

Herald of Health

Vol. 5

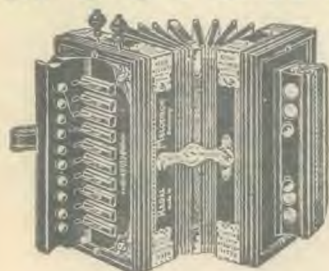
Lucknow, U. P., February, 1914

No. 2



The BEST HOUSE in INDIA
FOR
MUSICAL INSTRUMENTS

and MUSIC is
S. ROSE & Co.,
FORT, BOMBAY



IF YOU are INTERESTED in MUSIC send to us for our monthly list "HARMONY" which gives details of all the newest and best music and Musical Merchandise. A copy sent post free on application.



ACCORDIONS Rs. 5 to 56
MANDOLINS Rs. 7-8 to 150
VIOLINS Rs. 6 to 500
GUITARS Rs. 12 to 150
BANJOS Rs. 11 to 275
GRAMOPHONES Rs. 45 to 750

Every sort of musical instrument and fittings for the same kept in stock.

PIANOS, ORGANS,
HARMONIUMS.

The best stock in India and the best value for any price.

—:—
LISTS POST FREE

—:—
FORT, BOMBAY

S. ROSE & CO.,

Telegrams, "Rosebud"

Bombay



CONTENTS

Articles	Page
EDITORIAL	
Whooping Cough,	31
GENERAL ARTICLES	
Influenza,	33
Attaining Old Age,	35
Outdoor Sleeping,	36
Folk That Laugh, Poetry,	37
Headaches,.. .. .	38
Facts Concerning Consumption,	41
MOTHER AND CHILD	
The Value of Dental Hygiene As Regards the Health of the Child,	43
The Preparation of Albumen Milk in the Home,	45
A School of Methods for Mothers,	45
THE HOUSE WE LIVE IN	
Salivary Glands and Tonsils,	46
Enlightened Selfishness,	47
HEALTHFUL COOKERY	
Zwieback and Breakfast Toasts,	48
ABSTRACTS	
Colds in the Head—Immunization Against Diphtheria,	50
NOSTRUMS	
The Tribune Turns on the Light—The Wilson Ear-Drum	51
NEWS NOTES	55,56

SUBSCRIPTION

Price including postage, Rs. 2-8 per annum in advance.

SINGLE COPIES

Of this calendar year 4 annas. We have no copies of previous years in stock except 1913.

CHANGE OF ADDRESS

In changes of address notice should be given to the office of both the old and the new address. In failing to comply with this request we can not bear any responsibility for the safe delivery of the Journal. Subscribers must also keep in mind that mistakes will at times creep into the postal system. If for any reason you fail to receive the paper, inform the publishers at once; do not wait several months, then ask for back numbers.

REMITTANCES

Make all remittances by Post Office Money Order payable to the International Tract Society, Lucknow, U. P. Registered letter remittances are sent at sender's risk.

ADVERTISEMENTS

We guarantee the reliability of every advertisement inserted in the *Herald of Health*. We advertise only those things that are in perfect keeping with the principles advocated by the magazine. If after our most thorough investigation an unreliable advertisement gains access to the columns of the journal, we will be glad for any information that will enlighten us regarding the matter. Advertising rates will be sent on request.

CONTRIBUTIONS

Contributions to the columns of the paper will be accepted subject to the approval of the editor. *Anonymous Contributions* are not accepted.

ILLUSTRATIONS

As far as possible we will illustrate the articles of our contributors providing satisfactory photographs or drawings are supplied by the author.



ROSES

HERALD OF HEALTH

The Indian Health Magazine.

V. L. Mann, M. D., Editor

S. A. Wellman, Asso. Editor.

Vol. 5

Lucknow, U. P., February, 1914.

No. 2

Whooping Cough

THE common name given to this disease is derived from the peculiar whoop which is characteristic of the disease. Pertussis is the name given by medicine to the disease. It falls into that class of diseases which are caused by germs, therefore it is infectious. It rapidly spreads from person to person making it a highly contagious disease.

Until recently very little attention has been given to whooping cough. It has been considered quite harmless. It has been lightly passed over as a disease of childhood. If we carefully record our whooping cough cases, we find that it is not the simple, harmless disease we have been led to believe but a serious one. Some mothers have even gone so far as to expose their little one to the disease, thinking it would be better for her boy or girl to have it while they were young and thus have it over, as one attack generally interdicts another. The risks a mother runs in following this plan are many, as we will show.

A recent authority on children's diseases has taken the time in his work to carefully follow the results of whooping cough. He has collected the number of deaths occurring from scarlet fever, diphtheria, and whooping cough. He found that the deaths occurring as a result of these three different diseases were about the same. Scarlet fever claimed the most victims, while whooping cough came next, and then diphtheria. What, says one, is whooping cough a more dangerous disease than diphtheria? The truth of the matter is

the former claims more deaths than the latter. Therefore when the mother exposes her child to whooping cough she is taking more risks than if she were to expose her child to diphtheria.

Whooping cough is most common between the first and second periods of dentition, but it is liable to occur at any age, if not rendered immune by a previous attack. In infancy and adult life it becomes more grave. The infant especially stands this disease very poorly. The lung tissue being so young and succulent, it generally succumbs to bronchopneumonia. The chest cannot bear the extra strain put upon it.

In as serious a disease as we are considering, prevention becomes a very important factor. The best way to prevent it is to keep away from it. Of course this cannot always be done as we often come in contact with it unawares. No mother ought to be guilty of taking her children, if they have whooping cough, to play with other children who have not had the disease. On the other hand, a mother ought not to be guilty of taking her children where she knows that they will run chances of getting the disease.

If one member of a family gets the disease, he should be isolated from the other members of the family if possible. We have told elsewhere in our pages how this isolation can best be carried out. Like diphtheria we have hoped to have good success in preventing the disease by using an anti-whooping cough serum made from immunized animals.

Although some medical men have reported favourable results in preventing the disease in this way, still it has not been successful enough to be universally used.

From the time that the child is exposed to the disease until he begins to show symptoms, is the incubation period, which is from seven to ten days. The disease is characterized by three stages, catarrhal stage, paroxysmal stage, and convulsive. It generally begins like any common cold, but the mother notices when the time arrives for the cold of her little one to cease there is still a stubborn cough which grows worse and finally becomes paroxysmal in character and winds up with the characteristic whoop. The mother now knows that she has something more than a common cold to face. The stage simulating a cold lasts about two weeks.

The paroxysmal stage varies in length and severity. It generally lasts for six to eight weeks, and gives the little one very little rest day or night during this time. The paroxysms vary often from ten to forty-eight a day. Each one begins with a succession of coughs which increase in intensity. All efforts are devoted to the exhaling of the apparently pent up air in the lungs. The face becomes flushed, the eyes injected, the nose discharges and the chest becomes bulged. Eventually the paroxysm terminates with a loud whoop and oftentimes by bringing up all of the little fellow's breakfast or dinner. The paroxysm being over the little martyr has a short rest, after which the story is repeated. The paroxysms are the most severe and frequent during the night.

When the paroxysms become fewer in number and less severe, convalescence has set in and this occupies a period of about a month. This makes the disease last about twelve weeks, but often it lasts longer than this. In India those cases that the writer has seen, have lasted nearer six months. In some cases, one or two years after convalescence has been established a fresh cold will bring back the spasmodic cough without the whoop quite characteristic of whooping cough. Again a few cases suffer very little from the disease. An occasional paroxysm

with now and then a whoop is all that is present to betray the disease.

The treatment of the disease consists in the avoidance of exposure, the keeping of the secretion within the chest loosened up, drying up the secretion, seeing that the child does not suffer from starvation, and lessening the severity and number of the paroxysms.

In the course of the disease a fresh attack of cold will influence the disease very unfavourably, therefore the avoidance of exposure will be apparent. An equable temperature day and night will tend to decrease the number of paroxysms. (On going to bed at night if the chest is thoroughly fomented and a heating compress applied, it will keep the secretion in the chest in a loose condition.

In a disease in which vomiting plays such an important part one can see how necessary it is to keep food in the little patient's stomach to avoid the constitution's suffering for want of food. Each time after vomiting takes place, it is well to give the child some easily digested food, as milk, malted milk, etc. Anxiety, fright, and anger should be avoided especially in those of a nervous temperament as they bring on a paroxysm.

The drug treatment of the disease consists of ipecac to loosen the secretion, atropine to dry up the secretion, potassium bromide and camphor monobot to lessen the severity and number of paroxysms. Sometimes opiates have to be resorted to for the same purpose, iodine and quinine to act as a germicide on the germ causing the disease. It is best never to use a drug of any kind if it is possible to get along without, as the drugging of a child is not the best kind of treatment. Everything else should be tried first and drugs used only as a last resort, and then under the advice of a physician.

A vaccine for pertussis made of the dead germs causing the disease, and injected into the system, although not found equally satisfactory by all physicians is worthy of a trial. Some very favourable results in shortening the disease have been reported. The vaccine can be obtained at the large wholesale chemist shops like Parke, Davis & Co., and Burroughs, Wellcome Co., but must be administered by a physician.

The complications of the whooping cough are bronchitis, broncho-pneumonia, collapse of the lung, and pleurisy. Good nursing and treatment will go a long way in the avoidance of these complications.



General Articles



Influenza

BY CHARLES HENRY HAYTON, B. A., M. D.

INFLUENZA in its true medical sense is an infectious and contagious disease, caused by a specific bacillus, which finds access to the body through the mucous membrane of the nose and pharynx, and which generally manifests itself in epidemic form. The term is applied more commonly, however, to every form of mild indisposition connected with the respiratory tract. One speaks of a cold and calls it an attack of influenza. All widespread epidemics of "colds" should be looked upon as attacks of influenza. How often factories have been closed, society, schools, and neighbourhoods quarantined, and commerce injured by these epidemics of influenza.

History

Influenza has a history and a very sad one at that. More rapidly than any other disease has it spread throughout the country. Every known part of the world has been visited by its epidemics, and very few families escape.

It is carried mainly along the lines of human travel. The poisons are air-borne or may be carried by clothing and cling for some time to infected parts and people.

Generally beginning somewhere in the East, Russia for instance, it spreads locally through the country and then travels in a westerly direction, and does not spend itself until the whole globe has been wellnigh compassed. It is a winter disease, being most prevalent in December and January. It attacks large numbers of the population. Few die, however, as it is a disease not attaining, *per se*, a very high mortality. The great number of deaths result from the serious complications it sets up, and the fatal results which so frequently follow attacks. In the epidemic of 1903, which swept over most of

Europe, the deaths in England and Wales numbered 6,322.

Symptoms

Adults between the ages of twenty and forty are more often attacked, young children and the aged less often. Certain occupations tend to predispose one to the disease, indoor and sedentary occupations especially so. One attack seems to make people more susceptible to other attacks. The debilitated in general, and those who have any catarrhal condition of the respiratory tract such as weak throat, winter cough, or asthma, are especially prone to the disease. It must not be forgotten that influenza hastens the progress of any pre-existing disease, so that a person with heart disease, Bright's disease, or chronic bronchitis should be very careful of exposure. In the extremes of age, influenza is most serious.

The mucous membrane of the nose is the first to be attacked. The inflammation is then most likely to spread to the pharynx, then travel up the Eustachian tubes to the middle ear. A great number of people are deaf as a result of a previous attack of influenza. The air canals which open into the nose also become diseased and serious results follow. It sets up a swelling of the tonsils and may travel down the throat to the lungs. Pneumonia is likely to follow or if it finds its way to the stomach a gastritis results.

A running from the nose and eyes is first noticed, then constant sneezing, sore throat, bronchial cough, and thick sputum follow. Loss of appetite, headaches, backaches, and general feeling of discomfort and depression with slight fever are some of the common symptoms of an attack. These are due to the

effect of the poison in the system. Every organ is more or less congested and inflamed so that the body as a whole is affected besides the local point of infection. Oftentimes the influenza poison assumes a chronic form. One does not feel sick enough to be in bed, but one complains of poor appetite, tiredness, headaches, has a coated tongue, and is unable to attend to regular duties. Some people when having these chronic attacks believe they have malaria, and not infrequently tuberculosis is suspected. Change of climate and of food will greatly improve these invalids.

Prevention

At the present time many look upon the fact of catching cold as a trivial matter, but when one realizes that it is often a predisposing factor in influenza, it behoves one to take every precaution to abstain from colds. The act of catching cold is a process that takes place through some irritation of the skin, sitting in the draught, or going out unduly clad. The skin reacts in such an unhealthy way that when increased demands are made upon it a cold results. The preventative measures therefore should be to harden the skin against such irritation by a systematic course of training. Fresh air and plenty of it in the sleeping-rooms, keeping the bedroom cold, cold sponges in the morning before dressing, or better still, a cold spray or plunge if possible, and then a good rub down with a coarse towel. This is a splendid tonic for the skin and also a hardening process through which the skin becomes immune to colds.

The selection of proper clothing is also a preventative measure in colds. Underwear made of light wool should be worn, especially during the winter months. This protects the body from the effects of the sudden changes in the weather. Exposure of any kind should be avoided, and the body should be kept warmly clad. How often one sees his fellow-creatures going about during winter weather with low shoes and insufficient outer covering.

The upper portion of the respiratory tract, the nose, and the pharynx especially, should be kept in a healthy condition. Always breathe through the nose. If this is impossible see your physician and have the obstruction removed. Everything depends upon keeping the filtering functions of the nose up to their highest efficiency. A nebulizer or an atomizer is a good instrument to have at home.

A good solution can be had at any chemist made up as follows:—

Menthol.....	xxx grains.
Camphor.....	xx "
Eucalyptol.....	x drops.
Ol. Pini.....	xxx "
Liquid Paraffin.....	ii ounces.

These measures are especially valuable where there is any danger of fine particles of foreign matter likely to be deposited upon the mucous membrane of the nose. The dust that is breathed up the nostrils in the crowded and busy cities daily is a menace to health. With children special precautions should be taken against dust inhalation. The attention of parents and maids should be called to the dangers arising from that source. When there is a strong wind an infant should be carefully veiled when he is taken out.

Curative Measures

The mild uncomplicated variety of influenza lasts but a short time, two to five days at the most. The fever is not high, but the prostration is enough to keep one in bed for a few days. Sustain the system with good plain, wholesome food. A purge is in order, as this helps to drain the system of the toxic poisons. Drinking hot lemonade, with a hot foot bath, or better still a warm full bath, tends to eliminate poisons through the sweat glands and also through the urine. The aim in all the treatment is to prevent as far as possible any complication that may arise, and to rid the system of the bacterial poisons which have accumulated in the body. The complications are to be feared for they are numerous. What are known as sequelæ

often follow an attack. The commonest is debility, frequently extreme and of long duration. Rest is of great importance in the treatment, and one with an attack should immediately take to bed till the acute symptoms are over.

The convalescent period is often very slow, and it may be months before the full effects of an attack have passed away. A recurrence before full recovery is not uncommon. Relapses are often brought about by slight exposure before the symptoms have fully passed away.

The influenza bacillus is very easily destroyed. The milder antiseptics as five per cent Lysol, saturated solution of boric acid, or ten volumes strength of hydrogen peroxide, are fatal to them. Have plenty of these around and disinfect all the eating utensils after each meal. It is only by keeping our health up to the standard that the body is able to resist the influenza bacillus. A frugal but nourishing diet, total abstinence from alcohol, tea, and coffee, and a normal, regular, healthy outdoor life are the best preventatives to resist the influenza attacks.

Attaining Old Age

FREDERICK ROSSITER, M. D.

THE degenerative diseases are chronic in nature, and are attended with degenerative changes of the tissues of the organs involved, such as the brain and the nervous system, the heart and circulatory system; the decay of the teeth; diseases of the stomach, liver, intestines, and kidneys. All these diseases are on the increase.

The cause of this increase in all degenerative diseases can be summarized in one word, and that word is *intemperance*. Excesses in eating and drinking, alcoholism, smoking, sexual excesses, excesses of mental strain and worry, and the burden of sin, overexertion of the mental and physical forces, with abuse of all life's forces,—these are the reasons why so few attain to old age even though they may have been born with the capacity to live threescore and ten years. With a practical appreciation of our present knowledge of healthful living, most of the mortality between forty and seventy years could be prevented.

The Bible promise of life is seventy years (Ps. 90:10), but by reason of strength or effort ten years more may be added. If this is true at seventy years, then certainly the exercise of preventive measures and living in accordance with laws of health at the prime of life will add many years of

usefulness to one's life as a reward for right-doing.

Prevention is greater than cure, and it is more important. It is one thing to say this, and another to practise it. One of the great difficulties before physicians and sanitarians today is to get people who enjoy a reasonable degree of health to see the importance of guarding the health, and to deny themselves of pleasures that will surely and eventually bring on disease.

Some time ago while talking with a State health commissioner, he remarked to me that the indifference of those who are not sick to matters that pertain to the health of the individual and of the community is a very discouraging feature in the work of the State boards of health. Some States have equipped a train made up of several coaches, for the purpose of giving free demonstrations on matters pertaining to health and hygiene, in order to get people to take better care of the health and to help in the prevention of diseases. In this way some States have accomplished very gratifying results. On the other hand, some State boards have been discouraged by the little interest the masses take in these efforts. It is a very hard problem to get people to practise the conservation of health when they are feeling fine and disease

seems far away. To have health and to maintain it require continual watchfulness and vigilance.

The enemy of all righteousness is on the track of every man, woman, and child to tempt them to indulge the senses, and in every way to neglect the health. In this way the mind is weakened and distracted by sickness, and so there is a diminished desire for truth, and also a decreased susceptibility to truth. For this reason the world is full of sickness and misery and woe and death. Do you know of a family where every member enjoys

good health all the time? Observation seems to justify the conclusion that it is difficult to find a man or a woman of forty years or over whose health has not been impaired in some manner. This is the time when those who in the vigour of life have said, "I can eat anything, I can do anything, nothing seems to hurt me, I am tough as an ox," find out that things do hurt them, that they have more days of indisposition than formerly, that the health is not what it once was. What woe and misery and desolation is in the world because people love darkness rather than light!

Outdoor Sleeping

BERTHA BELLOWS STREETER.

Do you remember the time, when you were a little girl, that the boys begged leave to sleep out of doors? They had built themselves a hut down in the pasture and had cooked their own dinner over a crazy open fireplace built of stones. Late in the afternoon Johnny and George burst into the kitchen demanding that mother and you come down immediately to see what a fine hut they had made. George snatched your sunbonnet from its hook on the door and threw it toward you as he rushed from the house, bellowing for you both to "come on and hurry up."

As you and mother leisurely crossed the yard, feeling the spongy earth give at every step, luxuriating in the warm sunshine and catching whiffs of sweet spring fragrance, mother smiled and said, more to herself than to you:—

"I know what the boys want. I don't blame them a bit. I'd like to do it myself!"

And you danced in front of her where you could look up into her lovely face shaded by the familiar blue sunbonnet, and you asked:—

"What is it, mother? Tell me what the boys want."

And she patted your rosy cheeks sottly,

and there was a sweet light in her eyes when she spoke.

"They want to sleep all night in the open. If they had their way they would get out those old quilts in the attic and roll up in them and sleep to-night under the stars."

You wondered how it was that mother had known before the boys said a word about it; then, as they plead so hard and mother shook her head, you, too, thought that it would be splendid to sleep out all night on the soft, warm spring earth.

But, you remember, in mother's time they did not know what we do now about the advantages of out of door sleeping. If people slept outside or in draughty bedrooms it was because they had to, not because they wanted to. As they grew more prosperous they spent more for making their bedrooms "comfortable," in other words, as near being air tight as they could. Here is a quotation from an article published less than two years ago which reflects in a single sentence the sleeping habits of hundreds of thousands of families:—

The window left open an inch at the top will do wonders toward keeping the air pure, for the foul air thus escapes.

"Open an inch at the top!" Well, that is certainly better than half an inch or no part

of an inch at all. But how different is the rest of a creature who sleeps in such lifeless atmosphere from that of one whose cheek is caressed all night long by the cool, invigorating night air!

Morning headaches and dullness are never experienced by those who sleep out in the open, and they are almost entirely free from colds. Scientists estimate that convalescents regain their health in one-half the usual time if they can sleep out of doors.

As a preventive of nervous disorders, there is nothing better known to day, and that is the reason that out-of-door sleeping is recommended for children in school and for busy men and women. Even the month-old baby can be put outside if the change from the sleeping room is made on a warm summer night.

Any family, no matter in what manner it is housed, can have the benefit of sleeping out of doors, for there are many ways of overcoming every difficulty known to home makers. Some people are so fortunate as to possess porches built

solely for this purpose; some utilise the porch that during the day serves as an outdoor living room; those who have no porch at all use the fire escape, or fix a cot so that it will slide a couple of feet out over the window sill, allowing the head of the sleeper to be out of doors, or else have what is called a window canopy that fits around the open window inside, preventing the cold air from entering the bedroom, giving the owner's lungs the benefit of all the oxygen they can accommodate.

In cold weather it is well to lay several thicknesses of newspaper or heavy wrapping paper over the bed springs before putting the mattress on. This will help greatly in keeping out wind and moisture, and, consequently, makes the bed much more comfortable. A sleeping bag made of blankets or other warm material is splendid for the grown-ups as well as for the children. Fold the blanket crosswise and stitch it along one end only, thus leaving one long side and one end open. This

long opening makes it an easy matter to get in and out of the bag. Loops sewed along the edge through which a tape passes will furnish an easy method of closing the bag—and opening it, as well.

On very cold nights a hot-water bag warms it very agreeably. On top are put two or more quilts that fall down at the front and are securely tucked in at the back and foot. The sleeper is clad in a long flannel gown or kimono, bed shoes, and a night cap that buttons close under the chin and has a cape fastened to each shoulder of his gown

with button and button hole. He gets into the sleeping bag, slips off his shoes and puts them where they will keep dry through the night, fastens the bag, tucks the covers well around his neck, and settles down for a dreamless, restful, invigorating sleep.

In warm weather, of course, a cotton gown of figured cotton material fashioned like a bath robe is substituted for the flannel, and the night cap is frequently dispensed with. Going without one entirely is splendid treat-

THE FOLK THAT LAUGH

The folk that laugh,—God bless them!
They lighten all the day.

They bring the cheer of sunshine clear
Though skies be brooding gray.

They lift the load of trouble;
They ease the grip of toil;

They leave less room for grumbl'ing gloom
Our precious hours to spoil.

What though they have their sorrows?

What though they have their woes?
They aim to get the laughter debt

The joyous old world owes.

And so they make a stranger

Of foolish fret and fear,

And make each day a happy way
Of rich content and cheer.

The folk that laugh—God bless them!

What ills do they not mend!

For them the rose in beauty glows,

And every man is friend.

For them the skies grow bluer,

For them the stars are bright,

Gloom flees away across the day

And comfort bides at night.

—Wilburt D. Nesbit.

ment for thickening the hair, and can be done without injury if a person begins in the summer and thus becomes used to very cold air gradually.

Screens to insure privacy and keep out the rain are necessary. One of the best protections is a curtain made of oilcloth. A shade can be removed from its roller, and a strip of oilcloth of the same width tacked on instead. Fastened to the lower porch rail so that the cloth side of the screen is toward the house and so that the cord will pull the curtain up instead of down, a person has a convenient adjustable screen. Another good one, though not as easy to manage nor as advantageously placed, is a roll of oilcloth tacked by one end at the lowest part of the ceiling. The screen unrolls in such a manner as to leave the rolled cloth protected from the rain and is held at the desired height by a loop or knot of heavy braid. If you cannot get oilcloth, canvas or heavy ducking will do.

A window through whose aperture a cot extends at night should be provided with an

awning to shelter the sleeper from rain. In the cold weather a strip of navy cloth is tacked to the bottom of the lower sash. Hanging down as it does over the bed, the opening of the window over the sleeper does not chill the room.

The fresh, clear air that a person breathes while sleeping out of doors is splendid for physical health, but there is far more than that to be gained, it seems to me. Out under the stars that are millions of miles away and night after night silently remind one of the great Creator who holds them in place in their magnificent courses, one can hardly fall asleep with anxious thoughts of the morrow and petty prejudices. The healing attitudes of the mind always claim us when under the spell of the unfathomable universe. Habitually dropping to sleep impressed with the greatness and the goodness of God leads to inspiration, peace, and love to God and man in daily life. And dominated by such thoughts as these, one easily develops more and more into the spiritual likeness of the Master.

Headaches

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

HEADACHE, like every other pain our organism is subject to, is a symptom of some abnormality or derangement; it is one of Nature's signals to warn us that her laws, which the apostle tells us are "ordained to life," have been violated. Without these signals, kindly and divinely permitted, we would not recognise that we were transgressing the law—the will—of our Creator; we would continue in our unnatural mode of living, and disaster, without any warning, would be the result. Many are satisfied with removing the signal by a headache powder, a dose of antipyrine, or a cup of tea; but these temporary remedies unfortunately draw the mind from seeking a cause, for when the "red flag" is lowered, the danger is forgotten; they in fact do more, for they themselves

become causes, and the headaches return not only more frequently but in severer forms. The popular remedies for headache simply mask the disease; they sprinkle the rankly growing weeds with a layer of soil; they are a "top dressing" which in a little time gives the weeds a still more vigorous growth. They remind one of a quack pill advertisement which appeared for some time in our daily papers, "Eat whatever and as much as you like, why study your diet when all inconveniences can be removed by taking the pills?" They are even more harmful than this advice, for the pills probably would carry off some of the superfluous and harmful food, but a cup of tea or a headache powder will not drive a particle of the poison that causes the headache out of the system, the poisons

remain, and the sentinels are lulled to sleep. The pain and other disagreeable results of a dose of poison might be relieved by morphia, but the partaker would pay the penalty with his life. An emetic would not be so pleasant in its immediate effects, but it would get rid of the irritant, and the life would be saved.

The removal of the cause generally means some self-denial, a limitation of harmful and very temporary pleasure, but it is the only safe and satisfactory procedure. A well known physician once remarked to the writer: "Most people like to enjoy themselves at their meals, but I like to enjoy myself between my meals." The admonition of the Wiseman holds good for all: "When thou sittest to eat with a ruler, consider diligently what is before thee; and put a knife to thy throat [*i. e.* curb your appetite] if thou be a man given to appetite. Be not desirous of his dainties: for they are deceitful meat." The merely temporary, and therefore deceitful, meats and drinks give pleasure but for a moment, but a wise dietary maintains freedom from disease, and gives health, one of the greatest blessings man can enjoy.

We cannot emphasise too strongly the fact that temporary remedies for headaches become actual predisposing causes of this symptom. Abstinence from the headache powders and tea drinking very frequently results in the disappearance of the headache itself. The removal of the tooth causes pain, but the beneficial results are permanent. Abstinence from tea, coffee, alcohol, tobacco, etc., may make the headaches for a time more evident, but a week's, or at the most a fortnight's endurance, will allow Nature time to remove the cause, and consequently the headaches also. The writer has had case after case illustrating this fact. The trouble is, folk are too often satisfied with the temporary and "deceitful," relief, and have not patience to wait for permanent cure.

The causes of headache are not usually in the head itself, except in some serious condi-

tions, such as growths or chronic inflammatory lesions due to rheumatism or syphilis. A decayed tooth for instance will sometimes cause a severe neuralgic headache in the temple, or at the back of the head, although the tooth itself may not give any pain. A pledget of carbolic acid in the cavity of the tooth, or the removal of the tooth will often cause the headache to disappear at once. Again: headaches are very frequently caused by some eye trouble, such as a difference between the focal distances of the two eyes, or astigmatism; these headaches are relieved by sleep, but become worse as the day develops, or after reading or other close eye work. Suitable glasses will give permanent relief to these headaches. Sometimes the eye trouble acts in conjunction with impure conditions of the blood, depending on imperfect digestion or constipation. In many, the headaches exist only when both these causes are operating together; attendance to digestion will very frequently relieve both the eye tension and the headaches at the same time, and thus do away with the necessity for spectacles.

We might very conveniently divide headaches into two great classes: (1) those due to disorders of the nervous system; (2) those due to alteration of the blood (in quality or quantity) circulating through the brain. Pain can only be recognised by the sensory centres in the brain. In nervous headaches, although definite changes undoubtedly take place in these sensory centres, they are not the seat of the disease. These changes are brought about by nerve currents from different parts of the body; the nerve currents may originate in a decayed tooth, in the womb, bladder, eye, ear, or nose troubles, etc. The locality of the headache often is an aid in diagnosing the seat of the disease. Headache over the brows for instance is generally caused by eye troubles; those a little higher to indigestion; those over the forehead to constipation, etc. Often similar headaches may be caused by quite a variety of diseased conditions. Pain on the top of the head is

generally the result of either debility, diseases of the womb and its appendages, epilepsy, etc. Headache situated in the back of the head, to liver and digestive disorders or womb trouble, decayed teeth, neurasthenia, etc. Headache situated at the side of the head, to ear disease, eye strain, disease of large arteries in the region of the heart, etc. The locality of the headache, however, is not by itself sufficient to diagnose a complaint. Frequently headaches are due to exhaustion of the nerve centres through excessive mental work, worry, want of sleep, sunstroke, etc.

Most headaches, however, come under the second heading, being due to alterations in the blood circulating through the brain; the blood may be of poor quality, or it may contain toxic substances. In anæmia, a condition recognised by paleness of the face, gums, and inner surface of the eyelids, we frequently have severe headaches chiefly located on the top of the head. It is probable, however that it is the impurity rather than the poorness of the blood that causes these anæmic headaches. The blood being poor, the kidneys and excretory organs are not sufficiently robust to carry on their functions satisfactorily, with the result that impurities are left in the blood, and these irritate the brain centres and cause headache.

Headache is generally one of the first symptoms of influenza, fevers, diphtheria, blood poisoning, and other diseases of bacterial origin; the toxins, the production of diseased germs, are absorbed into the blood, and irritating the delicate brain cells, cause headache. The headache in these cases is undoubtedly accentuated by the increased temperature of the blood; if the temperature be lowered by cold compresses, the blood bathing the brain centres is cooled, and relief is experienced. Cold compresses are generally applied to the seat of the pain, and these undoubtedly relieve; but in most cases greater relief would be obtained by applying them over the great blood vessels in the neck

which supply the head. To produce this result the cold wet compresses must be frequently applied. Headaches are often relieved by drawing blood away from the brain by a smart purgative, the hot foot bath, fomentation to the back of the neck, etc. A mustard plaster on the back of the neck often produces relief. Headaches are more troublesome in the early part of acute disease than in the more advanced stages. The brain cells after a time seem to become more tolerant of the toxins and heat; this is most probably due to a partial inhibition of their functions. Some would call this a mild form of paralysis, but that expression does not correctly describe the condition. We certainly do not call the hardening of the skin of the palm of the hand by hard work a paralysis, even though their sensibility be materially lessened thereby.

Dr. Haig has clearly demonstrated the fact that uric acid in the blood is a frequent cause of headaches; this would be especially true in rheumatic or gouty subjects, or in those suffering from kidney disease. A certain amount of uric acid is daily formed from the burning up of the albuminous foods in the tissues, and in ordinary health sixteen to twenty grains are excreted daily by the kidneys. Many additional grains may be added daily by consumption of foods already containing uric acid, such as butcher's meat (especially the red meats), tea, coffee, and legumes. Uric acid, and other allied products (Hypoxanthine, etc.), result from insufficient oxidation of albuminous foods. If the food be thoroughly oxidised, urates are formed, and not uric acid, and these are readily dissolved in the blood and excreted by the kidneys. If excess of albuminous food be taken, some will escape through oxidation, and the result will be a formation of uric acid. Dr. Haig found that the consumption of eggs, although they do not contain uric acid, predispose to the formation of uric acid. No doubt individual idiosyncrasy plays an important part in this respect.

Seeing that only a small quantity of uric acid can be excreted from the system daily, we certainly act wisely in abstaining from foods which already contain this poison.

Constipation is a very frequent cause of headache, the fæces are retained too long in the alimentary canal, with the result that undesirable products are formed, and find their way into the blood. It is remarkable how quickly the headache is relieved after the bowels have been thoroughly opened by a purgative or enema. These ill-defined poisons formed in the intestine are evidently very quickly eliminated, and in that respect differ considerably from uric acid. Undoubtedly the purgative also relieves by lessening the congestion in the brain. Biliousness is frequently associated with headache; in these cases there is generally constipation; the stools are of a light colour, and have a decidedly offensive odour. The waste products from the liver in health are freely poured out into the intestine, and have an antiseptic and purgative action; in bilious attacks this does not take place, and consequently some of the waste products are absorbed into the blood,

causing yellowness of skin, headaches, and general feeling of ill health. Rich foods, foods rich in fat, and especially when the fats are brought to a high temperature, as in baking and frying, bring about these results. Consequently, pastry cakes, fried dishes, much butter, scalded cream, should be avoided in those subject to biliousness. Much cane sugar or foods containing it, as well as foods cooked with the aid of baking powders, should also be avoided, as they tend to bring on the acute catarrhal conditions associated with biliousness. The bilious man should live largely on plainly cooked cereal foods, fruit, and drink neither tea, coffee cocoa, or alcoholic beverages of any kind. This is good advice for all, but especially for the bilious.

Thus we see that in almost, if not every form of headache, there is some impurity in the blood. The impurity may arise from products of germ life, as in the acute specific fevers; it may be introduced in our foods, as uric acid in animal food; it may result from want of oxidation in the tissues, or it may be absorbed from the alimentary canal as the result of imperfect digestion.

Facts Concerning Consumption

BY A. B. OLSEN, M.D., D.P.H.

THERE are three vital things that we know about consumption, and it is desirable, nay urgent, that everyone in the Kingdom should become familiar with these facts.

Consumption is catching.

Consumption is preventable.

Consumption is curable.

First, consumption is a germ disease. It is catching, it is distinctly infectious. Being infectious, consumption is directly transmissible from one person to another, or, more frequently, indirectly, but in both cases through the expectoration. We think of leprosy as a very infectious disease, and no one would like to be brought into intimate contact with a leper, but in this case our fears are largely groundless, for consumption is far more infectious than leprosy, and the

danger to the community from one careless consumptive is decidedly greater than if there were a leper going about in the same way.

When the lungs are affected by consumption, germs are often found in the expectoration, and in certain stages of the disease they are exceedingly numerous. These germs, known as the bacilli of tuberculosis, are the direct exciting cause of consumption. Without their presence there can be no consumption. When anyone becomes infected with these germs there is great danger of developing tuberculosis in one form or another, unless the infected person is so healthy and strong and possesses such vigorous resistive forces that the germs are unable to gain a foothold.

Sneezing, coughing, or even forcible talk-

ing on the part of consumptive patients is a means of discharging numerous visible or invisible particles of mouth-juice into the air. These moist particles may, and often do, carry with them, especially in the advanced stages of the disease, the specific germs of tuberculosis. All persons in the room who are breathing the infected air are in danger of becoming directly infected with the disorder.

But consumption is more commonly spread indirectly through the breathing of tubercular bacilli which have gained admittance to the air by the drying of the expectoration. The germs of consumption are very persistent organisms, and they are known to possess great vitality. Drying by no means destroys them but simply serves to spread them about more widely everywhere. The dust of the road or street blown into the air by the wind often contains consumptive germs. But the dust of over-crowded and poorly-ventilated houses which have recently harboured consumptives is more likely to be contaminated with the deadly germs of the disease. Furthermore, the germs of consumption may be, and there is good reason to believe that they frequently are, transmitted through the milk, cream, and butter derived from tubercular cattle.

Second, consumption is happily one of those infectious diseases which is distinctly preventable. Knowing as we do the direct cause of consumption we can, by proper sanitary and hygienic measures, prevent its spread by controlling the germs. The problem is admittedly a very difficult and complex one, and its solution depends on the most earnest and wholehearted cooperation on the part of all. The public sanitary authorities with their splendid service of medical officers of health can do, and are to-day doing, a very important work in the attempt to prevent the spread of tuberculosis but their efforts are wellnigh powerless unless accompanied by intelligent, efficient, and earnest co-operation on the part of all classes of society. While public sanitation is of ast importance, personal hygiene is vastly

more important in the annihilation of tuberculosis.

Consumption is emphatically a house disease. It is associated with the home and home life. Public and private sanatoria, although excellent weapons in the campaign against tuberculosis, will not alone accomplish the eradication of the scourge. To do this, it is necessary to make every home in the kingdom, and particularly every consumptive home, as clean and wholesome and well ventilated as a sanatorium. In other words, each home must become a miniature sanatorium, and the greatest precaution possible should be taken to prevent the spread of the disease by the prompt and efficient destruction of the expectoration of all consumptives and all other discharges that are likely to contain germs of infection.

Strict, rigid, absolute cleanliness is the most effectual and surest means that we possess of preventing the spread of tuberculosis. With clean, fresh air, clean water, clean food, and particularly clean milk foods, with clean, well-ventilated homes, clean beds and bedding, clean clothing, and a clean skin, it is possible to prevent the spread of consumption, and we affirm it is the duty of everyone who knows these things to render such efficient obedience to the law of cleanliness as to bring about this proper state of affairs in his home life.

Third. Let it be known far and wide that consumption is one of the most curable of all serious disorders. There are multitudes of people of all ages that are cured yearly of tuberculosis in one form or another. We do not say that consumption is curable at all stages, for that would not be true. But in the earlier stages of the disease a cure may be confidently anticipated provided patients receive the right treatment.

What is the right treatment? It is interesting and important to note that it consists of the same measures that we have recommended so earnestly for the prevention

(Concluded on Page 54)

: Mother and Child :

The Value of Dental Hygiene as Regards the Health of the Child

CHARLES K. FARRINGTON

The Need

ONE of the most encouraging signs of the times is the everincreasing interest taken by the public in any movement that provides for the mental and physical betterment of the child. It is now coming to be realized that a healthy child will usually develop into a healthy adult, and that a sickly child or adult is a detriment and expense to any community. Hence we find that even small places have playgrounds, provide medical inspection for schoolchildren, and in many other ways aid in preserving the public health. One of the latest phases of this work is the attempt to provide for free dental service for children who otherwise could not receive it. Unless the value of such services is explained to a layman, he can not as a rule appreciate their worth.

Only the other day the writer in talking the matter over with a dentist of wide experience was told that ninety per cent of the schoolchildren in the suburban district of New York City where he lived needed attention to their teeth which they were unable to have on account of the expense. He went on to explain that many of these children were being seriously injured by lack of this attention. It would be beyond the scope of this article to enter into a technical discussion as to why this is so, but the writer will say that many a child is compelled to stay a second year in a class because of a retarded mental development due to faulty teeth. Frequently "laziness" or "inattention" is merely inability to perform the required work. This matter is now beginning to receive in a slight measure the attention it deserves. As

time passes on, it will doubtless receive its full measure. Those of us who have watched the development of medical inspection for schoolchildren can not doubt this.

The other day the writer came across a typical case which well illustrates the value of such inspection. Two children afflicted in the late summer-time with what was supposed to be a bad case of sunburn, mingled freely with their playmates until it was discovered that the supposed sunburn was really the desquamating period of scarlet fever. The "peeling off" of the skin was considered to be the result of the action of the sun's rays, but any medical man would have known at once that it was not. Many adults as well as children were exposed to the infection. After the summer vacation medical inspectors usually find much to do. It should be remembered in this connection that a child suffering with a contagious disease may not realize that it is sick. A very severe case of diphtheria or scarlet fever may be contracted from a mild attack of these diseases. Consequently it repeatedly happens that a mild case spreads the disease more than a severe one does. But the duties of a medical inspector do not confine him to discovering contagious diseases; and he can diagnose eye, ear, and throat troubles, and also other disorders too numerous to mention.

Doctor Not a Dentist

But a doctor of medicine can not attend to dental matters. For such troubles a dentist should be consulted. For years there have been hospitals where free medical and surgical treatment can be had for those who

can not afford to pay for them, and also dispensaries where medical advice is gratuitously given; but until lately nothing has been done for free dental treatment, notwithstanding the pressing need.

How Can This Be Remedied?

The New Jersey State Legislature has passed a bill providing that municipalities under certain conditions can appropriate money for free dental services. Usually the board of education, working in conjunction with the councilmen or aldermen, as the case may be, can arrange this matter, the board of education working out what might be termed the practical details, and the councilmen or aldermen making arrangements for the necessary money. The cooperation of the local dentists is often of the greatest value. The question now will doubtless occur to the reader as to how the practical details can best be worked out.

It may be asked, Shall a dentist be employed who will give his entire time to the matter, or shall the local dentists give their services on certain days? Shall the children have the services of a dentist given them during school hours, etc.? In reply, the writer would say that local conditions must govern such matters. The size of the city or town, the number of children, the number of dentists who would volunteer their services, the amount of money that can be appropriated, etc., must all be carefully considered before any definite plan can be devised. In nearly all cases, if not in every one, a place must be secured for the treatments to be given in, for it is obvious that it would be impracticable for the children to go to the different dentists' offices for dental work. Where a sufficient appropriation can be secured, and the number of children would warrant it, a dentist should be employed who would devote his entire time to the matter. In large places it would be necessary to have a number of dentists working. If a child's teeth are given attention once a year, a great benefit will be obtained, and an absence of say an

hour or two once a year will not seriously interfere with the school work. It is best to have the needed attention given in school hours. In small places the services of the local dentists (which they will often freely give) is all that is necessary.

It may be asked if such methods of free dental inspection and treatment do not interfere with the practise of the local dentists. The case is exactly the opposite. In a most practical manner the general public is enlightened as to the value and necessity of having the children's teeth attended to. The children's parents absorb the experiences of their little ones and note the advantages, and also realize that it is important for themselves to have their teeth looked after by local dentists, much of which patronage they undoubtedly would not receive were it not for the children's example. It should be remembered in this connection that each year thousands upon thousands of foreigners land upon our shores, and that it is our duty to teach these people many things in order to make them useful citizens. The ignorance one finds regarding matters of health is simply appalling. But in many cases if explanations are made and assistance given, decided improvements are made, and it is clearly the duty of every person to aid in this.

Is It Worth While?

I suppose some readers will ask if such a course pays. I am glad to be able to say it does. When it is fully realized that disease means expense, any method of preventing it will be welcomed. In the writer's home place there is a large ward in the local hospital which is used exclusively for consumptive cases. The cost to maintain such a ward is large. If the disease can only be held in check by the means of proper medical inspection and treatment *at the beginning*, much can be accomplished. It is far better to *prevent* disease than to *care* for it after it has attacked its victim. Hence the movement for free dental inspection and treatment. It will aid in preserving the health of many a human being, and deserves the earnest support of every one.

The Preparation of Albumin Milk in the Home

THE value of albumin milk as a therapeutic agent in the nutritional disturbances of infancy has been fully established. The difficulty of its preparation has curtailed its use very much.

Method

At St. Ann's Infant Asylum we have found a method of reducing very much the time and labour. The following are the directions in detail:

1. Bring a quart of sweet whole-milk to the boiling point; raw milk is not used as its curd is much tougher.
2. Cool to 100 F.
3. Add one tablespoonful essence of pepsin and allow to curdle.
4. Pour off the whey and suspend curds in muslin bag two hours.
5. Stand bag containing curds in 8 ounces boiled cool water for one hour. This is very important and is the secret to the success we have had in the preparation of this food.
6. Remove the bag from the water, allow

as much water to drip as will and place curds in sieve.

7. Add pint of fat-free buttermilk to sieve containing curds, and stir; it will be found that the curds will pass through in two to three minutes, which must be repeated three or four times.

8. Turn the bag inside out and return to the 8 ounces of water so as to obtain all the curd.

9. Pour in the sieve the 8 ounces of water which was used to soak the curds.

10. Add enough water so that the whole measures a quart.

11. Add the percentage of maltose dextrin desired and put on ice.

We are able to prepare 10 quarts of this food after the curds have drained and soaked in less than ten minutes with the minimum separation of the fat.—*Jules M. Brady M. D. in Journal of the American Medical Association.*

A School of Methods for Mothers

[For a matter of suggestion as to ways and means of helping India's women we print the following. In the purdah meetings held in various parts of India, discussion of such subjects would do much to mitigate the condition of India mothers and their little ones.—Ed.]

The Philadelphia Baby Saving Show was marked by a school of methods for mothers which continued twice a day for over a week. There were moving pictures each day, and a moving-picture demonstration immediately preceded and followed each afternoon and evening class.

Men and women physicians, a few experienced social workers and mothers, and a bishop were the instructors.

The bishop had for his appropriate theme, "What Life in the Home Should Be." One mother gave a comprehensive outline of

what children can do to aid in the reduction of infant mortality; another discussed "Educational Work for mothers of To-day and Mothers of the future." Still another pointed out "The Value of Recreation in Relation to Infant Mortality."

From the score of doctors and nurses and others, the earnest listeners heard about the importance of breast-feeding and of fresh air, light and cleanliness in the home; the causes and prevention of summer diarrhoea, of diphtheria and of other diseases; of the care of the newborn baby and its milk, and of the mother during her lying-in; of the danger of sore eyes, and how to care for them; of what should be done to help the babies during the summer months; of the value of vaccination, etc. Thousands of untaught

mothers and "little mothers" were present at the sessions of this interesting school.

Another instructive and largely attended series of lectures was given in the mayor's office at the city hall, in the form of a conference on Infant Hygiene, to impress the necessity and value of a Municipal Child Bureau.

Among the ideas impressed were the regulation of midwifery; the control of marriages of the unfit; need for better housing and wholesome recreation as a deterrent for infant mortality; the superiority of home placing over the institutional care of babies; and the value of pure milk depots combined with the essential instruction to mothers. —*Mother's Magazine.*

The House We Live In

Salivary Glands and Tonsils

BY A. B. OLSEN, M.D., D.P.H.

THE mouth is always kept moist in health by a watery fluid which is supplied by three pairs of small glandular organs known as the salivary glands. The parotid glands, the largest of the three, are situated in front and below the ear, lying on the angle of the lower jawbone. Each parotid gland weighs from a half to one ounce, and is provided with a small canal about the size of a crow quill which opens opposite the second upper molar tooth, where it discharges the salivary juice.

It is interesting to note in passing that the parotid glands may become infected, inflamed, swell up, and become very painful; this condition is known as the mumps or parotitis. Usually one gland is affected first, and then later the other.

The submaxillary gland is very small, weighing only about two drams. There are a pair of them, and each one lies under and inside the lower jaw. The canal which carries the juice of the submaxillary into the mouth cavity opens under the tongue. The sublingual glands are the smallest pair of salivary glands, each weighing only one dram. Both are situated under the floor of the mouth, and each one is provided with several tiny canals for the passage of the secretions into the mouth cavity.

The Saliva

The salivary juice is a very watery fluid containing about 99.4 per cent of water, and about .6 per cent of solids, consisting chiefly of salts, proteids, and a ferment known as ptyalin. The fluid is mildly alkaline in health and serves several useful purposes. The salivary juice is a lubricant, and the mouth would be very unpleasant if it were dry, and speech would be impossible.

One of the most important functions of the saliva is the digestion of starch. It is well to bear in mind that only soluble or cooked starch is acted upon by the saliva. The ptyalin possesses the wonderful property of changing cooked starch into a form of sugar known as *maltose*, but it has no action upon ordinary table sugar. In the ordinary way if the food is well masticated the ferment acts on about half of the starch which is taken with the food. The process of salivary digestion begins in the mouth, but under favourable circumstances it continues in the stomach from ten to thirty minutes, and sometimes even longer after the food has been swallowed.

The Tonsils

There are two tonsils, each one situated in a little space between the front and back

pillars of the fauces at the root of the tongue. In health the tonsils are scarcely visible, except in young children, and then they should not be too prominent. Each tonsil consists of a mass of lymph tissue, chiefly lymph cells, with a delicate network of fibrous tissue which holds them together. The tonsil is an oval body and something of the shape of an almond, the length being about half an inch, and the width and thickness one third of an inch. The tonsils are believed to act as a sort of guard for the body, to prevent the invasion of germs and other parasites. They are very susceptible to infection and inflammation when they become enlarged, and ulcerous patches may form, as in the case of tonsillitis, or even abscesses as in quinsy. When the tonsillar tissue becomes thoroughly diseased there is only one thing to do, and that

is remove it, which requires a slight and uniformly safe operation.

There is still another small mass of lymph tissue on the back wall of the pharynx between the openings of the Eustachian tubes, sometimes called the pharyngeal tonsil. When this mass of lymph tissue becomes inflamed and swollen it interferes directly with the passage of air in and out of the posterior nares or openings of the nostrils, and is likely to produce mouth breathing. Young children are particularly susceptible to inflammation of the pharyngeal tonsil and the production of what is known as adenoids. Again, when the tissue has become thoroughly diseased and sufficiently large to seriously interfere with proper breathing, an operation for the purpose of removing them becomes necessary, and in these cases the sooner it is attended to the better for the child.

Enlightened Selfishness

UNDER this title the Philadelphia "North American" discusses the work of the Equitable Life Assurance Society for the conservation of life and health. After commenting on the loss of 1,600 human beings in the wreck of the "Titanic" and contrasting this loss with the certain loss of 9,000 lives every year in Philadelphia through preventable diseases, the "North American" says: "The business of the Equitable Life Assurance Society is to insure lives. Higher death-rate means loss of revenue and reduction in profits. So, with enlightened selfishness, the Equitable is endeavouring to stimulate interest in the problems of health and sanitation. The Equitable wants people to avoid illness and to enjoy length of days. With the Equitable it isn't merely a humane interest. It is strictly business. To the Equitable, saving lives means saving money,

and this is not any more true of a life-insurance society than it is of the community. Every life has a money value to society. A definite economic loss is suffered every time an individual, who might have been saved, dies. A city is rated according to the number of its citizens willing and able to make a living. . . . The enlightened selfishness of powerful financial interests like the Equitable is a hopeful sign. . . . There is no influence that holds out more hope for progress than enlightened selfishness." The "North American" is right. It is the economic appeal of the health conservation movement which is encouraging. Purely moral causes win support slowly. But a cause which is both moral and economic cannot fail to win, as soon as these two facts are recognized.—*Journal of the American Medical Association.*





Zwieback and Breakfast Toasts

ZWIEBACH, as the name implies, is literally twice baked bread. It should be used as the foundation of all breakfast toasts and is really quite easily prepared. It is one of the cheapest and most healthful of foods. All that is necessary is to cut a stale loaf of white or brown bread into slices one-third or one-half an inch thick, and toast them in a slow oven until crisp throughout. The colour of the toast at the end of this process should be a delicate brown. Below are given a few recipes for breakfast toasts which are easy to prepare.

Cream Sauce Toast

Rich milk, one seer.
Flour, 3 teaspoons,
Salt to taste.

Heat the milk, and thicken with flour rubbed smooth in a little cold milk; serve on moistened zwieback.

Nun's Toast

Eggs, hard-boiled.
Parsley, minced.
Cream sauce, made according to above directions.

Mince the hard-boiled eggs and parsley, add to the cream sauce, and pour over moistened pieces of zwieback.

Snowflake Toast

Milk, 1 seer.
Egg whites, 2.
Flour, 2 teaspoons.
Salt.

Heat the milk, and thicken with the flour; salt to taste and pour over the beaten whites of the eggs; serve on moistened zwieback.

Tomato Toast

Tomatoes, stewed, 1 seer.
Butter, 1 tablespoon.
Salt.

Two or three small onions, minced. (Can be

omitted altogether if not agreeable to the taste).

Flour, 1 tablespoon.

Put the tomatoes into a saucepan over the fire; add the onion and salt; boil about twenty minutes; remove from fire, and strain through a sieve. In another saucepan melt the butter; and as it melts, sprinkle in the flour, stirring till it browns and froths a little. Mix the tomato pulp with it, and it is ready to serve over moistened zwieback.

Eggs on Toast

Take fresh eggs, as only fresh eggs poach nicely; break them into a pan of hot water, almost boiling. Let the saucepan remain on the fire but do not let the water boil; poach as desired,—soft, two minutes; medium, three minutes; hard, five minutes. Serve very hot on slices of zwieback, that has been slightly moistened with hot cream, milk, or water.

Fruit Toasts

Prune whipped Toast.
Prune pulp, 2 cups.
Sugar, 1 tablespoon.
Egg whites, 3.

Beat the whites very stiff, and stir in the hot prune pulp and sugar. Serve on slices of zwieback which have been dipped in hot water.

Strawberry Toast.

Moisten a slice of crisp zwieback with a very little milk or thin cream, or better still with orange juice or some other fruit juice, and then spread over the zwieback crushed fresh strawberries to which a little sugar may be added if necessary. The toast should then be served immediately, and eaten while it is still crisp. This will require considerable mastication, but that is always desirable. Raspberries, blackberries,

or any other fresh fruit may be substituted in place of the strawberries.

Bottled strawberries may be used instead of fresh ones. The juice is strained away, thickened with a very little cornflour and then the berries are added, and this preparation is spread over the zwieback, which has already been moistened as indicated above.

Apple Toast.

Fresh, nicely-flavoured apples stewed in a small quantity of water, rubbed through a colander, sweetened, then cooked in a granite-ware dish in a slow oven until quite dry, make a nice dressing for toast. Baked sweet or sour apples rubbed through a colander to remove cores and skins are also excellent. Soften slices of zwieback in hot cream, and serve with a spoonful or two on each slice. If desired, the apple may be flavoured with a little pineapple or lemon, or mixed with grape, cranberry, or apricot, thus making a number of different toasts.

Apricot Toast.

Stew some nice dried apricots. When done rub through a fine colander to remove all skins and to render them homogeneous. Add sugar to sweeten, and serve as a dressing on slices of zwieback which have been pre-

viously softened in hot cream. One-half or two-thirds fresh or dried apples may be used with the apricots if preferred.

Prune Toast.

Cook prunes allowing them to simmer very slowly for a long time. When done rub through a colander, and if quite thin, they should be stewed again for a time, until they are about the consistency of marmalade. Moisten slices of zwieback with hot cream, and serve with a spoonful or two of the prune dressing on each. One-third dried apple may be used with the prune if preferred.

Peach Toast.

Stew nice fresh peaches in a small quantity of water, when tender rub through a colander, and if quite juicy place on the back of the range where they will cook very slowly until nearly all the water has evaporated, and the peach is of the consistency of marmalade. Add sugar to sweeten, and serve the same as prunes on slices of zwieback previously moistened with hot cream or a little milk. Canned peaches may be drained from their juice and prepared in the same manner. Dried or evaporated peaches may also be used. Toast with dried peach dressing will be more delicate in flavour if one-third dried apples be used with the peaches.





ABSTRACTS



COLDS IN THE HEAD

PROF. Leonard Hill, who has upset the prevalent theory regarding ventilation, asserts that colds in the head are caused by going out into the cold air after having the nasal mucous membrane infected with bacteria in a warm and perhaps moist room. He says:—

“The altered conditions seem to us to be such as may increase the liability to infection. In a warm, crowded room the swollen mucous membrane of the nose of an individual, covered as it is with thick secretion, will be massively infected with bacteria explosively sprayed out by the other occupants who sneeze, cough, and speak in the room. On passing out into the cold, misty, outside air, the blood-vessels constrict, and at the same time the nose is chilled by the greater conduction of heat, due to the cold particles of water in the inspired air. The defensive mechanisms of the blood, the immunizing properties of the plasma, the cleansing action of the ciliated epithelium, and the phagocytic action of the white corpuscles are diminished by the low temperature, while the pathogenic bacteria find a suitable nidus for their growth in the secretion and tissue lymph of the swollen mucous membrane. The immunity to colds of those who live an open-air life is well known. Massive infection does not occur, and so long as they are exposed to the cold outside air the mucous membrane, like the skin, remains pale and taut, moistened with a scanty secretion.

“Apart from the general question of health and immunity, we believe it is the direct massive transmission of bacteria from one to another in warm, confined atmospheres, and the subsequent exposure to the cold, moist air which together contribute to the infection of the susceptible individuals.”

He suggests that we can lessen our liability to such infection by keeping the air of our rooms and crowded meeting-places cool and moving. For this purpose he considers a fan answers nearly as well as an open window. We have hardly been convinced on this point. He advises radiant heat, such as from fireplaces, rather than convection heat, as in rooms heated by pipes, stoves, or hot air, the

latter unduly swelling the mucous membrane of the nose.

In order to lessen the liability of mass infection, he would have those who must cough or sneeze do so into a handkerchief.

When speaking with one who has a cough, one may protect himself from mass infection by holding a paper in front of the mouth and nose.

We have not yet come to realize that colds are infectious just as measles and whooping cough and smallpox are infectious and that by means of a little care those who are susceptible may often prevent infection.

IMMUNIZATION AGAINST DIPHTHERIA

In spite of the good that has resulted from the use of antitoxin, we have not yet scotched diphtheria. It is still with us and very much alive. In fact, it is reported that in Berlin the disease is more prevalent than it was some years ago.

Recently two preventive measures have been proposed which may help to lessen the prevalence of the disease. The first is the use, by means of a spray and swab, of a broth culture of *Staphylococcus aureus* (pus germs) in the throats of diphtheria carriers. The remedy has proved successful in hastening the exit of the diphtheria germs from the throat, and seems to have been followed by no ill effects. This prophylactic treatment, if it proves as efficient and harmless as first reports indicate, ought, if used in connection with all who are exposed to any case of diphtheria, to go far to control the disease.

The second method, recently recommended by Von Behring, is the use of a mixture of diphtheria toxin and antitoxin standardized by trial on guinea-pigs. The antitoxin prevents any evil effects; the toxin acts as a vaccine, causing a reaction in the body which produces defensive products or antibodies, thus making the patient immune to diphtheria. Though this method is recommended by a doctor of the highest authority, it will have to be tried out in actual practise in order to determine its real value.

Nostrums

[THE following two articles, culled from the pages of the *Journal of the American Medical Association*, tell of some of the work now being done in that land of patent medicines, many of which are exploited in other parts of the world, to put an end to their nefarious business. It is too bad that some public-spirited newspaper in India does not go and do likewise. India needs it in these days very nearly as much as the United States.]

THE TRIBUNE TURNS ON THE LIGHT

Bold, blatant, indecent quackery is no longer profitable in Chicago. More than this; it is not even popular with those highly respectable family newspapers that in the past have offered a welcome haven to any swindling medical faker who was willing to pay double advertising rates. The reason for the sudden unpopularity of this villainous business is the *Chicago Tribune*. Commencing with its issue of October 27, the *Tribune* published article after article giving a detailed expose of practically all the advertising quacks in the city of Chicago. For some weeks before this time it had assigned some members of its reportorial staff to the work of investigating the local quack industry. The people of Chicago know—so in fact do the people of United States—that when the *Tribune* goes into a thing it usually goes into it with thoroughness. In getting evidence against the quacks, the *Tribune* ran true to form. Faker after faker was exposed; the names were given of the “men higher up” who owned the advertising offices, as also were the names of the renegade doctors themselves and those of the owners of the down-town property who were renting rooms to these swindlers. The first resentment on the part of the quack was quickly followed by consternation, which in turn gave place to utter rout. Some members of the unholy fraternity closed their offices and fled to new fields. Others are lying low, hoping that the storm will blow over and counting, doubtless on the notoriously short memory of the public and the race-old tendency to be humbugged. The results of the *Tribune's* campaign are encouraging. The State Board of Health of Illinois will now feel that it has public opinion behind it in any action it may take toward revoking the licenses of the men who have sold their professional services to the scoundrels who own these advertising offices. The federal authorities which had some of these individuals under investigation, previously, have brought matters to a head and have

already secured the conviction and punishment of one quack. The *Chicago Tribune* has done one more public service and has increased the debt, already a large one, which the people owe it.

THE WILSON EAR-DRUM

The Wilson Ear-Drum, exploited by George H. Wilson, Louisville, Ky., is another of the small rubber contrivances, made to slip into the external auditory canal (the outer ear-passage), of which there are so many on the market. It is advertised under the usual fraudulent claims and is just as worthless as most devices of this sort and just as potent for harm. One might imagine that plain business judgment would prevent Wilson making claims that every person who has reached the age of accountability, whether he is technically educated or not, would be able to recognize as evident falsehoods. In the world of quackery, however, no such restrictions seem to hold. As Mr. Adams has so well remarked: “Our national quality of commercial shrewdness fails us when we go into the open market to purchase relief from suffering.” Otherwise no quack could make such claims as Wilson makes and “get away with them.” Here, for instance, is what is claimed for the Wilson Ear-Drum: “It is the only device in the world that collects sound waves and focuses them to one point.”

“It is the only device in the world constructed on scientific principles.”

“It is the only device in the world that is made to fit the orifice of the ear.”

“It is the only device in the world that cannot possibly injure the hearing.”

These are only a few of the superlative virtues assigned by Mr. Wilson to his trumpety piece of rubber. Elsewhere he calls them “wireless telephones for the ears,” and claims that by their use “every condition of deafness or defective hearing is being helped or cured. . . .”

Wilson sells his ear-drums on the mail-order

plan; also he travels over the country selling them. In some of his advertising Wilson claims to have been president of the Louisville School Board. This will not surprise those familiar with the exploitation of medical frauds who know that the second largest city in the United States until recently had for its president of the Board of Education an individual who made his money out of the sale of a "cure" for sore eyes and a correspondence school of spectacle fitting. Wilson also claims to have been "honoured with the presidency of the Kentucky Society Sons of the American Revolution," which, while doubtless a splendid advertising asset for Wilson, does not do credit to the judgment of a presumably reputable organization.

The Wilson Ear-Drum with "nickle forceps" and "drum inserters" thrown in, come at Rs. 15 a pair. As cures for deafness they are not worth five annas, except as they presumably furnish Wilson an easy living.

THE PRESERVATION OF THE TEMPORARY TEETH

"WHY go to the trouble and expense of having the temporary teeth filled, when they will be replaced in two or three years by the permanent teeth?"

Unfortunately, the above expresses the attitude a great many well-meaning parents take with reference to their children's temporary teeth. The result is the temporary tooth is allowed to decay until the pulp becomes exposed, and the tooth begins to ache. After days and nights of suffering on the part of the child, the pulp dies, and the tooth abscesses, causing a flow of pus in the little sufferer's mouth—a very unhealthy condition. As a final and deplorable result, the tooth is lost.

But the trouble does not end here. The temporary teeth preserve the contour of the jaws. Premature loss of the temporary teeth almost invariably causes the permanent teeth to come in unevenly, thus resulting in an unsightly mouth and improper mastication of food.

Have the little ones' teeth filled while the cavities are small, and avoid future suffering.

Save the Child's First Permanent Molars

The most important teeth in the mouth are the first permanent molars. They regulate the position of all the rest of the permanent teeth. Their extraction is a frequent cause of irregularities of the teeth.

There are four first permanent molars—two above and two below. They make their appearance about the sixth year, and are often called sixth-year molars. Coming, as they do, im-

A VEGETARIAN COOK BOOK

THERE are enough valuable and practical suggestions of new and tasty dishes to be found in

"THE VEGETARIAN COOK BOOK"

By E. G. Fulton

to keep you busy for many months testing them and gaining the benefit of the new ideas suggested.

Thousands of families would gladly adopt a more nearly vegetarian diet, if they knew how to do it.

Comparatively few have any idea of the scope of vegetarianism, because they are unacquainted with the simple methods of preparing palatable and nourishing dishes from fruit, nuts, vegetables and grains.

"The Vegetarian Cook Book" shows the way. Its departments are

Bakery and Breakfast Dishes; Beverages; Cake; Cereals; Dairy Dishes; Eggs; Entrees; Food Combinations; Fruits and Fruit Canning; Fruits and their Preparation; General Suggestions; Hygiene of Cooking; Ices and Sherbets; Liquid Foods; Nut Preparations; Pies; Pudding Sauces; Salads; Salad Dressings; Sandwiches; Sauces for Vegetables, Entrees, etc.; Soups; Table Etiquette, and Rules for waiters; Toasts; Utensils; Vegetables.

The work contains 420 pages, is well bound in cloth, and the price is Rs. 3-8. Postage extra.

International Tract Society,

17, Abbott Road,
Lucknow.

116 C. Montgomery St.,
Rangoon.

Look for Health Logically

Don't sit still and expect to get well. A cold may get better without special attention; fever may leave you without your doing anything for it, but usually that is not what happens in either case.



When your horse gets sick, you try to do what you can to cure him. More, you study to know how best to avoid disease in your domestic animals. Are you as careful of yourself, and children?

If you feel that it is time to study how to care for your body in health and disease, you will find no better teacher than

The Practical Guide to Health

It is intensely practical, definitely instructive, really interesting, and will help you to meet any emergency it is possible for you to face without a physician.

Well illustrated, it also has in addition to the general illustration a dozen coloured plates. These pictures make plain to the lay mind the intelligently written description and instruction of the text.

Beside a very thorough "General Index," it has an equally well arranged "Index of Symptoms." For the Home, just the thing needed to give that necessary aid in treating the sick and meeting the emergency.

Six hundred pages, eighty-two illustrations, thirty-nine chapters, bound in cloth, marbled edges, the price is Rs. 11-8-0.

Published in India by

International Tract Society,

17, Abbott Road,
Lucknow.

116, C. Montgomery St.,
Rangoon, Burma.

mediately behind the last temporary teeth, and before any of the temporary teeth have been lost, they are frequently mistaken by the child's parents for temporary teeth. It therefore comes about, in many cases, that these permanent teeth become deplorably decayed before the services of a dentist are sought.

If you value your child's health and appearance, do not neglect the first permanent molars.—*A. E. Converse, D. D. S.*

EXERCISE FOR BRAIN WORKERS

SHOULD a tired man tire himself out further with muscular exercise? To make the question practical: Is it good for a business man to leave his desk to play tennis? Argument seems good on either side. Those who say "yes," say that tennis will exercise his muscles, make him perspire, improve his digestion, and quiet his nerves. Those who say "no" declare that he is already tired, and that exercise will weary him still further.

The real truth seems to lie between the two extremes—exercise and no exercise. If a man has been working with his mind, he had better not exercise in a difficult game which requires judgment, memory, comparison, and will—especially if long continued and very interesting. Interest, for instance, gets a man to play tennis for two hours to win back lost honours when his physical condition suggests thirty minutes. The excitement ended, exhaustion comes, and this man "puts more into the game than he gets out of it."

A good authority says that boxing and fencing are not good exercise for hard brain workers; they should select long walks, swimming, or something of a similar nature where, after the movements are once learned, the direction is governed by the spinal nervous system.—*The Bushwhacker.*

FACTS CONCERNING CONSUMPTION

(Concluded from Page 42)

of consumption. The only exception is that these measures must be carried out more vigorously and more persistently. An abundance of fresh air day and night, a liberal diet of wholesome, nourishing and easily digested food, a suitable amount of physical culture exercise in the fresh air, and particularly deep breathing exercises out-of-doors, and graduated walking exercise—these are

The Best Drink

for either warm or cold weather is *Caramel Cereal*. Served in cold weather piping hot for breakfast, tea or luncheon, it is unequalled. Served cold, iced if you desire it, in the hot, steamy months, it is delightfully refreshing.

What is of more importance from a health standpoint it is absolutely harmless. You can drink it any time of the day or night and suffer no ill effects.

If you desire a harmless, pleasant, refreshing drink for yourself, your husband, and your children try

Caramel Cereal

In tins from the *Sanitarium Health Food Company*, 75, Park St., Calcutta.

Agents in Various Cities of India.

Prices on application.

pre-eminently the curative measures which invariably bring the greatest, speediest success.

Yes, except in the more advanced stages of consumption, where there has been considerable loss of lung substance, and where the patient has become seriously weakened and emaciated, there are hopes for a successful recovery.

We welcome every effort that has been and is being made to warn people about the dangers of tuberculosis, and to educate them concerning the best means of preventing the spread of the disease and of curing those who are already subject to it. Much splendid work is being done by numerous societies and other agencies throughout the kingdom, and we wish them all great success, but until every person in the kingdom joins in the crusade against the pestilence of consumption, the disease will not become eradicated.

NEWS NOTES

DANGERS OF THE CINEMATOGRAPH.

G. M. Gould, of Atlantic City, N. J., calls attention to the frequent ocular disturbances occurring in patrons of moving-picture shows. They have been so frequent in his experience that he now makes a routine inquiry in regard to attendance at these shows. The symptoms do not differ essentially from those commonly caused by eye-strain of any kind. The most common, of course, is headache or migraine in some one of its forms. Perhaps the other most frequent symptoms are ocular and cerebral weariness.

PHYSICAL CULTURE IN THE SCHOOLS

PROFESSOR Gilbert has called the attention of the minister of public instruction to the failure to put into force the law of February, 1880, which makes gymnastic exercises obligatory in lyceums, colleges and primary schools. It was decided that the first application of the law should be made at the Janson-de-Sailly Lyceum. Only those students are to be excused who can produce a medical certificate that their health will not permit them to join in the exercise. It is to be hoped that the measure will soon be extended to all the schools to which the law applies.

Massage



is an art in the treatment of disease, which is practiced by the attendants in charge of the Treatment rooms at both Kirkville, Mussoorie and 75, Park Street, Calcutta. A Booklet describing this, and other treatments given may be had on application to the manager of either institution at the above addresses.

Herald of Health,**The Indian Health Magazine**Published by the
International Tract Society,

17, Abbott Road, Lucknow

REGISTERED, - - - No. A. 457

I FIND if we want anything done we must go to work and do it.—*Mrs. Chisholm.***MILK IN LONDON.**

THE health officer of the city of London says that the milk arriving at the railway stations of London has been systematically sampled since 1902, and submitted to bacterial examination. Of all the samples, 20% were dirty, 46.6% "fairly clean," and only 33.3% clean. Tubercle bacilli were present in 6.6% of the samples. That is, only one third of the milk was clean, and out of every sixteen samples, one sample contained tubercle bacilli.

CURABILITY OF CANCER.

THE *Medical Record* of September 20, says: "A specific cure for cancer has not yet been found,—perhaps it never will be,—but to say that cancer is never cured except by the knife is to assert what is disproved by the experience not of one man, but of hundreds. The idea of the utter hopelessness of malignant disease is so ingrained in medical consciousness that it tends to kill incentive and to discharge the search for curative measures," which, in our opinion, is pretty near the truth.

CAUSE OF CHRONIC ARTHRITIS.

Dr. Frank Billings, of Chicago, at the Minneapolis meeting of the American Medical Association, read a paper reasserting, as the result of extended observation, his former statement that arthritis deformans—that form of chronic rheumatism which gradually deforms the joints and destroys their motion—is in a large proportion of cases caused by inflammation in the head, either inflammation of the tonsils or alveolar abscesses (gum-boils, loose teeth), or chronic inflammation of the sinuses or bone cavities connected with the nasal passages. In a few cases it appears to be secondary to infection of the prostate and other pelvic organs, probably gonorrhoeal, and it may possibly follow infection of the appendix, bile ducts, or other parts.

**Reliable
Garden
Seeds**

"If you require really good garden seeds and Bulbs, send for a free copy of our list H."

**PESTONJEE POCHAJEE
POCHA & SONS
8, NAPIER ROAD,
POONA**

INDIAN MEDICAL RECORD

Monthly Journal of Public Health & Tropical Medicine
Annual Subscription:

Indian Empire—Rs. 5 post free.	} Vol. XXXII Begins January 1912.
Foreign—7s. 6d. post free.	
Sample Copy free.	

Entirely reorganised and remodelled. Caters to the Medical profession. No Sectarian principles. Eminent European and Indian contributors. A real help for Promotion Examination.

TABLE OF CONTENTS:

Original articles; A Mirror of Practice; Editorial articles; Editorial paras; Annotations; New Remedies; Correspondence; Review and Notices of Books; Annual reports of Societies, Municipalities and of the Sanitary Departments; Newest and well-tried prescriptions; Useful and Practical Hints; Reports of the Boards of Health of principal cities in India; Medical notes and news.

Address:— **INDIAN MEDICAL RECORD**, Bow-bazar, Calcutta.

London Offices:—8, Henrietta Street, London.

BALL BEARINGS

MEAN INCREASED EFFICIENCY, ACCURACY, DURABILITY

THE

L. C. SMITH & BROS.
TYPEWRITER

VISIBLE
WRITING



UNLIMITED
SPEED

is equipped with ball bearings at all frictional points

Apply to-day for Illustrated Pamphlets to

Sole Agents—G. A. SCHLECHTENDAHL, Ltd.,

P. O. Box 125

BOMBAY

10 FORBES STREET.

The Mystery Unfolded

The unity of the Bible truth is wonderfully revealed in this volume by Pastor L. R. Conradi of Hamburg, Germany. The mystery of the plan of salvation, which God purposed in His Son before the foundation of the world was laid, is the greatest of all mysteries. The purpose of this work is to make plain some of the deep things of God's word, and to lead to a more full understanding of those things which He has revealed concerning His plan and purpose in the sacrifice of His Son.

Twenty-one chapters, twenty-five illustrations, three hundred and fifty pages. Also a Scripture and subject Index. In two bindings, cloth, plain at Rs. 4; and cloth, gilt, at Rs. 5-8-0.

Published in India by

International Tract Society,

17, Abbott Road,
Lucknow.

116, C. Montgomery St.,
Rangoon, Burma.

COX and CO.

Bankers and Agents.

Established 1758.

BOMBAY, CALCUTTA, KARACHI, RAWAL PINDI, and
SRINAGAR (KASHMIR).

HEAD OFFICE: 16 Charing Cross, London, S. W.

BANKING BUSINESS of every description transacted.

CURRENT ACCOUNTS opened, & **FIXED DEPOSITS**
received; rates of Interest to be obtained on application.

SAVINGS BANK ACCOUNTS opened with special facilities in
connection with Cost of Passages. Terms on application.

INSURANCE of every description effected.

A copy of the Half-Yearly Balance Sheet will be forwarded on
application.

TRAVELLERS

to all parts of the world can

BOOK PASSAGES by all Steamship Lines free of commission.

**SHIP BAGGAGE, MOTOR CARS, LIVE STOCK AND
MERCHANDISE** at low inclusive rates.

IMPORTERS

Can have their goods cleared and forwarded promptly by

Cox's Shipping Agency, Ltd.,

Hornby Road, Bankshall Street, Bunder Road,
Bombay. Calcutta. Karachi.
Rawalpindi, Srinagar, (Kashmir.) Port Said, Southampton, Marseilles.

Head Office: 16 Charing Cross, London S. W.

In Answering this Advertisement please mention "Herald of Health."

Printed by W. E. Perrin at the International Tract Society, 17, Abbott Road, Lucknow.