Herald of Health

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The Mystery of Sickness

Disease has long been regarded as a mysterious visitation of wrath by some disgruntled god or spirit, or a still more mysterious dispensation of Providence. People have looked upon illness as being some malign entity hovering around in the darkness or in uncanny places, ready to seize upon its victims, and those who were so unfortunate as to be caught were regarded as being at best unfortunate, if not actually suffering for some deed that roused the anger of the stalking monster. Disease has no doubt in past generations been associated in the popular mind with the occult and unearthly realm of ghosts and hobgoblins. Even in civilized countries the conceptions of witchery and the witch-doctor, and demon-possession have existed in rudimentary forms.

As people become intelligent in regard to themselves and the reponsibilities that rest upon every individual in regard to his own health, the old-time ideas of disease are being relegated to the dim and forgotten past, with all such trumpery. Men are coming to understand that disease is a consequence, not a punishment; that it follows certain conditions as naturally as the night follows the day. If a man is ill, some one has done wrong; either he is the victim of his own misdeeds, or he is suffering from the wrongdoing of others. It is usually the case that he is simply reaping his own sowing.

There is no longer any mysterious or ghostly superstition about ill-health any more than about good health. It all depends upon the course we choose to pursue. The man who is sick has neglected to take care of himself. He has lived in violation of the laws of his being. At least, this is so commonly the case that, while there are perhaps a few exceptions, it may be stated as a general rule. His situation is a perfectly natural result, and neither the Lord nor the devil is to be blamed. We believe in giving the old enemy his due, but it is hardly fair to blame him for all our blunders and misdeeds; and as for charging our sicknesses and the deaths that are all too frequent to the good and beneficent Lord, it is simply outrageous. He causes neither sickness nor death.

Let us stand up and take our share of the blame and from what we have suffered learn to live right and practice to do right, and we shall soon banish the hoodoo of sickness from our land.—*Selected.*

The Fan Bath

The fan bath or air bath is a useful method in dealing with persistent high temperatures in typhoid fever. The method ordinarily used is to apply the cold, wet sheet pack and set in motion close to the patient an electric fan. Evaporation is rapid under such measures, and the general results are excellent.—*Trained Nurse.*

General Articles

Fleas as a Factor in the Transmission of Bubonic Plague

ALEX D. MACGILLIVRAY, PH. D.

BUBONIC plague in modern times is confined primarily to tropical climates. It has invaded Europe on several occasions; at one time it was more prevalent there than in warm countries. Certain social and hygienic rather than peculiar climatic conditions are required for its active spread. The over-crowding and massing of people in restricted areas, the universal prevalence of filth, which always accompanies over-crowding, have generally been considered as the ideal condition for the development and rapid spread of plague. Advance in civilization and better hygienic conditions go hand in hand, and they have been the main factors in driving the plague out of Europe.

The social and hygienic conditions of India are of the best for the propagation of this disease. The poorer classes constitute the mass of the population. In the city of Bombay, 87.5 per cent. of the population live in houses of one room, and 92 per cent. of the cases of plague occurred among families living in such houses.

Plague is due to a specific germ, Bacillus pestis. It affects the lymphatic glands, viscera, and blood, is inoculable and otherwise communicable to man and many species of animals, especially rodents. The disease is characterized by the presence of high fever and the develoment of characteristic swellings adjacent to the lymphatic glands, known as buboes, hence the name, bubonic plague. The buboes develop early in the disease, varying in size from small swellings to as large as a goose egg, and their later development discharging an evil-smelling pus, or slough, and leading to extensive gangrene. These characteristic symptoms are common to man and the animals subject to the disease. The disease runs a rapid course with high mortality. The death rate among those attacked varies from 60 to 95 per cent. according to sanitary conditions and care. In the Hong Kong epidemic it was less than 20 per cent. among Europeans. Persons of all ages, occupation, and sex, are subject to the disease. Women, because of remaining more indoors, are probably more frequently attacked than men.

Rats and mice are just as subject to plague as man, and are considered by Dr. Koch as the chief agents in its diffusion. With the recognition of the fact that the extermination of rats was essential in the combatting of plague epidemic, efforts have been made to exterminate them. They are so prolific that little advance has been made to appreciably reduce their numbers.

It has been noted by many observers that there is always great mortality among rats before and during the outbreak of epidemics of bubonic plague in man.

Sir Patrick Manson, in his work on "Tropical Diseases," states, "plague, though 'catching,' is not nearly so infectious as are scarlet fever, measles, smallpox, or even typhus. Medical men, and even nurses, in clean, airy hospitals, rarely acquire the diseas , provided they have no open wounds, and do not remain too long in close proximity to their patients. In cities the cleanly districts are generally spared. This was well exemplified in the late epidemic at Canton and Hong Kong, where the airy, cleanly European quarters and the relatively clean, well ventilated boat population were practically exempt; while the disease ran riot in the adjoining filthy, overcrowded native houses only a few yards away."

All the evidence goes to show that the germs are unable to penetrate the unbroken epidermis. This is substantiated by the fact that post-mortem examinations can be made with impunity. During an epizootic the bo dies of hundreds of infected rats are examined each day. It is also inferred that in the majority of cases the germs find entrance through slight wounds in the feet, because of the frequency with which the primary buboes are developed in the loins, near the deep femoral glands.

Simond in 1898 found an organism similar to the Bacillus pestus in the stomach of fleas fed upon rats dying of plague. Numerous observations led him to believe that the plague organism was transferred from rat to rat, and from rat to man through the agency of fleas. His experiments, while not conclusive, seemed to sustain this belief. It did not seem possible to him that the disease was transmitted from animal to animal by the mere adherance of the plague bacillus to the rostrum or mouth parts of the flea, because it had already been shown that the virulence of the organism was soon lost—the length of time that the insect could infect therefore becoming restricted. He had also noted that while a flea was sucking blood, it evacuated the contents of the rectum on the skin of the host. The small size of the flea would bring the deposition of the excreta near the puncture. The bitten animal in relieving the irritation about the puncture by scratching would rub the virulent germs into the wound. This is the gist of the rat-flea-man theory.

The most detailed and extended experiments are the result of the investigation of the British Commission. This commission began its work in the city of Bombay and some adjoining towns in the summer of 1905. It sought to develop to their fullest extent all the suggestions that had been made by the various individual workers and commissions, and if possible to determine the primary means of infection so as to alleviate the losses from the disease. Each year it has published a voluminous and interesting report.

Healthy and infected guinea-pigs were confined together in the same room with practically negative results. When fleas were introduced into these same rooms, the conditions became entirely different, the epizootic, once started by the infection of a few animals by the injection of the organism into their blood, spread from animal to animal in direct proportion to the number of fleas present. In some experiments the healthy animals were not introduced until after the death of all the inoculated animals, yet the epizootic was just as pronounced. Animals placed in cages in these same

rooms two inches above the floor died from plague. Other animals placed in similar cages in these rooms two feet from the floor, where the fleas could not get at them, were unaffected. There was, then, no contamination through the air.

Liston's experiments of allowing guinea-pigs to run about in plague-infected houses were repeated, and it was found that twenty-nine per cent. of them contracted plague.

The health board of Bombay disinfected plague-infected houses, either with an acid solution of perchlorid of mercury or with the fumes of burning sulphur, and at times with both. Either of these methods alone readily kills the plague organism, though they have no effect on the fleas. One guinea-pig trapped 263 fleas in such a disinfected room, although the average for thirty-one observations was forty fleas per animal. Twenty-nine per cent. of these guinea-pigs contracted plague. The fleas trapped in plague infected houses, when placed on other animals, were able to transmit the disease. There were also placed in these plague-infected houses double compartment cages with a guinea-pig in each compartment. In one type of cage one animal was protected by flea-proof wire, the other unprotected; in the other type of cage one animal was protected by its cage being surrounded by "tanglefoot," the other was unprotected. An experiment was made to determine whether the protected animals would contract the disease from the air or any other source if fleas were excluded. None of the protected animals developed the disease, while twenty-four per cent. of the unprotected animals became infected.

The hair on the neck nd shoulders of the guinea-pig is much longer than that on other parts of the body, and the fleas always congregate in this region. It was a striking fact that practically all the guinea-pigs that contracted plague through the bites of fleas developed buboes in the neck region. This fact is of especial interest, it having already been pointed out that in man the primary buboes are most frequently developed in the loins adjacent to the deep femoral glands. Since infection can take place only through a break in the skin, the location of the primary buboes in man points to the feet or lower limbs as undoubtedly the place of entrance for the organism. Fleas, if present, would be found on the ground or floor; the lower limbs would therefore be the region most susceptible to the attack of fleas. The relation shown between the bite of fleas and the location of the primary buboes in the guinea-pig and the usual location of buboes in man near the region most easy of access to fleas, is another fact pointing to these insects as the primary factor in the transmission of bubonic plague.

Thus far there has been considered only the possibility of infection by fleas, with the proofs therefor. Is there any relation existing between the times of greatest prevalence of plague and the greatest abundance of fleas?

In the city of Bombay the Indian rat flea is most abundant during the months of February to May, reaching its maximum abundance during March and April. Plague was recognized in this city in the latter half of September, 1896; the first real epidemic occurred during the spring of 1897. From 1897 to 1906 plague has occurred epidemically each year. The epi-

demic, with slight variation, begins in January, rises till the maximum is reached in March, then declines until in May the plague mortality is reduced to what it was before the epidemic.

The coincidence between the time when plague and fleas are most abundant is certainly striking. This data alone goes far towards proving the culpability of the flea in connection with bubonic plague.

Bacterial diseases may be transmitted in so many ways other than by insects that it is not likely that the flea will ever be proved to be the sole transmitter of bubonic plague. The evidence of the numerous investigations here adduced, on the other hand, points to the flea as one of the main agents in the transmission of this disease. The evidence showing the presence and multiplication of Bacillus pestus in the stomach of fleas and the larger number of infections and deaths of experimental animals after being bitten by plague-carrying fleas, and the prevalence of plague and fleas during the same months of the year permits of only one conclusion. The flea must be looked upon as the most important agent in the spread of the bacillus of bubonic plague. Hereafter the rat-flea-man theory must be taken into account by all those persons who are engaged in combating plague epizootics and epidemics.

Elimination and Disease

HENRY R. HARROWER, M. D., EDITOR AMERICAN JOURNAL OF PHYSIOLOGICAL THERAPEUTICS

THERE is no question but that the vast majority of human ills are due to, or are increased by, defective elimination.

Many disease conditions are due alone to faulty metabolism, and every known disease, either acute or chronic, is associated with some disturbance of the eliminative function of the body. This has, in the last decade, come to be appreciated as an inevitable condition.

Under the complex modern conditions few individuals eliminate properly and well. The city dweller, with his intensive application to his vocation, is continually menaced with disturbed alimentary functions; but rarely does he realize it until more or less harm has been done

The most important element in the successful treatment of disease is the maintaining of a clean bowel. Autointoxication, or self-poisoning, is the cause of most of the so-called "indefinable" ills, such as malaise, vague aches, a tendency to colds, "indigestion," and the like; and this is undoubtedly a condition which serves to pave the way for the onset of all disease processes.

It is of special importance to the individual, and to his medical adviser, to know, from time to time, just how he is getting along. If attention were generally given to the functions of the body at the first sight of any noticeable trouble, no matter how slight, and *before* serious discomfort or disease were present, the appalling frequency of such fatal maladies as Bright's disease and apoplexy would soon be greatly diminished.

There is a crying need for greater attention to the subject of improper bowel elimination, and its twin, autointoxication. Bouchard, the famous French scientist, correctly described

man as "constantly on the brink of a precipice, ready at any moment to succumb to the poisons manufactured in his own system." He did not overstate matters, and, although he was ridiculed at the time, general medical thought now coincides with his ideas.

Ninety per cent. of all disease is preventable; and by far the most important step toward this end is the sensible care of the emunctories of the body. The human bowel is the great source of disease. Not only do the conditions existing there cause disease, but they are a continual drain upon the normal vigour and vital resistance of the body, preparing the way for the individual to succumb to the first attack of the enemy.

From early childhood to old age, faulty elimination plays a prominent part in the lives of all. The nursling that receives proper attention, and whose emunctories are kept in proper condition, is not the one that most easily "catches everything." Many times, in children, conditions that amount almost to intestinal atony are allowed gradually to habituate themselves until they are a serious menace to health, and by no means easy to treat, no matter how skillful the physician may be.

Many of the diseases so common to young women, as, for example, painful menstruation, anemia, etc., may often be traced to an intestinal trouble pure and simple. The tendency to colds is often righted by proper attention to the bowels. Headache, lassitude, backache, and a hundred and one other ailments are the sign-posts that nature considerately puts up for our warning, usually, however, to be either ignored or smothered with coal tar anodynes.

The plan of taking a weekly physic, or, better still, a decidedly laxative diet one day each week, although sneered at by some, will prove to many a veritable blessing. A good saline laxative will sweep out the intestinal canal, with no inconvenience to the individual, and with great advantage. Another commendable plan is to have periodic investigations made of the urine. With this as a check, any disturbances will be evident in time to take steps to remove them before serious chronic indisposition has developed. An examination might well be carried out, say, every three months, and much good would result. In a moderately large experience of this kind, it was positively surprising how many supposedly well persons showed the presence of some slight trouble, which would otherwise have resulted in the beginning of a more serious disturbance.

We were all taught in our early days the adage, "Take care of the pennies, and the pounds will take care of themselves." This same principle is just as true when it comes to considering the care of the body. Take care of the little affections, and the dangerous maladies will generally take care of themselves.

To close: faulty elimination of the normal waste products of the body and an increased manufacture of abnormal poisonous substances due to retention of this waste, is the basis of practically all disease. Look into the eliminative capacity of the body from time to time, and thus rather forestall disease than endeavour to cure it after it has come. "An ounce of prevention is worth a pound of cure."

"CHARACTER is made up of small duties faithfully performed—of self-denials, of self-sacrifices, of kindly acts of love and duty."

Helpful Notes on Diet

E. L. Arnott

A Useful Motto

I HAVE obtained a great deal of assistance from the following motto: "For health and efficiency."

If I sit down at a dinner table and see things that appeal strongly to my appetite and tempt me to partake when I know I should not, I apply the motto, "For health and efficiency."

Many a piece of mince pie and many an apple dumpling and many savory roasts of beef have been resisted by virtue of this motto.

If I am at the point of going into a hotel or restaurant to get a meal when I am not really hungry I recall the motto, "For health and efficiency." That motto enables me to resist.

If I am tempted to bolt a lunch at a railroad station I apply the motto, "For health and efficiency."

If I am about to skip my cold bath in the morning, or to neglect to open my windows on a cold night, or to neglect proper exercise, or to violate any of the laws of rational living, I bring myself back with the ever-efficient motto, "For health and efficiency."

This motto will greatly assist any one in living up to the best he knows.

Getting Control of the Appetite

IT is generally conceded that most people eat too much. It has been pointed out by good authorities that most of our troubles are caused, directly or indirectly, by over-eating. Therefore it is quite important to learn how to control the appetite.

I am glad to say at the outset that the appetite can be trained in a comparatively short time. Hence a person does not have to face the prospect, as some people suppose, of always going hungry.

There are several ways of getting control of a strong or ravenous appetite.

A good method is to take very small mouthfuls of food. When following this method not more than one-fourth teaspoonful should be taken at a time, and this small amount should be chewed until it melts away in the mouth, without any effort to swallow it. This small amount should be chewed until the taste is all chewed out of it and until it involuntarily disappears or swallows itself, so to speak. It is difficult to eat too much when following this method. The appetite becomes entirely satisfied even with a very abstemious meal. I find that Fletcherism is much more effective when only a small quantity of food is taken at a time.

Another good method is to dish out an abstemious allowance (so much and no more) and then about ten minutes after the meal take the juice of an orange or a glass or half-glass of buttermilk or a little lemon juice. The feeling of hunger will disappear. If an orange is used it is more effective if not very sweet. The pulp of the orange should be rejected.

If the feeling of hunger becomes too strong between meals it may be allayed by taking a little orange juice, but stimulants should not be used. A drink of cold water often settles the appetite.

Another method is to skip one or two meals a day. If the juice of an

orange or a little buttermilk or hot water or soda-water or lemon juice is taken at meal time the appetite is satisfied fairly well. In the course of a few days the appetite will become trained and it will not be necessary to take anything at meal time. I find that I have less feeling of hunger when eating only one meal a day than when eating three meals a day.

The gnawing in the stomach is generally caused by a diseased or inflamed condition and not by any need of food. This inflamed or catarrhal condition of the lining of the stomach is aggravated instead of being benefited by being overworked. The eating of food may give temporary relief by taking up the acid fluids which come in contact with the raw surface of the stomach, but the real condition will be made worse.

The mind should be kept fully occupied. If a person has nothing to take up the attention it is easy to think about getting hungry.

These methods are suggested for the benefit of that large class of people who do not have the will-power or the disposition to suffer the pangs of hunger.

Fasting for one or more days is an excellent method of gaining control over the appetite, and this method strengthens the will-power as well. There may, however, be a temptation to eat too much before and also after the fast. Hence restricting the allowance is perhaps better than fasting as a means of gaining control of the appetite.

These methods will enable any one, without much trouble, to get control of the appetite and thus break up the very injurious habit of over-eating.

A little persistence may be necessary. "If at first you don't succeed try, try again."

What Every One Should Know About Tuberculosis

1. Tuberculosis is a preventable disease, and also a curable one if taken in time.

2. Tuberculosis is cured by fresh air, rest, and proper food, but cannot be cured by any of the widely-advertised "consumption cures."

3. Tuberculosis is a contagious disease caused by microscopic germs.

4. These germs grow in the lung or other diseased part of a person, and are coughed up in great numbers.

5. Therefore sputum or pus from tuberculous sores is a deadly poison which infects whatever it falls upon. It even poisons the air, for it dries and blows about as dust.

6. Every one should guard his own mouth and use his influence to prevent other people from spitting in any place where the sputum can dry and become a source of danger.

7. No one should ever eat food that has been bitten into by another; drink from a glass or cup that has been used, or use a spoon or fork after another person.

The danger in this is not alone from tuberculosis, but from other common contagious diseases such as colds, influenza, pneumonia, diphtheria, etc.

8. Sputum may infect the spitter himself, as well as others, if he spits carelessly; but it is almost sure to infect him if he habitually swallows his sputum.

9. There is but one safe thing to do with sputum. It should be spit into properly-made cups and burned before it dries.

10. By far the most important measure of prevention is to keep the body vigorous and healthy by good food and cleanliness, and by avoiding all kinds of bad habits and dissipations both in work and in play.—*Journal of the Outdoor Life.*

RATIONAL TREATMENT IN THE HOME

Disorders of Hearing

KATE LINDSAY, M. D.

THE deaf person must of necessity have a more or less damaged brain, for those centres which are prepared to receive impressions and to send out impulses from the cells of hearing never develop, or if developed, soon become atrophied because not used, thus curtailing the brain structure and robbing the intellect of certain capabilities. The case of a boy seen some years ago, as well as some cases met with recently, are forcible object-lessons of the influence of defective hearing on the morals and intellect of both young and old. This boy, or rather young man, for he was almost grown at the time, was morose, suspicious, and cross-grained in disposition, as well as untruthful and unreliable, and a defective worker; yet his mother could remember the time before his fourth year when he seemed as bright and active as any other child of his age. An attack of measles left him with what is called by the laity a "running ear" or a chronic ulceration and inflammation of the middle ear; this continued for a number of years untreated, and unchecked in its course, at times better, again worse, until the hearing of the diseased ear was almost entirely lost, and that of the other impaired. From that time of illness the mental and moral degeneration began. As he afterward confessed, hearing but imperfectly and so not understanding the orders and instructions of parents and teachers, he was punished for inattention and blamed for incompetency, until he grew to hate all around him, and lived within himself in a state of chronic anger, growing daily more morose and morbid. No one interested himself to find out what ailed the suffering child, and so his after-life was marred, and his intellect and morals irreparably damaged. And his is but one case of thousands; in fact, such persons often suffer worse than those who are totally deaf and dumb, for they are at least understood, and some effort is made to compensate their misfortune. Special methods of teaching are in-

THE OUTER, MIDDLE AND INNER EAR

Cream of Almond Soup

¼ cup of rice
2 quarts hot milk
1 quart boiling water
½ pound shelled almonds
1 tablespoon sugar
1 cup cold water
2 teaspoons salt

Add the washed rice to the boiling water and let boil actively for twelve or fifteen minutes. Then drain off the water and add the partially cooked rice to the milk which has been heating in a double boiler, and allow to cook in the double boiler three quarters of an hour.

Tomato Salad

While the rice is cooking, blanch the almonds by throwing them into boiling water for about one minute, or until the skins loosen. Place them between towels and rub vigorously to remove the skins or take the nut between the thumb and forefinger and force it from its skin.

Reduce the nuts to a paste, adding a little cold water from time to time. Add this to the rice and milk, add the sugar and salt and serve. Less sugar may be used if desired.

Wash the tomatoes, remove the stem end, and peel thinly from the stem end downward, not around; then cut down through the center almost to the other side, making four divisions. Place on lettuce leaves, sprinkle with salt and fill in the center with a spoonful of the following dressing:

Cooked Cream Mayonnaise Dressing

Beat two medium sized eggs with a pinch of salt and sugar added, and one tablespoonful of lemon juice. Cook in a double boiler or one sauce pan placed within a larger sauce pan, the larger being filled with boiling water, stirring constantly until it begins to thicken, or until it sticks to the back of the spoon so you can not well see the spoon through it. Add one half cup of cream, beat well, remove from the fire and set aside to cool. When very cold, serve.

Stewed Brinjals

Peel and dice three cups of brinjals and slice one medium sized onion. Boil together until tender in a small amount of water. When easily pierced with a fork add one cup of the first milk of a cocoanut, and season with salt. Serve hot.

The milk is obtained by pouring one cup of boiling water over a freshly grated cocoanut. When cool strain through a cloth, pressing well to extract the milk.

Cocoanut Loaf Cake

6 eggs
1 cup sugar
1 cup flour
juice of 1 lemon

Have all the ingredients very cold. Beat the eggs separately and until very stiff. Add the lemon juice to the whites and the sugar to the yolks, mix the whites and yolks together and beat again. Add one cup of grated cocoanut which has been slightly dried.

Into this sift one cup of flour, a little at a time, and fold in very lightly. Bake in a loaf in a moderate oven.

vented for their benefit, while the poor victim of defective hearing is subject to the same conditions as those having sound organs, and meets with only reproach and punishment for his stupidity and want of understanding.

In Great Britain alone the actual loss of life from ear disorders is said to be more than two thousand annually, to say nothing of those arising from glandular infection induced by those same aural difficulties. These latter usually result in erysipelas or some form of tubercular infection which is sure to terminate fatally, and in which the cause of death is set down to tuberculosis. Since the starting-point of all ear disease is usually catarrh, either of the nasal passages or of the throat, and as most cases of ear inflammation can be avoided, it is important for parents to know how to bring up children so as to prevent infection of the middle ear.

As inflammation, no matter what form it may take, is always an evidence of infection and neglected cleanliness, so we find that inflammation of the middle ear both in infancy and adult life is most often the extension of a catarrhal inflammation due to a neglected nasal catarrh which has extended to the throat and tonsils, thence through the Eustachian tubes into the drum cavity, or the middle ear.

It does not alarm the mother that it is difficult for the little one to breath through the nose. Mouth breathing and the advance of the nasal catarrhal inflammation involve the pharynx and tonsils, and then the microbes find an entrance into the Eustachian tube; in a short time one or both ears are intensely inflamed, the little one cries almost unceasingly, often has a high fever, is seriously ill, and may even be delirious; but neither the physician, nor the mother, nor even the nurse, discovers the cause until the drum bursts, and a discharge from the ear points to the seat of the disorder. Then there are the disordered nose, throat, and suppurating ears to treat, instead of only an infected nasal cavity, as at first. Many parents, even after this, think that so many children have running ears, and have so much faith in the very commonly accepted maxim that it "will outgrow it," that no attention is paid to the matter. On account of the discharge the child soon feels relieved of the most urgent symptoms, so many never even consult a physician from first to last, only awaking to the gravity of the case when some serious inflammation involving the bones of the head, or even invading the structures of the brain, ensues, or when they find permanent deafness resulting from the neglected running ear.

As it is easy to put out the fire of the little match the lighting of which caused a great conflagration, so the mother can by a little pains and cleanliness check the beginning inflammation by carefully cleaning from the nose the dried mucus and microbes with a spray of warm oil, followed by a cleansing spray of peroxide of hydrogen—one part to six or eight of warm boiled or distilled water—this being followed by the application of sterilized vaseline. A gentle rubbing of the nose for five or ten minutes twice daily will also tend to prevent venous stagnation of that member, and will keep it in a healthy condition, thus aiding in securing a healthy nasal secretion instead of the foul catarrhal discharges which act as fertile cultures for all kinds of disease germs.

The care of the ear may be summed up as follows: Protect this useful member from germ infection by keeping all the avenues which lead to it clean, aseptic, and healthy; avoid all causes which can in any way damage the ear structures directly or indirectly; treat at once all ear disorders, and be especially watchful of the ears of children. When a child too small to talk has a fever, cries continually, and bores its head into the pillow, ear disorder may be suspected, and when pressure behind the ear makes it shrink away and cry more loudly, one may be sure that the ear aches; also when heat over the ear or a hot ear douche relieves the pain and stops its crying.

Inflammation and suppuration of the ear may often be relieved by the hot ear douche, fomentations or alternate hot and cold applications.

Whenever there is any chronic disorder of the throat or nose, a physician should be consulted, but at the same time the cardinal virtues of cleanliness should not be disregarded, and all other hygienic measures should be faithfully carried out. An out-of-door life so far as possible is desirable, but exposure to cold and dampness should be avoided. Daily cold bathing is perhaps one of the most efficient measures for toning up the skin, thus making it quickly responsive to any demand made upon it.

The Wet Hand Rub

J. H. KELLOGG, M. D.

THE wet hand rub consists of a vigorous rubbing of the surface of the body with the hand dipped in cold water. A small amount of water adheres to the hand, and this serves as the vehicle for conveying it to the body.

The patient, with all the clothing removed, is wrapped in a sheet, preferably a Turkish sheet, and covered with a blanket. A large bowl or pail filled with water at 60° F., or less, is placed close by the bedside. The colder the water the more vigorous the effect, water above 70° F. having very little effect. Two or three large, soft towels are needed. Make sure that the patient is warm and comfortable and that the feet are not cold. Slip the edge of a towel under the patient's head and draw the ends and upper edge down so as to cover the patient's ears.

Everything is now ready. In making the application it should be remembered that the purpose of the procedure is to cool the skin, the cooling being immediately followed by vigorous rubbing with the warm hand so as to promote reaction. The hand should thus convey to the body of the patient as much water as will adhere to the surface, and the hands must be dipped into the cold water every few seconds, since the thin layer of water covering the hand is very rapidly warmed between the hand of the attendant and the body of the patient. The application is not made at once to the whole surface of the body but the body is gone over in sections in the following order: (1) the face, the neck, the chest; (2) the arms (first one then the other); (3) then, the abdomen and the legs. The patient then turns over on his face and a very thorough application is made to the back. The legs and the

feet also receive further attention.

All portions of the body except the part to which the application is being made should be kept carefully covered. The sheet and blanket should be well tucked in about the shoulders and other parts so as to prevent the movement of air which always produces chilling. In very warm weather this precaution is, of course, unnecessary.

In rubbing each part the hand should be dipped several times. The parts should be rubbed with the wet hand until reddening of the surface begins; then it should be thoroughly dried and rubbed again with the dry hand until well reddened. This is very important, since the good effects of the bath depend entirely upon the thoroughness of the reaction. If the patient feels chilly after the bath it is generally because the rubbing has not been sufficiently thorough. Very thorough rubbing of the feet and limbs is especially important.

WET HAND RUB

Except in very warm weather, care must be taken not to keep any part exposed for more than a very short time, the application to the individual parts ordinarily not occupying more that ten to twenty seconds, except in the case of the back, which may be given a full minute.

When the bath is completed, the patient, if feeble, should remain warmly wrapped in blankets for half an hour or more until reaction is well established. If the patient is able to walk about, it is better that a little exercise should be taken.

The vigor of this application can be varied to suit individual cases. In an extremely feeble patient who cannot endure cold water, the application may for the first few times be confined to small areas, as the face, chest, and arms; the legs may then be treated, then the back, and lastly, the abdomen. The vigor of the application may be increased by prolonging the wet rubbing and using colder water. Patients readily admit the use of ice-water after a little training.

The wet hand rub may be employed for almost all classes of patients, and under nearly all conditions in which cold water can be of any possible service. It should not be used in cases of skin eruption if irritation is present,

(*Concluded on Page Sixteen*)

Abstracts

Prophylactic Inoculation Against Enteric Fever

With the spread of knowledge respecting the prevention of disease there is a growing tendency, among the educated classes at least, to avail themselves of the means which science has suggested for imparting artificial immunity against certain infections. The family medical adviser may now, for instance, be asked as to the desirability in the case of persons proceeding to take up duties for the first time in the Far East of obtaining this protection against enteric fever. The European who proceeds to India or elsewhere in the East is to a large extent at the mercy of his native servants, whose filthy habits and uncleanly customs give rise to serious risk. He can himself exercise little or no control over the storage or preparation of the food which is brought to his table. Besides this there is the constant danger from infective dust, from flies acting as carriers of infection, and from other causes which bring the specific organism of enteric fever into his house and into association with his food and drink, and as to which no forethought on his part can prevent the possible danger. So that there is in this way continual exposure to chances of enteric fever infection from unknown sources which cannot be foreseen and guarded against. For this reason it is, in our opinion, very desirable that all persons proceeding to the Far East, and particularly those under 25 years of age going to India, should submit to anti-typhoid inoculation before they leave this country. Since this method for affording protection against enteric fever was first introduced by Sir Almroth Wright in 1897, a considerable mass of evidence has been accumulating in its favour. A committee of experts appointed by the Army Council in 1904 has already, in an interim report after an exhaustive inquiry, reported strongly in favour of inoculation; the Army Council has in consequence sanctioned its re-introduction into the British army as a voluntary measure. The operation may now be regarded as a comparatively trivial affair, free from any recognisable danger. It may be mentioned that to secure efficient protection it is necessary that two separate inoculations of the vaccine be made, with an interval of ten days between them. The duration of the protection conferred by efficient inoculation is said to be about two years, after which time, should special danger from enteric fever still be present in the locality where the European is residing, it will be advisable to submit to re-inoculation.—*The Lancet.*

Effect of Different Colours

The wonderful adaptation of things in nature has been many times cited to show the design of an intelligent and kind Creator. The mere matter in this regard of the colours predominant in nature is well stated by the noted American landscape painter, Mr. Birge Harrison. He says:—

"Another useful point that we may learn is the emotional effect of the different colours. The warm colours, the yellow, red, and orange, are always

exciting, stimulating, sometimes irritating and in the end fatiguing. Red, as is well known, always enrages a bull: and in a lesser degree it affects other animals and birds in the same way. A red skirt floating in the wind is the best protection to the poultry-yard, for the chicken-hawk will never approach it. With man, the stimulating effect of this colour appears to be pleasantly exciting rather than disgreeable when taken in moderation; but did a wrathful deity desire to punish mankind with a specially hideous form of torture, I could imagine nothing more dreadful than that he should change all the green in the world into screaming scarlet. Imagine a bright vermilion world under a brilliant sun, and tell me how long it would be before all the inhabitants would be raving maniacs.

"The cool colours,—blue, green, mauv, violet, and all the delicate intervening grays—are, on the contrary, restful colours in the emotional sense; and the wisdom of the choice of these tones for the landscape scheme of the world is hardly open to question."

And the lessons for our interior house decoration should not be lost upon us. As Mr. Harrison says further:—

"Moreover, it is well known to all expert household decorators that these tones (blue, green, mauve, violet, and the grays) are always the most satisfactory for the walls and all large spaces in interior decoration; and that the powerful notes of red, yellow, and orange should come in only as a spot here and there to enliven the effect."

Teach the Youth

THERE are some very stanch temperance men in England in the highest circles; and so far as I have heard them express themselves, these men have had temperance, or rather total abstinence, taught them in early youth.

It is sometimes possible to reform the drunkard. The fact is so patent to him that he is ruining himself that he is willing to make any sacrifice in order to be free; but the man who is a "moderate drinker" or an occasional drinker, and who with his drinking can still keep up his respectability and do his work,—whether he be laborer or engineer, doctor or clergyman—it is almost impossible, with the most convincing scientific proofs or with the greatest wealth of statistics, to convince that alcohol in moderation is hurtful.

As one clergyman, a temperance worker in London, said in a talk at the Imperial Temperance Congress: "It is not a matter of convincing the intellect only; there is a moral element involved that prevents a man who might readily assent to a new truth in engineering or mathematics from accepting a truth which would mean self-denial to him."

The hope of the temperance cause lies in the educational propaganda; but this must, to accomplish any real good, be directed to the children. The most intelligent or the most unintellectual, the most refined or the most degraded, if they have grown up using a moderate amount of alcohol, can scarcely by any means be taught the value of abstinence.—*Selected.*

WHILE a healthy body helps to make a healthy soul, the reverse is yet more true. Mind lifts up, purifies, sustains the body. Mental and moral activity keeps the body healthy, strong, and young, preserves from decay, and renews life.—*James Freeman.*

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ERADICATION OF BERIBERI

By the substitution of sixteen ounces of undermilled rice for twenty ounces of polished rice, and a legume to make up the deficiency in quantity, remarkable results have been obtained in the Philippine Islands in the eradication of beriberi.

ENGLISH TEAS

NEARLY every gathering in England has connected with it a "tea," which includes, of course, a serving of that popular beverage, together with cakes, cream, etc. This might be embarrassing for the conscientious guest, were it not that recently it has become "good form" for one not wanting tea to decline it, and take lemonade instead.

LIQUOR ADS IN RELIGIOUS PAPERS

"THE Glasgow Presbytery of the United Free Church of Scotland has decided by a vote of 203 to 5 to exclude liquor advertisements from all the church publications." We cannot understand how any church publication can tolerate a liquor advertisement. In Sweden no less than eighteen daily newspapers exclude all advertisements of intoxicating drinks.

SUGAR AND TOOTH DECAY

MR. A. HOPE-WELL-SMITH at the Birmingham meeting said that the abuse of sugar, which in itself is one of the most wholesome foods, is one of the important causes of dental decay. He finds candies to be adulterated with dyes, some of them harmless, but some, such as copper, zinc, arsenic, etc., are decidedly harmful. Among other impurities he mentioned clay, sand, fiber, and ground nut shells. Then there are the purely vicious adulterations, such as spirits, as much as twelve per cent, and chloroform, from one to two per cent. The use of such confections can not fail to be decidedly harmful.

HEALTH IN CAPITAL CITIES

THE table appended gives the figure for the second quarter of 1911 in each case:—

	BIRTH-RATE PER 1,000	DEATH-RATE PER 1,000
London	25.2	13.2
Paris	17.7	16.7
Berlin	20.3	14.9
Vienna	20.7	16.7
St. Petersburg	28.1	22.7
Brussels	16.7	12.2
Amsterdam	22.7	12.0
Copenhagen	25.4	16.2
Stockholm	21.8	14.3
Christiania	22.0	14.6
New York	26.3	15.4

During the quarter there was a natural increase of population in the United Kingdom of 128,867.

EFFECT OF BLUE UPON FLIES

MARRE and Fe observed that cow stables, the walls of which had been painted blue, were evidently avoided by the common house fly. It is therefore recommended, in order to keep the flies away from the stables, to paint the walls once or twice yearly with chlorinated lime solution to which some ultramarine blue has been added—10 lbs. of lime and 500 grs. ultramarine blue in 100 liters of water—*Pacific Druggist.*

The Wet Hand Rub

(*Concluded From Page Thirteen*)

as in the pustular stage of smallpox and acute eczema.

This measure is an excellent tonic for feeble patients, and at the beginning of treatment with persons who have not been accustomed to cold bathing. It is especially adapted to infants and young children, and persons who are convalescent from a fever, a severe surgical operation, or an accident. Almost without exception invalids—indeed everybody else—require some sort of a cold bath every day, and the wet hand rub can be administered in many cases in which no other application can be made.

House We Live In

EVERYBODY knows about the building and furnishing of a house, so Mrs. Vesta J. Farnsworth uses one to help show the children how their bodies are made, and how to care for them. To add to the interest of the study, it is given in the words of a mother to her four children,—Elmer, Percy, Amy, and Helen.

Each chapter has an engraved heading which makes the lesson easy to remember. For instance: The heading of the chapter on the nerves and their work pictures a modern telephone system.

Some of the other chapters are as follows:—

Walls of the House	.... Muscles
Weather-Boards and Roofing	.... The Skin
Cupola	.... The Head
The Kitchen	The Stomach
Pumping Plant	.... Heart
Bath-Room	.... The Lungs
The Windows	.... The Eyes
A Good Servant	....The Tongue
A Faithful Watchman	Sense of Smell
A Gentle Nurse	.... Sleep
A Wicked Thief	.... Tobacco
A Cruel Murderer	.... Alcohol

It is just the book a mother will be glad to read to the younger children, and place in the hands of the older ones to read for themselves. It explains why it isn't best to eat between meals, to eat much rich food at any time, to swallow food before it is well chewed, etc., why tobacco and alcohol are thieves and murderers, why the tongue is a good servant but a hard master, and why the body-house should be carefully cared for.

218 pages, fully illustrated, bound in cloth, Rs. 3- 8-

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