided briefly into two classes. (1) Energy-giving foodstuffs, proteins, carbohydrates and fats which have to be broken up before being absorbed. (2) Substances which are required for the proper functioning of the cells of the body though not to give energy, like vitamins, salts and water, which are absorbed directly. Though we have different names in our menus or Epicurian calender of foodstuffs, all these must be mainly examined under one of these two groups. There is no danger of our people forgetting to eat enough if they can get it, but they must eat various classes of foodstuffs in a certain proportion. Large masses live on only carbohydrates. The richer people live like the westerners on proteins only. Ghee drinkers are like Eskimos who live mostly on fats. There is, however, the danger that some of our people do not get enough salts and vitamins. The animals fed on salt-free meals died in 30 days. Salts are necessary for the body not only to replace what is being thrown out of the body but also to help in the manufacture of digestive juices. Different salts play different roles in the body. Sodium, potassium and calcium salts are important in connection with the contraction of the muscles as also are chlorides and phosphates; calcium salts and phosphates also are used in the construction of bones; iron and perhaps copper is needed for the synthesis of haemoglobin and the thyroid gland uses small quantities of iodine. With regard to the vitamins you must have been hearing too much about them.



This amusing cartoon shows how long various foods take to digest in a healthy stomach—i.e. Pork 5¼ hours, Veal 4 hours, Fried Eggs 3½ hours, Fried Potatoes 3¼ hours, Sausage 3¼ hours, Mutton 3¼ hours, Hard Boiled Eggs 3 hours, Beef 3 hours, Goose and Duck 2½ hours Lamb 2½ hours, Chicken 2¼ hours, Milk 2 hours, Newlaid Eggs 2 hours, and Apples from 1½ to 2 hours

As it is a fashion to talk about vitamins, it is good to remember that in India at least people do not eat either synthetic foods or even preserved foods. If you eat a sufficient variety of natural foodstuffs in fresh condition, you are not likely to suffer from a deficiency of vitamins. These however are necessary for good health. A number of vitamins have now been postulated but six of them at least are definitely recognised on account of the effects produced when these are omitted from the diets. I will only add that vitamins A and D are sometimes deficient in the diets of our children and expectant mothers and must be properly supplied. Most of us, who have, according to the present fashions, begun to eat milled rice, may be actually suffering from a partial deficiency of vitamin B. Occasionally, a man here and there suffers from pellagra due to deficiency of vitamin B_2 (G). All these deficiency diseases may arise not only on account of lack of food-stuffs but also for want of proper absorption in the intestinal tract. Of late, we have developed a wrong idea that coffee, tea etc., are also foodstuffs and that they are very essential. Some old sinners will also put in a claim for alcohol as a very good food. All that I can add is, the less we spend on these, the better for the individual and the nation.

What is Health?

Our race is so degenerate now that we consider ourselves healthy if we are not actually in the grip of a doctor. People suffering from stunted growth, flabby muscles, fatty hearts, with albumin or sugar in urine, with defective blood cells are usually passing as healthy men. Latent infections, chronic infections and auto-intoxication from the digestive tract, gross deficiencies of nutrition, are not accompanied by any pain or violent symptoms and are therefore absolutely neglected. The only symptoms which drive a rich man to the doctor seem to be his inability to eat perhaps more than necessary and the common symptom for which crowds come to the physicion is pain in the stomach, diarrhoea or dysentery or anæmia, all due to faulty feeding. So people misunderstand that health is absence of pain or freedom from violent symptoms. Even the absence of mild and chronic ailments is not to be understood as health. The modern definition of health includes a number of positive factors over and above the base line, namely absence of symptoms of ill health. Perfect and proportionate growth, proper development of the various tissues of the body, the capacity for vigorous and active life-involving both physical and mental exertion, the proper functioning of all the motor and sensory apparatuses of the body and even a certain amount of the higher psychic qualities like optimism, cheerfulness and an aesthetic appreciation of nature must be present in the individual whom we can label as healthy. I leave it to you to judge what percentage of our population can be called healthy according to this modern standard of health.

The Problem of Sanitation in India

By T. D. Mukherjee, M.B., D.P.H.
Burdwan, (Bengal.)

In these days of progress and civilisation, we frequently read in the press and hear from the platform of proposed measures for the improvement of our country and the lot of the masses. The problem of sanitation, however, does not receive its legitimate share of the attention from public bodies and public men of our country. But the fact remains that unless proper measures are taken to improve the sanitation of our country, with the help of our countrymen, our money and energy spent in other matters cannot produce the desired effects. Whatever little that is being done in the direction of sanitation, we find it confined to cities and big towns; and the rest of the country, is totally neglected.

It has become a problem in India how the sanitation of the country can be improved. Sanitary measures of our country are at present defective and inferior to those of other countries. People of the country must be aware of this fact and must try to mend the defects. Because, we should first live and lead a healthy life and only thereafter should extend our activities to other problems.

It may not be a fact that our people do not know the principles of sanitation. The masses are being educated but the toll and fury of infectious diseases are not abating and people are suffering from preventable diseases. It is often found that if you want to say something about the ways and means of improving sanitation, they turn a deaf ear to you and it is not possible to remove their apathy. Their apathy and indifference must be removed by appropriate demonstrations.

People oppose modern scientific measures. If the sanitarian insists on vaccination as a preventive against small-pox, people oppose and argue against vaccination. If he wants to do inoculation for cholera or typhoid, he becomes unpopular. If he compels people to remove the filth and dirt from their homes, and thus prevent an invasion of epidemics, he is hated. Nobody in this world likes to be forced to do anything. In this country people like certain things which are abhorred in other countries. For example, people prefer the impure water of tanks and rivers for drinking and domestic purposes, to the pure water of taps and wells, although the modern scientists warn them of the dangers in the former.

The sentiments and religious feelings of different countries are not one and the same, and so, ways and means should be devised, keeping in view those religious and sentimental differences.

Poverty in our country is the foremost obstacle against taking proper measures to check the spread of the preventable diseases. Unless and until the economic condition of the people is improved, no progress can be expected towards the betterment of sanitation of this country. Poverty compels us to live in small, damp,

dirty and ill-ventilated rooms. We shall have to breathe in foul atmosphere, to use polluted water and to come in contact with contagious diseases and thus to suffer from diseases which otherwise are preventable.

The nutrition and resisting power of the masses should also be improved. We eat food and none can live without it and I think the quantity on the average is not less, only the quality of the food is defective. The nutrition problem has become a serious one in this country. We do not get all the proximate principles of food in balanced proportions. Unless legislation is introduced for controlling the market, it is not possible to improve the nutrition of the country and until the nutrition is improved the vitality and the resisting power, for combating the diseases cannot be secured.

The system of sanitation which exists at present in India, is not sufficient. The fund, the measures, and the staff, are all insufficient. The apathy and the want of co-operation with Health Authorities and the inaptitude in personal hygiene of the general masses also contribute fo the inefficiency of general sanitation. There should be a central organisation, and country-wide measures should be adopted, instead of works piecemeal and confined to particular localities.

• Topics from Medical and Health Periodicals • •

To Suppress Sneezing.

A SUDDEN attack of sneezing can destroy the result of a successful operation for cataract, or cause very painful and dangerons complications in fractures of the ribs, vertebra-dislocations, etc.

Therefore care must be taken to teach patients how to cut short the desire to sneeze.

This is easily achieved by firm pressure on the spina nasalis anterior. Immediately the impulse to sneeze is felt, a finger must be pressed tightly on the upper lip just under the nose, forcing the lip against the jawbone, at the same time the tongue must be pressed against the front part of the hard palate, just behind the incisors. Often the latter movement alone suffices.—(*Reitsch, Med. Welt. Vol. 10, Page 1785*).

Some Strange Customs associated with Child-birth

THERE is a sound scientific justification for some seemingly fantastic, primitive customs associated with childbirth. Dr. John Flew, writing in a recent issue of *Queen Charlotte's Quarterly*, cites the magical and curative properties for centuries attributed to the placenta. The Javanese take it internally to produce fertility, the Japanese, to stop, "after pains"; the Chinese prepare from it, a choice medicament given to pregnant women before labour. The customs are at least 600 years old, but it is only today that we detect a scientific and hormonic reason for these actions.

Some customs, however, cannot stand the light of scientific investigation. One of the most remarkable of these is that of the "couvade," which, Dr. Flew writes, is still practised among many primitive peoples. When labour commences the husband takes to his bed, making periodical moanings as if in great distress, this part of the custom is said to relieve the mother of pain by its psychological effect. When the child is born the mother gets up and goes about her usual duties as if nothing had happened, whereas, the husband remains in bed, receiving the felicitations of relations and neighbours, is fed with delicacies and waited upon hand and foot. The most reasonable explanation of the custom is that by these actions the man acknowledges the child as his—*Mother and Child.*

Teeth Ruined by Sweets

THE inhabitants of the isolated group of small islands in the south Atlantic known as Tristan da Cunha have long interested medical men. These people have had little communication with the outside world and physically have profited by their isolation. In 1932 they were visited by the British war vessel Carlisle and a dental survey was made of them. A remarkable absence of caries was noted. In February, 1937, this ship again called on the islanders and again an examination of their teeth was made.

There had been a grave deterioration. Only half the mouths were free of caries and extractions, as against eighty three per cent five years earlier. This change was noticed only in the children and adults up to forty-five years; the older people showed an actual improvement. Formerly none of the children under five had decayed teeth; now four per cent showed teeth decay. Where three per cent had been afflicted with gingivitis (Inflamed gums), the percentage had risen to twenty-six; the figure for pyorrhoea had grown from one per cent to four.

The reason? Apparently it was the contacts with civilization. In the last three and a half years ten ships had called at the islands, a considerable increase over previous times. They had brought sugar, candies, and chocolate for the lonely inhabitants. A consignment of tooth brushes had been delivered two years ago and these implements were in fairly common use, but they were not able to counteract the influence of the sweets.

The account of this survey is quoted by the *Lancet* from the report of Surgeon Lieutenant-Commander W. E. A. Sampson.—*S.—Good Health. (U. S. A.)*

Danger in the Use of Oil Drops in the Nose

INSTILLATION of oily nose drops seems a simple and harmless proceeding but has been the cause of a number of deaths from lipoid pneumonia. The oil reaches the lungs and may be found there in considerable quantity. Most of the victims have been children under two years but some of them were adults debilitated by age or illness. The situation is serious enough to lead to the issuance of a warning bulletin by the New York City Health Department.

In adults the trouble is usually brought on by liquid petrolatum.

The pneumonia develops slowly over a period of years. With children cod-liver oil and even cream have been involved, as well as the oily nasal drops. These substances reach the alveoli of the lungs where they collect and give rise to chronic inflammatory processes. *The Journal of the American Medical Association* believes that there have been many such cases of pneumonia besides the fatal ones reported in medical literature. Greater care is evidently needed in using oily materials in the respiratory tract. —*Good Health (U. S. A.)*

Burns and Scalds

BURNS are caused by the action of flames, hot solids, chemicals or electricity.

Scalds are caused by the action of hot liquids and steam. These injuries will be discussed together, the word "burns" being used to include scalds also.

Burns may be divided into three degrees, according to the depth of the injury:—

(1) Where there is only redness of the skin.

(2) Where the skin is blistered.

(3) Where there is actual destruction of tissue.

In addition to the visible injury, the patient will be suffering from shock or pain. The severity of the symptoms depends more on the area of the burn than on its depth.

First Aid Treatment.—Burn of the 1st degree. Cover with olive oil or vaseline and apply a dressing and bandage,

Burns of the 2nd and 3rd degree.— If of limited extent, dress the burn with Picric Acid lint, moistened with warm water.

In severe cases, it is of more importance to get the patient to bed quickly and treat the shock, than to waste time in dressing the burn, except for covering those parts such as the face or hands, which are exposed to the air. Having done this, remove the patient's clothing. If adherent, it must be soaked with some antiseptic lotion to facilitate its removal. If the burn is very extensive, the patient may be immersed straight away in a warm boracic bath and the clothing removed there.

In dealing with an extensive burn, always dress one part at a time and do not expose large burnt surfaces to the air. Dress the burns with Picric Acid lint as described above, and keep the dressing moist by pouring water on it.—*First Aid.*

Stammering

ALTHOUGH it is freely admitted that a highly strung child is more likely to develop a stammer than a child with a phlegmatic temperament, stammering appears to be physical rather than psychical inasmuch as it is more often caused by excessive speed than by fear. This is further substantiated by the frequency with which a stammerer develops his bad habit by imitation. The vast majority of children learn speech by imitation. This fact accounts for the frequency with which a stammerer is found to belong to a quickly speaking family. If one of the parents stammers it is almost certain that the child will imitate the typical quick, jerky speech with breathy tone. If, in addition to this, the child happens to be a naturally slow speaker, incapable of normal speed, the development of a stammer is very probable unless special care is taken to teach the child to avoid speaking quickly and to speak smoothly with firm tone.—*The Practitioner.*

Gluttony.

"Eat slowly, 'tis only men in rags,
Or gluttons old in sin,
Who make of their insides carpet bags,
And tumble victuals in."

—*Medical World.*

* * *

Iron in Egg

THERE is more iron in egg-yolk than in any other food. Dried beans are almost as high in iron content.

* * *

Infection in the Diabetic

INFECTION in the diabetic develops quickly, but is usually mild in character, the only concern being the acidosis which may ensue, and not the infection *per se*.

* * *

On Music

THE sweetest music is not in the oratorio, but in the human voice, when it speaks from its life tones of tenderness, truth or courage—*Emerson.*

* * *

Copper in Man

MODERN science reveals that copper is needed by the human system in very small quantities. Nuts and flesh-meat are richest in this substance. Beans take second place, and cereals and dried fruits share the third.

* * *

Rate of Hair Growth

A RECENT study of the rate of the growth of hair at different seasons of the year made by Paul and Mary Eaton (*Science*) shows that growth was stimulated by higher temperatures and discouraged by cold. At 80° F., the hair growth averaged slightly more than 1/50 of an inch daily. Between 50 and 60° F., the daily rate of growth was about 1/75 of an inch.—*Good Health. (U. S. A.)*

* * *

Drinking water on Trains

BACTERIOLOGICAL tests made on 1,090 samples of drinking water collected from containers on all types of cars operated by 9 different railroads having terminals in or adjacent to New York City indicated that at least 2 of these railroads were inefficiently cleaning their storage containers or contaminating the water by handling it in a careless and insanitary fashion during the process of transferring it from the sources of supply to the containers.—*Public Health Reports.*

* *

Practical Problems in the Prevention and Treatment of Tuberculosis

AMONG the main measures that should be adopted, the first is the removal of ignorance by educative measures and propaganda, (2) raising the economic standard of the masses—a utopean ideal, (3) removing certain vicious customs, like purdah, early marriage etc, (4) establishment of tuberculosis dispensaries for the detection of early cases and their contacts, (5) providing a chair of tuberculosis institutions, hospitals, sanatoria, colonies etc, and (6) training of the medical practitioners in early diagnosis.—*Sind Medical Journal.*