*The Oriental Watchman and Herald of*

# HEALTH

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Preparing for the Rains R. Krishnan

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# EDITORIAL

# DUST

THE word dust, standing by itself, may give rise to various ideas, but we are here speaking of physical dust that is made by the disintegration of soil and other materials into particles so small as to be easily carried about in our surrounding atmosphere. Such disintegration may be achieved by any crushing, grinding, or abrasive action which destroys the adhesive and building properties of materials. Usually such mechanical action is not effective in the presence of moisture.

The dust that floats about in the atmosphere that surrounds us is usually formed by the disintegration of soil, though smaller amounts consist of almost invisible particles worn from clothing, furniture, household utensils, dry food, etc. Particles from the hair and skin of animals and human beings, and of many other substances such as dry leaves and grass, pollen, spores, algæ, dry manure and animal droppings, may also be floating about in the form of dust. Such particles do not float about in the air when they are kept moist with water or oil.

Few people seem to understand how dangerous to health may be the dust that fills their dwellings or which is raised by wind and passing vehicles along the roads. Sweeping the floors is often but a stirring up of clouds of dust to be breathed by inmates of the house. Blankets and clothing are shaken in the rooms, dislodging clouds of dust. Cloths used to remove dust from furniture are similarly treated. The dust, instead of being carefully removed from the room is violently stirred into the air that is to be breathed. Malis, in the driest of seasons, sweeping paths and compounds with their stiff brooms, stir up choking clouds of dust which are carried into adjacent dwelling quarters to befoul the air.

Pure soil dust, though it contains particles of inorganic matter such as silica, magnesia, iron oxides, and aluminium silicates, which are detrimental to health when breathed into the lungs, may be less dangerous than particles of organic substances. The inorganic particles may injure mechanically but the organic substances are likely to bear the germs of disease such as tuberculosis, many forms of allergy, influenza, and common colds. Foods contaminated with such dust may be the cause of enteric fever, cholera, amœba, dysentery and many other dangerous intestinal diseases. Tetanus, blood-poisoning, and various forms of coccal infections are caused by germs carried by dust in contact with open wounds.

Dust from courtyards, lanes, and passages in the towns and cities, is liable to be especially contaminated with the germs of tuberculosis because of the frequent spitting by victims of the disease. The discharge bearing the germs, is left on the ground, becomes dry and is pulverized by hundreds of passing feet. The wind or other force scatter these disease-laden particles into the air —hence they are breathed into the lungs of all who pass that way. Weak or broken-down membranes in the respiratory passages offer opportunity to the germs to take lodgement and to breed and multiply until the tissues become diseased and are finally destroyed.

Some have argued that as long as dust is free from bacteria it can cause but little harm to healthy respiratory tracts, but that is a fallacy. Terrible harm is sometimes done to the lungs of coal miners, and workers in cement factories and other places where mineral and metallic dust is abundant in the air that is breathed. Not only may mechanical damage result from much of the dust, but the injury to mucous membranes opens up the way to the entrance of disease germs such as those of tuberculosis, pneumonia, influenza, colds, and asthma, to say nothing of the discomfort under which workers labour in dense dust.

Dust in our homes can and should be controlled. In fact it can be nearly eradicated without much difficulty. Floors can be carefully swept with soft brushes which will gather up the dust so that it may be carried out and carefully disposed of. Dusty furniture may be carefully wiped with cloths which gather up the dust instead of casting it into the air. The cloths should then be taken outside to be shaken free from the dust. Some surfaces can be cleansed with moist cloths which is the most effective way to prevent stirring up dust. Clothing, blankets and carpets should never be shaken in the house. If such precautions are taken dust will be removed from the dwelling rather than stirred up only to settle down again.

The problem outside the house may be more complicated, but something can be done to ameliorate it. Malis can be taught to sprinkle with water the ground that has to be swept and to sweep in such a manner as to raise a minimum of dust. On village streets where there is much dust dur-

ing the dry season, the only expedient is to water freely—a thing which is often not feasible for lack of water! Larger towns that pave their streets minimize the dust nuisance by that means.

It is likely that there will be most dust where the largest number of people congregate. This implies that the largest number of persons are liable to be injured by dust where the population is congested. If the roads, lanes, and paths cannot be paved, the alternative is to move away to less congested areas. This is one reason why a country location is always more wholesome and hygienic than the city. But since the majority of city dwellers cannot leave their abodes for economic and other reasons, they need to learn that dust is dangerous and injurious to physical health. They need also to be taught ways and means to reduce the dust nuisance as much as possible in order to keep the air they breathe as nearly pure as can be under the circumstances.


**Tree Transformation**

"Science News Letter" says that in the autumn a chemical transformation takes place in the leaf of a tree; the green chlorophyll becomes colourless, and is no longer able to hide the reds and yellows and other colours as it does during the growing season.

**Diving Boards**

Aluminium diving boards for swimming pools are being found very satisfactory. They are strong, have plenty of spring for all kinds of fancy diving, and of course never become waterlogged.

**Fuchsia**

The fuchsia, a familiar house plant of several decades ago, and now becoming popular again, was often known as lady's-eardrops because of the form of its flowers. In its native South America it grows to a shrub or tree.

**Diabetes**

Fat people have diabetes more frequently than those of normal weight. Among people who are definitely overweight at the age of fifty there are ten times more cases than among those of normal weight.

**Betatron**

An instrument called "betatron" which produces an electric current of twenty-five million volts, recently installed at the University of Illinois College of Medicine, in Chicago, is reported to have proved to be a valuable source of treatment for cancer. The first patient had an egg-sized cancer in the larynx which seemed to have been completely healed. Dr. R. A. Harvey who is in charge of the treatment, will not say that the patient has been cured until five years have passed without recurrence of the growth, but no deep-seated growth, he says, has ever yielded so dramatically to any non-surgical type of treatment.

**Locomotives**

The U. S. A. Railways installed 1,577 new locomotives in the first ten months of 1949. Of the total, 1,524 were diesels and 53 steam. An additional 812 diesels, 17 steam, and four electric locomotives were on order on November 1, 1949.

**Telegrams**

Australians send more telegrams per head than any other nation in the world. Norway is second on the list and the U. S. A. third.

**Votes**

The Syrian government for the first time in 1949 granted women the right to vote. The age limit for voters was at the same time reduced from twenty to eighteen years. However, prospective voters must have an elementary school certificate.

**Waste Land**

Economists estimate that 2,300,000,000 acres of the world's potential farm lands are still uncultivated.

**Polio**

During 1949 infantile paralysis for the first time, found its way to the Canadian Eskimos scattered across the vast, barren, Arctic regions.

**America**

"Near Harrisburg, Pennsylvania, are evidences that the Carthaginians discovered America 371 years before the birth of Christ." This is the opinion of Dr. William Walker Strong, physicist, author and archæologist. The evidence consists of more than 400 inscribed stones which indicate that a colony of more than 3,000 spent a long period there twenty-three centuries ago. It is conjectured that they were left there by their captains who returned to Carthage and that they eventually perished.

**Identification!**

An elderly ex-soldier dropped into the post office of a large city nearest his village home to get his disability pension check. "Any identification?" asked the clerk. "Sure," the man replied and jerked out his upper plate, pointed to a set of numbers engraved there, and mumbled, "That's the number of my check." It was.

**Turkish Bath**

Birds have been observed at Yellowstone's Mammoth Hot Springs Terraces in America standing in the clouds of steam and seemingly enjoying a Turkish bath.

**Grave Digging**

The machine age has caught up with the grave-digging business. A device that can dig a grave in 30 minutes was recently demonstrated in Seattle, Washington. It takes a man four to six hours to dig a grave with pick and shovel.

**Electric Bulb**

The General Electric Company has recently sold to a New York theatre the world's largest electric bulb. It has filaments as thick as a lead pencil, is 34 inches high, 20 inches in diameter, and consumes 50,000 watts of current. The price was $500.

**Yacht**

Adolp Hitler's private yacht, flying the Union Jack, saluted the Statue of Liberty in New York harbour, before being berthed in East River. Mr. George Arida had purchased the yacht from the British Admiralty in 1946. The ship is for sale, and Mr. Arida says that he will not refuse any reasonable offer.

**Religion**

Compulsory teaching of religion in Hungarian public schools was ended recently by a decree of the country's presidential council. The decree referred to the new constitution of Hungary, which calls for separation of church and state.

**Motor Cars**

All former records for the number of motor vehicles in America have been broken. The number is now forty-one million.

**Gold**

American customs officials would like to find the owner of a 1947 Chevrolet car which was to be shipped from Mexico to the Netherlands. An inspector casually looked under the back seat of

the car and discovered $135,000 worth of gold pesos. At last report neither the sender nor the addressee could be located.

**Rubber**

Akron, Ohio, U. S. A., has two miles of rubberized street. It is paved with a new "hot mix" consisting of synthetic rubber and asphalt blacktop. It is said to be nearly skid-proof, waterproof, crackproof, and very resistant to wear.

**Styes**

Styes and inflammation of the eyes suggest lack of vitamin A. Persons suffering from them should begin taking carrot juice liberally sprinkled with freshly chopped parsley twice daily, and get all the milk and dairy food possible.

**Ghost-Breakers**

Three young British veterans are doing a good business by dehaunting houses of all kinds. For 100 guineas per week they will sleep every night for a week or two in the "haunted" house and make a survey of all unaccountable noises and happenings. So far they have found nothing unusual, but their bravery seems to have dispelled the fears of many. The ghost-breakers are on call at all hours of the day and night.

**When writing to the "Doctor Says" section for counsel and advice on medical matters**

**Don't Forget**

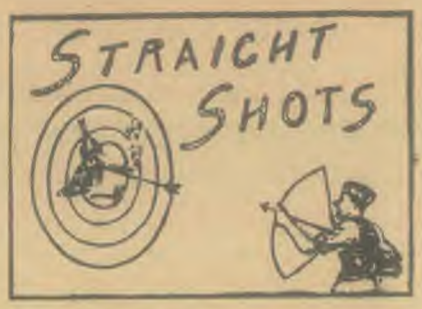
**1. To read the printed instructions very carefully.**

**2. To write your name and address very clearly and in full.**

**3. To send a stamped envelope when advice on matters of a personal and private nature is sought.**

**Subscribers fail to receive answers through these columns when questions of a private nature are sent in without a stamped envelope. Replies to such questions are not suitable for publication in "HEALTH."**

**Stamped post cards will not be accepted.**




SOCIAL drinkers who have found that the so-called stimulation and relief from worry that alcohol gives, like the passing shadows, soon disappear leaving the depressing hangover, are sick of drink. They know by experience that even a glass or two of beer with but 3.2 per cent alcohol content can affect their reasoning powers and rob them of their self-respect.

* * *

"The opposite of a stimulant is a depressant. No matter how much is taken or in what form, alcohol always acts as a depressant upon the central nervous system of the human body. The word 'narcotic' comes from a Greek word meaning 'to numb.' That is what alcohol does; it numbs the brain and nerves."—Dr. G. Thomason.

* * *

The more complex the skill, the quicker is the efficiency of performance affected by alcohol. Where quick, accurate thought and judgment are needed, alcohol is fatal. Six excellent marksmen submitted to Swedish army target shooting skill tests. Three series of experiments lasting several days showed that on the days of abstinence the contestants hit the target on an average of 24 times out of 30 shots. On alcohol days they averaged only 3 hits out of the 30 shots. On the drinking days the men took approximately two-thirds of a glass of brandy from twenty to thirty minutes before the firing and an equal amount of punch the evening before. The amount of alcohol used was equal to that of one and a half to two pints of five per cent beer. On the days of abstinence the men showed eighty per cent efficiency in precision tests. On alcohol days only ten per cent.

* * *

Drinking in moderation is not the solution of our liquor problem. It is the main cause of that problem.—Joy Elmer Morgan.

## HOW I.C.I. HELPS THE FIGHT AGAINST DISEASE

Imperial Chemical (Pharmaceuticals) Ltd. have contributed this article, explaining the Company's contributions to progress.

CONSIDER malaria, for instance, a disease particularly prevalent in tropical and sub-tropical areas. At least 300,000 cases occur every year, of which 3,000 are fatal, but in many more cases the victims suffer a lowered state of health and decreased vitality so that their capacity for work is correspondingly reduced. In this way malaria hampers the full use of the land in areas where food production and agricultural resources are potentially high. There are extensive mosquito-infested areas in the Mediterranean, in Africa, Indonesia, China, and elsewhere, which have been unable to contribute their full share to the world's food supplies because of the scourge of malaria.

Mepacrine, it will be recalled, was the synthetic anti-malarial drug made on a large scale by I. C. I. during the war to replace supplies of quinine which were cut off when Malaya was taken by the Japanese. Good as Mepacrine undoubtedly was, it has now been largely replaced by 'Paludrine,' which has the great advantage that it can be taken with perfect safety even by the newly-born child. 'Paludrine' was an outstanding result of I. C. I. research; today it is recognized as the most effective and satisfactory drug to use both for treating the malarial attack and for conferring adequate protection against the disease to those who live or travel in malarious regions.

'Paludrine' is now being applied on a large scale to control malaria and the authorities are convinced that the expenditure will be justified by an increase in labour output, in revenue, and in the greater health and happiness of whole peoples previously stricken by periodic attacks of the malady.

With 'Paludrine' must be coupled another I. C. I. drug, namely the insecticide 'Gammexane,' which was first discovered in 1941. The work of 'Paludrine' has been supplemented by wholesale attacks on the mosquito by means of 'Gammexane' sprayed on the water where it breeds

*(Continued on p. 6.)*

# PRAISE

## is a

# HELPING HAND

THELMA L. SONNICHSEN

This cheerful little village girl is a willing helper.

PRAISE a child and you give him a helping hand. Praise helps to build his self-confidence. It makes him feel that he can do what he should. Assuring him he wants to cooperate helps him to do so. Criticize him and he gets angry and resentful, or he may become discouraged with himself and feel unequal to his problems, or he may develop an effective habit of not hearing what you say. Susan was explaining why a neighbour child was having trouble at home, "You see," she said, "he won't do his work and they scold him. When you're scolded you get mad, and then you won't do anything, and then you get scolded more."

During much of a child's life, an older and presumably wiser person is showing him the way to do things. The way he eats, the way he works, the way he plays, his efforts to get along with boys and girls his own age, even the way he sleeps are watched and supervised. Such guidance is often necessary, but the manner in which it is given makes a big difference not only to our child's learning, but his attitudes toward authority as well.

It is so easy to be impatient with a child's attempt to do a job! Maybe he doesn't wash dishes or make a bed as carefully as we think he should; perhaps he isn't getting on with his playmates as well as we hope for; or he isn't getting along at school as well as he should; maybe his table manners leave much to be desired. There are dozens of ways in which a child's behaviour can vary from what his parents wish it to be. Naturally we want our children to grow up into capable and likeable adults, so we set ourselves to correct these deficiencies. Is it any wonder that at times he feels it's just too hard? Such a time came when one poor little youngster burst into tears at a scolding and protested, "Nobody likes the way I do anything!"

It is asking a lot of a child to expect him to take criticism in the doses in which we tend to give it. Even many adults find it hard to take, and they get a lot less than a child. Criticism is hard to take when we are not sure of ourselves. When we are perfectly secure we can take it, use what helps and toss aside what doesn't. We don't even have to be sure of the good intentions of the person who is doing the criticizing, if we are sure of ourselves. Not many of us are so secure that criticism doesn't bring to us a measure of despair, a feeling that the game may not be worth the candle. A husband who says, "My wife makes the best rice and curry," spurs her on to better cooking efforts than if he wonders audibly why "my wife doesn't make as good-tasting food as her sister." How much more despair must come to a child, who is in the process of learning so many things!

Why do we criticize? Are we too eager for our child to meet adult standards? Do we forget we are our child's first teacher? Are we unconsciously working off some suspicion of our own ineffectiveness?

Finding something to praise is not a matter of commending a child indiscriminately. Children seem to be even quicker at sensing insincerity than their elders. To tell them they have done well when they know they haven't would lead them to the inevitable conclusion that we are either insincere or have low standards. We can take opportunities as they come to realize when a child is making headway in his struggle toward adulthood. We can season our judgments with understanding, so that lapses and even errors assume less importance and gains come in for more attention. Praise should be casual and spontaneous, not something we work over. Working too hard to find praiseworthy angles will give a share of our anxiety to our child. Most of his activity should have no comment; he is an individual going about his own affairs.

When can one legitimately praise a little child? Probably the biggest help is to believe that he is doing his best. Perhaps he spills his milk; and which child doesn't? Well, the milk is spilled and we might say, "You were careless. Shame on you." But what would that accomplish? On the other hand we can feel and say, "That's all right. I know you want to be careful, but sometimes your hands don't work quite right. You didn't mean to spill it." Usually he didn't mean to spill it, and be-

cause you realize that, he is grateful and happy and wants to be careful and co-operative. The incident closes with a good feeling all around instead of with tears, anger and resentment.

Then there is the time when a child eats sweets while reading and smears the page. He has been told he shouldn't pick up a book with sticky fingers, and he undoubtedly knows better. What should his mother do? The smear is there and scolding won't remove it. Can't we say to ourselves that it is natural for a little child to forget our admonitions, that he hasn't grown up enough to be careful all the time and, in any event, here is a chance to be sorry with him that the smudge has been made? "That's why we don't eat sweets and read at the same time," you say, not angrily or patronizingly, but in a kind and matter-of-fact way. "You've always taken good care of your books. I'm sure this was a mistake," gives him something to be proud of, even as he sees he was careless.

There are dozens of times when a child's behaviour won't measure up to the standards he and his parents have set. But then, how many of us always do what we know we should? "To err is human," applies to children too. Showing the desirable thing to do is only part of teaching; the hard part lies ahead in patiently helping a child to do what he knows he should. Accepting lapses as inevitable makes his development easier and keeps parental blood pressure down.

Whether we praise the child or the job done makes a difference. "That was a good job," commends the accomplishment, implies mutual pleasure in the job well done. It helps the child to feel he is learning and that you and he share the pleasure of his accomplishment. On the other hand, "You were a good boy," puts an entirely different light on the praise, makes the success personal, and by implication any future failure makes him "a bad boy." Failures are inevitable and are one of the ways we learn. It is easier to learn from a failure or mistake if we aren't absorbed by thoughts of our being personal failures.

If you always hover near to show your child the "right way," you imply that he can't find it for himself. If you are unwilling to let him go ahead on his own, you suggest that he is inadequate to the job. On the other hand, giving him a free hand to tackle in his own way whatever he undertakes assures him of your confidence and builds his confidence in himself.

Encourage the child; begin with simple projects so that he has a reasonable chance to do them well. A batch of poor buscuits won't be half so upsetting a failure as an expensive cake. A little boy can't do much damage either to the tools or himself if turned loose with hammer and screwdriver, nails and screws, though Daddy couldn't be blamed if he felt he had to hover over a prized tool. A good procedure is to decide whether or not it is safe for the child to go ahead on his own or at least with a minimum of help, and whether or not you can stand the result. Our Daddy says, "Yes, Eric dulls my saw and misplaces my wrenches, but he has so much fun doing it!"

By developing a habit of confidence and praise instead of doubt and criticism, we give our children stature in their own eyes. We can praise more often if we are careful not to ask too much. A two-year-old will spill milk. A three-year-old won't always have dry pants. A four-year-old is almost sure to remove some crucial screws somewhere. A five-year-old will wander. And so on. Because they are children, they will act like children.

If you doubt that a programme of praise will bring about better learning and better behaviour in a child than pointing out failures and faults, we suggest a week's trial—or even a day's trial. Spend a week closing your eyes to lapses and praising accomplishments at every reasonable opportunity. It will help your child to learn, for praise is a helping hand and it will make your life together a happier one.

## HOW I.C.I. HELPS THE FIGHT AGAINST DISEASE

*(Continued from p. 4.)*

and on the walls in huts and houses where it settled; whole areas have been effectively cleared of mosquitoes by large scale spraying of 'Gammexane' from aircraft.

'Paludrine' and 'Gammexane' might thus be described as making possible greater colonial development, and in this category we may also include 'Antrycide,' whose introduction, announced at the end of last year, was widely acclaimed as a valuable weapon with which to fight the scourge of trypanosomiasis in cattle.

## MASSAGE

*(Continued from p. 7.)*

"Ordinary massage is of no value in muscular rheumatism, and especially where nodules are located. As one medical writer has said, 'Mere rubbing of the skin is of no value whatsoever.' The massage is directed specifically to the nodules, as these must be massaged away. Using the fingers or thumbs, small circular movements are carried out. Pressure is applied by the finger or thumb, and may be reinforced by the other hand. The fingers are not to slide back and forth over the skin, but rather the skin moves with the circular movement of the fingers. As one approaches the painful nodule, or muscle, the pressure must be kept constant, but not too severe. Do not massage too long in one place, but allow rest periods.

"Three or four periods of this type of massage are all a tender nodule should have at any one time, but the massage should be done daily."

Massage may be used with benefit in a wide variety of conditions. The different classes of indications for massage are summarized by Abbott, Moor and Nelson in the textbook *Physical Therapy in Nursing Care*, as follows:

1. For general tonic effects in neurasthenia, convalescence from acute illness and from surgical procedures.

2. For general sedative effects in neurasthenia and insomnia. For local effects in headaches and local muscle and joint pains or aching.

3. To increase circulation.

4. In muscle atrophy to maintain normal nutrition and circulation in infantile paralysis.

5. In excessive scar formation with scars accompanied by contractures.

6. After sprains and fractures, and bone, joint, tendon, and nerve operations.

When given to sick patients, massage should always be applied under the direction of a qualified physician, by a well-trained masseur or masseuse. Like many other useful methods of treatments, it may do harm when applied indiscriminately by those who are ignorant of the possible dangers involved.

# MASSAGE

## in the TREATMENT of DISEASE

RUTH N. FRAZIER, R.N.

EXTENSIVE research and experimentation have revealed some very definite things about the physiological effects of massage upon the human body.

On the skin, massage acts mechanically to remove loose material and secretions. It improves the nutrition of the skin. Experimental studies, however, have failed to indicate that deposits of fat under the skin can be removed even by the most vigorous massage.

It is on the muscles of the body that massage exerts some of its most important effects. Labludowski's experiments on uninjured frogs and the forearm of human beings reveal that a fatigued muscle is restored to work much more quickly through massage than it is merely by rest. Even when the arm was fatigued to the point of exhaustion, when it could do no more work, massage of the part readily enabled it to function again. Massage does not produce in muscles the chemical changes resulting from exercise, for while both stimulate the flow of blood in a muscle, massage, unlike voluntary exercise, does not continue to produce lactic acid as a by-product of fatigue. Under the influence of massage, muscles which because of local injury cannot be exercised, remain supple and ready to function when condition permits. Massage, however, does not increase muscle strength. This can be accomplished only through active exercise.

Massage is, therefore, of considerable benefit in aiding the local circulation in injuries and in promoting the general circulation in persons who are forced by illness to be inactive. In the blood itself it has been shown that immediately after a general or abdominal massage, there is an increase in the red blood cells and hæmoglobin. This, however, is probably not an actual increase in the total number of cells in the body but is due to a re-distribution of cells, more being thrown into the surface circulation from reservoirs within the body.

Upon the nervous system massage may be either sedative or stimulating, depending upon the movements used. Rhythmic, smooth, comfortable stroking and kneading are distinctly sedative to most persons and will have a tendency to cause relaxation and sleep. Heavy kneading and friction are likely to be stimulating to all individuals.

Fred B. Moor, M.D., a noted authority on physical medicine, in writing on the value of massage tells of a woman, thirty-eight years of age, who came to the doctor's office complaining of headaches from which she had suffered for five years. After examining her, the doctor ordered moist heat and massage to the back of her neck and shoulders. When the masseuse had given her six such treatments, the headaches were completely relieved. She had been afflicted with what is known as indurative headache, caused by the presence in the tissues of small fibrous nodules which can be rubbed out by vigorous massage. There are, of course, many causes of headache, but if it is due to the condition just described, massage is an extremely effective remedy.

Wayne McFarland, M.D., in an article on "Simple Treatments for Muscular Rheumatism" describes in detail the use of massage for indurative headaches. Dr. McFarland says, "When muscular rheumatism occurs in the muscles of the neck, a common complaint is of a tight feeling and a drawing sensation in the back of the neck. Sometimes patients will say, 'It feels as if there are some cords pulling in the back of my neck.' These 'cords' are actually the muscles that are tight, and they pull because of the spasm that occurs when muscular rheumatism is present. . . .

*(Continued on p. 6.)*

# Electric Shock

HAROLD SHRYOCK, M.D.

SOME time ago report was made of the accidental death of a preacher who was killed while using an improvised electric treatment device. In another instance a woman who lived in London was accidentally electrocuted while using earphones to listen to a radio programme. In a third case a twenty-seven-year-old plumber working inside a boiler was killed by the current from an electric droplight. In each of these cases, electrocution resulted from contact with a low-voltage current, the type that is used in every household for lighting, running the radio, ironing and so on.

Almost everyone is aware that serious accidents have frequently resulted from turning on the light while standing in the bathtub, but investigations of the accidental deaths from electric shocks indicate that the average person does not yet recognize the potential danger of an electric circuit, and does not observe the simple precautions which would prevent such accidents.

Too many persons assume that household currents are harmless and that serious accidents involve only linesmen or those working around power plants. As a matter of fact, a person is in greater danger of being killed by the domestic type of current than by high-voltage equipment. There are two reasons why household currents offer greater hazards than high-tension industrial currents: first, precautions are not enforced on those using household currents; secondly, the electrical specifications of household currents are such as to make them most dangerous to life. It is now recognized that alternating currents are three or four times more dangerous than direct currents, that the most dangerous frequencies are between forty and one hundred and fifty cycles per second, and that the most dangerous voltages are between twenty-five and five hundred.

As one considers the possibilities of accidental electrocution, he wonders why there are not more accidents than there are. Nowadays, even children commonly experience "a shock" as they replace a burned-out light bulb or as they tamper with an extension cord or a broken connection, and yet it seems that they usually get by. This is because factors other than the electrical specifications of the current are involved in determining whether death will result.

In the case of the preacher who was killed while giving himself an electric treatment, investigation revealed that he had unfortunately entertained the idea that he would provide a double contact in order to ensure maximum benefit from the device he was using. His ailment consisted of severe pain in the back of the neck. He therefore provided a metal plate electrode which he placed at the back of his neck and which he connected by a wire to a steam radiator—evidently to serve as a ground. At the time of the fatal shock, the treatment device, which he was holding in his left hand, accidentally contacted the left side of his chest. It is thus apparent that the current passed through the left side of the preacher's chest and so directly through his heart.

It has been proved by animal experimentation that when the household type of current passes through the heart, the heart may begin to fibrillate; that is, to flutter rather than to pump. Death then results because the blood no longer circulates through the vital organs.

When an electric current passes through the body, it follows the most direct route between the points of contact. In the case of the preacher, the current passed between the left side of his chest and the

1. Artificial respiration is performed by placing patient on his stomach. Kneel astride patient and place palms of hand just above the waist, with your fingers lying against his lower ribs.

# Do's and Don'ts in dealing with Electric Accidents

back of his neck. The plumber who was killed while working inside a boiler had been holding a droplight in his left hand while hammering with his right. Inasmuch as he was barefooted and the boiler was in direct contact with the earth, he was adequately grounded so that the current passed from the faulty light socket in his left hand through the region of his heart and out his feet.

Seldom, if ever, has a human being been killed by a current which passed up one leg and down the other. Fatalities occur when the current passes from hand to hand, or from hand to foot, or from head to foot. This is because the current passes through the heart or the brain or both.

An interesting illustration of how the course the current takes in passing through the body may make the difference between life and death is provided by an accident, reported by Alexander, which occurred in a pasture near Boston, U. S. A. During a storm a transformer broke down and, by a freakish combination of circumstances, imparted a dangerous electric charge to the rain-drenched pasture in which three cattle were kept. All the cattle were killed, but the hired man who attempted their rescue suffered no permanent injury. He was made aware of the presence of the electric charge and was observed to "jump around considerably," but he was not rendered unconscious and did not sustain any burns. The explanation of the death of the cattle is that the current, in passing between their hind legs and forelegs, all of which were in contact with the ground, passed through their hearts, causing fibrillation of the heart which causes it to stop pumping. The hired man survived because the current followed the shortest possible route, which was through his legs and pelvis and not through his heart.

When removing a shocked person from contact with a live wire, use a dry, non-conducting substance such as a cloth, leather belt, or stick.

Although most electrical accidents result from contact with low-voltage currents, such as are used for domestic purposes, the industrial type of high-voltage currents also take their toll. But the actual cause of death from high-voltage currents differs from that from low-voltage currents. As previously mentioned, low-voltage currents kill by stopping the heart. High-voltage currents, however, produce death by damaging the respiratory centre of the brain, which in turn paralyses breathing. In many cases damage to the brain is temporary, so that if the victim can be tided over by artificial respiration, he may survive the ordeal.

Perhaps the most unusual case of resuscitation following electric shock was reported by Pearl. The victim in this case was a linesman who was working near the top of a pole when he accidentally touched a line carrying a 4,000-volt current. As is so often the case, the muscles of his arms contracted so violently that, though he was unconscious, he clung tenaciously to the line. His fellow workman, with unusual presence of mind realized that, should the current be suddenly interrupted, the victim might sustain more serious injuries from a fall than he had already sustained from his contact with the electric current. He therefore caught his unconscious partner just after he had severed the high-tension line.

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2. Hold arms stiff and swing the body forward slowly, letting your weight bear down on lower part of patient's chest. Do not bend elbows. Do not apply heavy pressure.

After carrying your body far enough to bring your shoulders directly above your arms, swing backward quickly so as to remove pressure completely from patient. After counting "one, two," repeat movement.

# *Seeing the Thing*

# *THROUGH*

X-RAYS travel at the same speed and obey many of the same laws as visible light. Like visible light, they are comprised of bundles of rays of many wave lengths. Such bundles of rays may be broken up into their component wave lengths by passing the rays through certain metals. In this manner an X-ray spectrum is produced similar in character to the better known light spectrum; the longer wave length X-rays at the lower end of the spectrum approach the ultraviolet rays, and the shorter wave length X-rays at the upper end of the spectrum approach the gamma radium rays.

Unlike light, however, their wave length is much shorter, and this gives them the characteristic of penetrating materials that would absorb or reflect the longer waves of visible light. The average wave length of X-rays is only about 1/10,000th that of visible light.

X-rays are not visible and produce no immediate effect upon human sensibilities. Their presence may be recognized by their action on the emulsion of a photographic film, by their action on certain crystals causing them to fluoresce with the emission of light, and by their action on living tissue.

The visualization of an object by X-rays depends on the difference in its density when compared to its surroundings. If this difference in density does not exist, no matter how penetrable the object may be, it cannot be visualized. The calcium content of the bones, in contrast to the surrounding soft muscle tissue makes them much more dense. The bones can therefore be examined easily.

The method in which X-rays are generated is a very complex operation, and we shall not discuss it here.

The first medical application of the roentgen rays was to the bones. This is to be expected, as the calcium salts within the skeleton make it an ideal structure for X-ray examination. Not only is it possible to demonstrate accurately the size, contour, and exact outline of the bones, but also the internal structure, or the pattern of the bone can be seen. In the bones certain defects and nutritional disorders if present may be detected. Fractures or dislocations may be examined. Without being properly diagnosed and treated these may leave a child or adult crippled or deformed for life. Bone infections, suspected or present, of any kind, are a paramount indication for X-ray examination. By this means a correct diagnosis can frequently be established and a tremendous amount of valuable information as to the extent, progress, and activity of the diseased process can be obtained.

X-Ray photo of an amazing collection of pins and nails in a carpenter's stomach.

X-rays of the skull are some of the most difficult to obtain and to interpret, and require the complete cooperation of both patient and operator. The sinuses that surround the nasal airways may be examined for such conditions as difficulty in breathing, catarrhal symptoms, and headaches, and from these examinations your doctor will often be able to treat these conditions more effectively. Also the extent and progress of acute or chronic mastoiditis may be followed in these studies. The most popular X-rays taken in these regions are X-rays of the teeth. Almost everyone at some time in his life has had his teeth examined by this method. Not only does the dentist want to know whether there are abscessed teeth, but also he wants to know the extent of lesions in and about the teeth.

In some respects the chest presents ideal tissues for X-ray examination. The striking contrast which is established between the central dense shadow made up of the heart and blood vessels, with the rather brilliant radiable densities of the lungs on either side, leads to possibilities of accurate diagnosis. All the structures in the thorax, or chest, are conveniently arranged for examination, and under present conditions no patient can be said to have been adequately studied without an X-ray of the chest. In many institutions routine X-rays are made on all patients to exclude lesions of the lungs or heart.

*(Continued on p. 27.)*

## PART II on "THE STORY OF X-RAYS"

EUGENE ELSTROM, R.T.

# *Every GERM has PARENTS*

# TUBERCULOSIS, like MURDER will out !!

T. M. BLISSARD

HAVE you ever lain in a hotel bed in the morning listening, between snores, to your neighbours as they arise, with their drowsy yawns, their coughing, coughing? If so, perhaps at first you were not particularly impressed; but after hearing six or eight going through the same method of clearing their respiratory passages, this thought probably occurred to you even though you were an inexperienced observer: What is the matter with these chronic coughers, and how do they affect *me?*

Though many such folks are undoubtedly unaware of their state of health, they frequently are indirectly or directly responsible for the deaths of some of their closest relatives and friends, by their bountiful donation of countless thousands of tubercle bacilli, alias "t.b.," alias "germs," the little germs which alone cause the loss of numberless lives every year and the needless expenditure of fortunes, to say nothing of the toll of shattered lives, scattered families, and the miserable hours of contemplation of "What I'd have done if only I were well—"

Wandering down the halls of a modern sanatorium, one sees many might-have-beens—a young sculptor, a medical student, an ex-professor of a large college, a society woman.

One young lawyer, whose father had struggled for fourteen years in order to make enough money to send his son through school, discovered in his first year at college that he had a large cavity in his right lung. His father had met an early death from some obscure illness, undoubtedly tuberculosis; but because of lack of proper medical attention his case was never diagnosed, and tuberculosis was never even suspected until his son, for whom he had done so much otherwise, became a victim of that disease. Tuberculosis, like murder, will out!

The young man whose case is cited above undoubtedly received his infection during his early years at home. In the majority of cases, infection is picked up during childhood, the age of highest susceptibility, and well-meaning parents are often responsible. However, not infrequently other relatives, the perennial, self-invited ones, perhaps some maiden aunt or bachelor uncle or grandparents, who have come to live with the family because they have no other home, are the trouble makers, as the afore-mentioned people in the hotel are *potential* murderers of the ones they love best.

Though many cases of tuberculosis may be found in the same family, the disease is not hereditary. It must be *caught.*

A popular fallacy is that people get tuberculosis because they work too hard, drink too much, or something of that sort. The truth is, without the "germ," tuberculosis could never exist. Even if a person were to work twenty hours a day, become as thin as the proverbial broomstick, and be a veritable toper, unless he had some of the germs within his body, he could not possibly become a victim of "t.b."

Therefore, in an attempt to control the disease, we must realize, first of all, the necessity of controlling the germ. Where shall we begin? Let us look again at those people in the hotel. Though not all are actively tuberculous, the danger is so great, if they are, that these coughers cannot be neglected. Sputum may contain thousands of bacilli, little organisms that are merely waiting hungrily for a good meal to come walking their way.

One man who was not even aware that he had tuberculosis, exposed his family to so many of these germs that two died in early childhood, and the other one, who discovered the disease before much damage was done, spent a period of time in a sanatorium. However, she is now regarded as a complete cure.

Oh, yes, tuberculosis reacts most favourably to early treatment. With good care, consisting principally of supervised rest and a well-balanced nourishing diet, there is an ever-increasing number of patients who leave the hospitals and return to their homes, completely safe to associate with their families and society as a whole. If treatment is commenced early in the course of the

disease, it is gratifying to see how quickly health may be regained.

One important question always is: Where did the patient get this infection? We must remember that every germ has parents, or, in other words, in the case of every tuberculous person we should be able to look back and find the forefathers of his germs in some other infected individual, and by treating this individual save many others from a similar fate.

And infection is entirely too common. In fact, from twenty-five to seventy-five per cent of us, depending upon the part of the country in which we live and the number of tuberculous people we have chanced to contact, by the time we have reached the age of forty show a positive reaction to the tuberculin test, which is performed ordinarily by injecting a small amount of this fluid beneath the surface of the skin of the forearm. If a person is harbouring any germs within his system, a spot, ranging from light pink, to dark red, will appear at this site within a day or two, and then gradually fade away.

If a positive reaction occurs, immediate steps must be taken to determine whether or not any real damage has been done. This means chest X-rays and a physical examination. In the majority of cases no active lesions will be found; but an individual, thus forewarned, can maintain a state of health which defies damage by the germs.

If, on the other hand, actual tuberculosis does exist, treatment will yield most gratifying results, especially if the disease has not progressed far. Immediate treatment will, in the majority of cases, soon arrest the disease so that it cannot be transmitted to others, and will eventually so completely overcome it that it will never cause the individual himself trouble if he maintains a good degree of health otherwise.

If the case has not been diagnosed until late, doctors believe that hospitalization in a sanatorium is usually advisable until the disease is under control and the individual no longer is a serious menace to those about him. Thus, not only does the patient receive the care which is most likely to increase comfort and hasten recovery, but others may be spared *unnecessary suffering*.

Parents, especially, must realize that tuberculosis is caused by germs, and that they have a responsibility to their children to protect them from serious infections. They should first search for definite proof that they themselves cannot give their offspring tuberculosis, and secondly, they should be extremely careful that all others who come in close contact with the children are free from the disease. All too often, fond uncles or aunts, or in-laws, apparently healthy, who move in, bring more with them than you had thought possible, especially as regards germs. They may unknowingly be dispersing infection. On the other hand many persons deliberately conceal their tuberculous condition.

All boarders, lodgers, or others who come to live with a family should be carefully examined for tuberculosis, as should also teachers.

Tuberculosis reacts most favourably to early treatment consisting of supervised rest and a well-balanced diet.

The closer, more regular, and more intimate the association with infected persons, the more liable are children especially, to develop the disease. In a recent series of tuberculin tests on 1,143 youngsters entering primary schools, 19.86 per cent were found to react positively.

The debt we owe to the children of today—the adults of tomorrow, is the heritage of health; and by our actions we can to a large extent determine whether for them time marches, or hobbles, on! The care which we take to protect them from association with persons spreading the germs of tuberculosis will be a large factor in deciding this question.

Control the germ and you control tuberculosis.

## JOHNNY'S EARACHE

*(Continued from p. 15.)*

cialists see many of these cases every year, and the results are often gratifying.

Not only should the present condition be treated, but preventive measures to aid the general health and reduce the incidence of colds must be taken. Children should be adequately clothed in cold weather, to avoid undue exposure and chilling. The limbs especially should be well covered.

The diet should be corrected to avoid the excessive use of sweets and refined foods and the living programme should provide for regular and adequate rest.

"Yes, Mrs. Brown," concludes Dr. Edwards. "the outlook for Johnny is good. About two weeks after the present illness subsides we should begin to plan for his little operation that will help to end these repeated episodes. It is well that you didn't make Johnny suffer pain for a long time before bringing him in, and if before we get to those adenoid remnants he should have another attack, call me early again. I am glad that you are not like so many mothers who let the child suffer a full day while all the neighbourhood remedies are being tried, and then after the family decide that their sleep might be disturbed by Mary's crying with an earache, they call the doctor just a little before midnight.

# SOME ILLNESSES can be AVOIDED

H. O. SWARTOUT, M.D., Dr. P. H.

ACTIVE immunization depends for its value on the development of germ- or virus-fighting substances in the body, and passive immunization depends on introducing into the body similar substances borrowed from other persons or lower animals. The general name *antibodies* has been given to these substances, and they are usually developed in the blood—or at least carried there. It seems likely, however, that some of them are developed in other body fluids or tissues. For instance, certain diseases in which a skin eruption is a part of the picture probably lead to the development of antibodies by the cells of the skin, to their storage in these cells, or to both.

But in any case of active immunization it is necessary for the substance used to build up immunity—most commonly a *vaccine*—to gain entrance into the circulation in order for it to do its work. In this connection the circulation should be understood to include not only the contents of the heart and blood-vessels but the contents of the lymph spaces and vessels as well, and even the cell fluids that can pass through the cell walls and help to bring about an interchange of various substances between the cells on the one hand and the blood and lymph on the other.

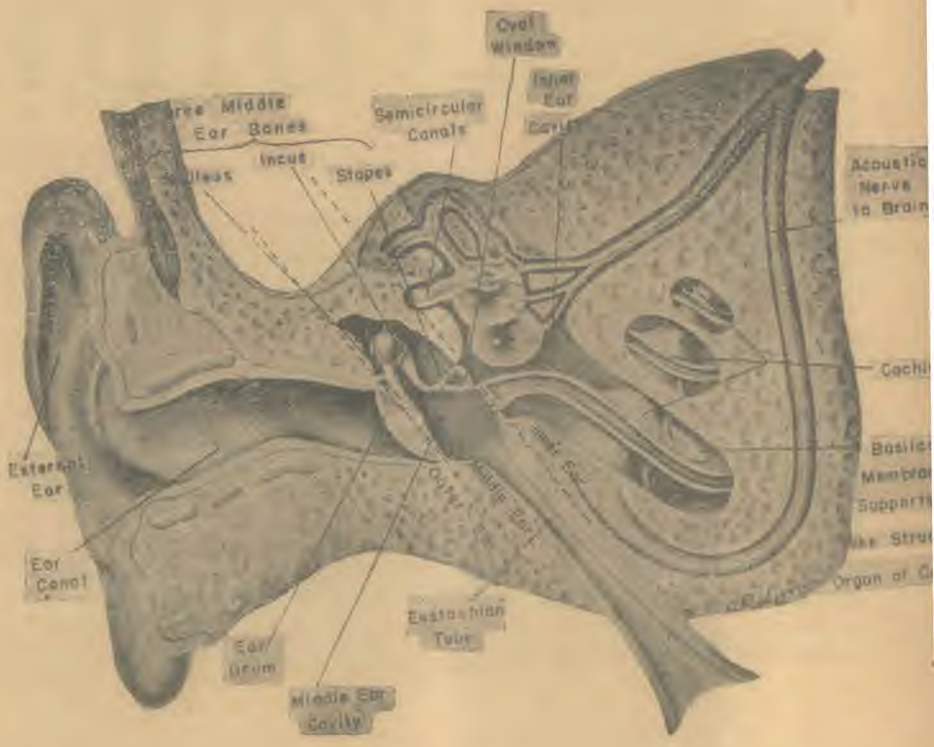
Ordinarily, useful constituents of foods and beverages readily find their way into blood, lymph, and cell fluids as a later result of the processes of eating, drinking, digestion, and absorption through the walls of the stomach and intestines. Logically, therefore, some have thought that immunization might be brought about by swallowing vaccines. As a matter of fact, there is some evidence to prove that a fair degree of immunity against certain diseases can be developed in this way, especially in the case of cholera, and to a less extent typhoid fever. The digestive fluids, however, seem to have more or less destructive effect on vaccines, so that taking them by mouth usually does little or no good, and the benefit is limited even in guarding against diseases that do their harm in the digestive tract itself, as is the case with the two mentioned. Therefore, although a vaccine does not hurt while it is being swallowed, and causes no distress afterward, we cannot depend on this method of introducing it into the body if we want to be sure of a dependable degree of immunity.

But there are other membranes besides those lining the digestive tract through which substances can be absorbed into the body and reach the circulation. Most important of these are the membranes lining the air passages, especially the nose and the lungs. Since there are many dis-

*(Continued on p. 26.)*

Protect your child from communicable disea ses; take him to your physician and have him immunized at an early age.

# Johnny's EARACHE




"HELLO! Hello! Is this Dr. Edwards?"

"This is Mrs. Brown, Johnny Brown's mother. I'm so worried, doctor, Johnny has another earache, and I'm so afraid that this time it will go into mastoid trouble."

"Yes, he's had a head cold for three days, and last night he awakened crying, and holding his painful ear. It still hurts."

This is the story that doctors hear over the telephone so many times, so let us discuss the nature, cause, care, and prevention of earaches.

The ear system consists of the outer, protruding ear; the canal that funnels the sound waves to the ear drum; the ear drum; and the middle ear, containing the three little bony levers which conduct the sound into the inner ear, where the nerve impulses are started. Then from the middle ear a little tube about one and a half inches long leads to the top of the throat, opening behind the nose and in the region of the adenoids. (See diagram.) The purpose of the eustachian tube is to keep the air pressure equalized on both sides of the ear drum. The reader is acquainted with this effect in the popping and snapping sensations in the ear when swallowing, while ascending or descending in an elevator, or while travelling up and down in hilly country.

Before returning to Johnny's earache we should state that pain in the ear may be produced by disease or disturbance in any part of the system, from the outer ear, through the canal, drum, middle ear, eustachian tube, to the opening of the tube in the throat. Even throat conditions in the region of the adenoids, tonsils, and occasionally the larynx (voice box) may produce earache.

The outer-ear canal may be inflamed from boils or skin irritations. Hardened wax may cause pain, as will foreign substances. Even insects have been known to en-


ter the canal. The writer has removed from ears such varied items as a moth, a silver fish, a beetle, an ant, rice, cotton, a safety pin, a pencil lead, and plaster of Paris. No amount of medicine poured into the ear as home treatment will ordinarily be of much help in removing these substances.

But we must not forget Johnny. He developed a cold three days ago, and now his ear hurts terribly, and he has a fever of several degrees. Mother was kept awake for several hours during the night trying to do something for him. Besides, this is not the first time he has been sick like this, and didn't the little boy across the street develop a mastoid infection from just such an attack? Dr. Edwards advises Johnny's mother to bring him right down to the office for an examination. Let us go along and see what the doctor finds.

Yes, Johnny's temperature is 101 degrees, his face is flushed, his nose is stopped up, and he still whimpers with pain. Dr. Edwards carefully examines the ear. He finds no mastoid swelling or tenderness, and the outer ear is not inflamed, but the canal contains a small amount of wax. He thanks Mrs. Brown for not pouring olive oil into the ear, as so many mothers do, and thus causing the wax to spread over the ear drum and make visualization difficult and the removal of the wax more painful. The doctor deftly removes the wax, and with his special instruments he sees the ear drum reddened and swollen. "Mrs. Brown," he says, "I'm glad to tell you that the condition is not so serious as it might be. With so much pain and fever present, if the drum were bulging just a little more, we would need to lance it to drain out the pus from the middle ear. Not that the lancing of an ear drum is such a serious problem, for when necessary it is a very beneficial procedure, and is actually a means of conserving hearing rather than of destroying it. It helps to shorten the disease and may prevent serious complications such as mastoid. In most cases the lancing can be done under a local anæsthetic placed in the ear on a small piece of cotton."

Dr. Edwards now examines the nose and finds it congested and draining pus. This requires a shrinking spray of nose drops. He then examines very carefully Johnny's throat and nasal passages. His tonsils and adenoids were removed two years ago, but the doctor finds, with his little throat mirror, that there has been a regrowth of adenoid tissue, near the eustachian tube openings. This helps to explain why Johnny has had six ear infections since his tonsil and adenoid surgery. The adenoid remnants are the source of the infection which travels up the eustachian tube to the middle ear cavity.

"Mrs. Brown," continues the doctor ,"Johnny should recover nicely from this attack. We will give him a very potent penicillin injection today. He may not need another, but if he does we can give him one again in two days. As you know, penicillin is so much superior to the sulfa drugs in infections like this, and much safer too. I will prescribe nose and ear drops to be used four times daily. Heat applied to the ear several times a day will be helpful. A heating lamp, heating pad, or hot-water bottle will do. Take his temperature four times daily, and if anything unusual develops, or if Johnny becomes worse, be sure to call me. Before you leave, however, let me tell you what will be necessary to end these repeated ear infections, which will severely cripple Johnny's hearing in years to come if they are not checked soon."

The doctor then explains that infected adenoids or adenoid remnants are one of the most common causes of middle-ear infection, called *otitis media* in medical language. With each head cold the adenoid infection is reactivated and the eustachian tube infected. Eventually the repeated *otitis media* produces scar tissue and adhesions within the middle ear, and the delicate hearing mechanism is permanently damaged. Treatment consists in a careful surgical removal of all traces of adenoid tissue, especially around the crevices surrounding the eustachian tube opening. This is followed by an application of radium or X-ray treatments to the area to prevent re-growth of the adenoid tissue and to cause shrinkage of any abnormal tissue which may have formed within the eustachian tube. The amount of X-ray needed is so small that if properly administered there need be no fear of damage being done to normal tissues. Ear spe-

*(Continued on p. 12.)*

The ladder of life is full of splinters, but they always prick the hardest when we're sliding down.—*William L. Brownell.*

Early rising and much breathing are profitable to keep a man in health and to increase his riches and wisdom.—*Plato.*

## ELECTRIC SHOCK

*(Continued from p. 9.)*

Then holding the unconscious man between himself and the pole, this resourceful linesman compressed and relaxed his hold at regular intervals so as to force the air in and out of the victim's lungs. This unique type of artificial respiration eventually brought about a return to consciousness so that the victim was able to climb down. Even though severely burned he recovered, and his partner was awarded a gold medal!

It is necessary for a double contact to be made in order for a current to pass through the body. Usually one point of contact is with the electric equipment and the other completes the circuit to the ground. Dangerous amounts of electric current will flow through the body only when good connections are established. The London woman who was electrocuted while using earphones might have been living yet if she had not made contact with a defective bed lamp. The current from the bed lamp entered into her left hand and left her body through the metal parts of her spectacles, which made a ground contact through the cord leading to the earphones. In cases in which electrocution occurs while the individual is standing in a bathtub, the water in the bath tub makes such a perfect conductor between the bather's skin and the plumbing, which serves as a ground, that large volumes of current readily pass through his body as soon as he touches an electric appliance.

The prevention of accidental electrocution depends largely on observing those precautions which will prevent an electric current being grounded through the body. Many industrial accidents would have been prevented if railings, steps, and platforms in the vicinity of electric equipment had been either constructed of wood or covered with some insulating material, such as rubber, wood fibre, or porcelain. Concrete floors, especially those reinforced with steel, are excellent conductors and should be covered with an insulating type of mat wherever there are possibilities of contact with electric equipment. Kennelly has recommended, the precaution of everyone's keeping one hand in his pocket while near electric equipment. Naturally this should preferably he the left hand inasmuch as currents passing through the left side of the chest are more fatal than those passing through other parts of the body.

The physician seldom sees a victim of electric shock until some time has elapsed since the contact with the current. If the victim's life is to be saved, it will depend upon the prompt and intelligent action of whoever happens to attend him. As in drowning, so with electric shock, the person who does not know the proper methods of rescue will do well not to interfere. In either case there is danger that the would-be rescuer may himself become a part to the tragedy.

In rescuing the victim of electric shock, the first thing is to remove him from contact with the current. The current may be broken by cutting the offending wire with an axe or any other tool which is available. The rescuer must of course follow the precaution of using only such tools as provide adequate insulation. Wooden handles serve very well in this regard. In severing a charged wire, the rescuer should protect his eyes from possible injury by the flash which usually results from breaking a high-tension current.

If it becomes necessary to drag the victim away from the source of contact before the current is broken, this may be accomplished by using any non-conductor, such as a *dry* piece of cloth, a *dry* leather belt, or a *dry* stick. The rescuer should never touch electric equipment with his hand. Nor should he use his hand to touch the victim unless he has already been removed from the source of current. It is safer to use the foot for this purpose, inasmuch as current passing from one foot to the other does not endanger the life of the rescuer.

As previously mentioned, there are two causes of death from electric shock: (1) fibrillation of the heart, which is produced from relatively low-voltage currents, and (2) paralysis of respiration produced by high-voltage currents. Fibrillation of the heart unfortunately does not respond to attempts at resuscitation. Accidents that produce fibrillation always terminate fatally. Paralysis of respiration on the other hand does not produce prompt death. In these cases the heart continues to beat even though breathing has ceased and the patient is unconscious. These are the cases of "suspended animation," which may be saved by artificial respiration.

Inasmuch as the rescuer or first-aid worker may not know which type of injury the victim has sustained, he should by all means perform artificial respiration in the hope that his particular case is one in which the respiration has been paralysed rather than one in which the heart has been caused to fibrillate. There are several cases on record in which the patient has lived after as much as four hours of artificial respiration. In one case artificial respiration was carried on for eight hours before the victim was able to breath spontaneously. In cases of electrical accidents, then, it is advisable to continue artificial respiration (the same type that is used in cases of drowning) until such time as the victim can breathe of his own accord, or until his limbs become stiff or his body actually cold.

The symptoms of electric shock are so profound and the results of a fortunate attempt at resuscitation are so spectacular that the friends and relatives of the victim are prone to heave a sigh of relief as soon as consciousness is regained, and suppose that all danger is now passed. It is even common to permit the shock victim to return to work within a few minutes after consciousness returns. This attitude of assuming that the shocked person is normal as soon as he regains consciousness is dangerous, for it may be that the current has inflicted such damage as is not at once apparent. In all cases of electric shock in which unconsciousness has occurred, the victim should be treated as an emergency case and hospitalized for not less than three weeks.

Inventors have been most ingenious in devising means by which electricity can be used as an obedient servant. The fact, however, that this servant can sometimes recoil and bring death to the one who has been its master casts a shadow over the advancements that have been made in electric engineering. The only reasonable basis for optimism in this connection is that most electrical accidents may be prevented if each individual will follow reasonable precautions for protecting himself against contacts with electric equipment.


## HOW TO KEEP WOOLLEN CLOTHING FROM MOTHS

WHEN woollen coats, sweaters, blankets, and other things are put away in boxes or closets to be stored for colder weather it is good to brush them and then spray them with Flit. If hanging in an almirah, or if folded away in boxes, put a generous amount of tobacco leaves in between the garments. Care should be taken that the leaves are very dry or they may stain the clothing. For safety, sheets of paper may hold the tobacco leaves between the folds of the clothes. Naphthalin squares or balls also prevent moths from spoiling fabrics.

## ACCIDENTS IN THE HOME

Most accidents in the home can be prevented or minimized with a little thought. When a baby's frock or milady's sari catches on fire, *do not let the victims run out of doors. Smother the flames* by rolling them on the floor or by throwing a blanket or rug around them. Smoking in bed is the cause of many fires. Do not do it. Spilling or throwing refuse on the floor has many times caused an older person to fall and fracture a leg. Care to keep floors clean will minimize accidents in the home. If baby chokes on something he is trying to swallow hold him upside down and give him a few thumps on his back. The object will usually come out.

## THE CHILD'S FIRST TEACHER—MOTHER

A great doctor says: "Teaching may be defined as causing a human soul to know." (Martin Brumbaugh, Ph.D., LL.D., in "The Teacher.") The great French educator Rousseau said in his book "Emile" that even if a man travels around the world, he will not learn as much from his travels as he learned from his mother or his nurse before he was seven years of age. The great Finnish author Z. Topelius says: "Who can teach a child but his mother? The first thoughts of faith and purity; the first prayer uttered by baby lips; the first holy flame of true love; the first thoughts of truth and integrity; the first thoughts of patriotism for his native land; a mother only, instils these thoughts in the souls of men."

## A GOOD HAND LOTION

To keep the hands soft a good hand lotion may be made at home from plain glycerine to which a few drops of rose water have been added. A tiny bit of this lotion rubbed into the hands after a bath keeps them soft and attractive; it prevents hangnails and any roughness from work or play. Fingernails are best looking when well groomed. An emery file and, an orange stick for pushing back the cuticle, are aids in keeping the hands well groomed.

## THE BACK-DOOR

Usually people are very particular about how their front entrance looks. For generations the first morning work is to sweep the front doorstep and its vicinity. It is not so at the back. Very often refuse of all kinds is allowed to accumulate. This is folly. Refuse of any kind breeds vermin and disease, and all refuse should be disposed of as soon as possible. Keep the front and back equally clean. Let us not wait for National clean-up days to do this. Why should not India be known as a nation of clean and beautiful homes?

# RECIPES

### WHAT SHOULD WE EAT?

MOST doctors agree that a balanced daily food ration should contain one half seer milk; one fresh, ripe, uncooked fruit; one uncooked, fresh, green leafy vegetable; two watercooked or steamed vegetables; eight ounces of bread or chappaties made out of whole wheat or else two cups of boiled rice; two ounces of fat in the form of cream, butter, ghee or oil; four ounces of protein food, such as curds or milk, cheese, soya beans, nuts, and eggs. These foods may be divided in two or three daily meals as desired.

### Cream of Beetroot Soup

**Six small, tender beetroots; 1 tablespoonful butter; ½ teaspoonful grated onion; ½ seer rich milk and cream mixed; ½ teaspoonful nutmeg; seasoning to taste.**

Peel the beetroots and grate them. Put them into half a seer of boiling water with the onion. Cook until tender and then strain all together through a sieve. Reheat, add butter, milk and nutmeg with salt to taste. Serve very hot. This soup may also be served cold in hot weather and it may be sprinkled with grated cheese before serving.

### Dal Soup

**One cup dal puree; 1 cup water; 1 tablespoonful flour; 2 cup strained tomatoes; 1 tablespoonful chopped onion; 1 tablespoonful butter.**

The dal should be well cooked to the consistency of a thick puree. Add the strained tomatoes. Brown the onion in a little butter and add the flour and cook slightly. Add the cup of water. Pour the dal and tomato mixture into this. Bring to a boil and serve.

### Phulka

**Three cups flour; 1 cup water (or less); 1 ounce ghee (or 1½ oz. butter); a pinch of salt.**

Rub butter into flour and salt and add enough water to make a soft dough. Let it stand for an hour. Knead again thoroughly and form into balls. Roll out each ball into a thin flat cake and bake on a griddle as you would chappaties. Serve hot. This bread will be light and tender if it has been well kneaded.

### Alu Ki Tehri

**One large onion; chopped; 1 lb. potatoes, peeled and cut in quarters; 2 cups rice, well washed and soaked; 1 tablespoonful coriander powder; 1 tablespoonful huldi powder; ½ oz. green ginger and garlic, made into a paste; 6 tablespoonfuls butter or ghee; 1 large capsicum, chopped; salt to taste.**

Put the ghee into a saucepan. Add the chopped onion and capsicum and fry slightly. Add the coriander and huldi powder, and stir; add the potatoes and stir. Add the ginger and garlic paste with one cup of water. Stir and cook for ten minutes. Add the soaked rice. Mixing all well together, add more water until it is about one inch above the rice and potatoes. Add salt to taste and boil slowly. Serve hot. Serves four to six. Serve with phulka and savoury tomatoes.

### Savoury Tomatoes

Half a pound of tomatoes, skinned and chopped; 1 onion and 2 cloves of garlic chopped; ½ scraped coconut; salt to taste.

Mix all the ingredients. Simmer until the sauce is quite thick and serve.

### Dal with Spinach

Half pound dal, well cleaned and washed; 6 spring onions, sliced; 1 bunch spinach or pollock; 1 large onion; 2 tablespoonfuls oil or ghee; 1 inch stick cinnamon; 2 cloves; ½ teaspoonful ground cummin seed; 1 clove garlic; 1 teaspoonful browned huldi powder; 2 whole cardamom.

Boil the dal, spring onions, and spinach or pollock together in two cups of water until the dal is soft. Then take the large onion, chopped, and saute in the ghee, adding the crushed garlic and other spices. Stir and fry. Add the prepared dal and spinach and salt to taste and simmer a few minutes before serving. Serve with plain boiled rice or with chappaties.

### Mixed Salad

One chopped cucumber; 2 chopped tomatoes; salt to taste; ½ cup thick curd.

Mix together all these ingredients. This is an excellent salad for any meal.

### Egg Curry with Tomato

Six hard boiled eggs, pealed and cut lengthwise; ½ lb. fresh tomatoes, pealed and chopped; 2 tablespoonfuls chopped onion; 1 teaspoonful curry paste or curry power; juice of 1 small lime; 3 tablespoonfuls ghee or oil; salt to taste.

Fry the onion and curry paste in the ghee. Add the chopped tomatoes and simmer a few minutes. Add the salt and lime juice. Lastly add the hard-boiled eggs and heat. Serve.

### Green Pea Savoury

One cup cooked green peas, ½ cup pulped tomatoes, 1 dessertspoonful margarine, seasoning.

Melt the margarine in a pan. Add the peas, tomatoes, and seasoning and bring to the boil. Have ready some rounds of margarined toast. Pour the pea and tomato mixture on to the toast and serve very hot.

### Date Pie

One pound dates, washed and stoned; ¼ seer milk; 1 tablespoonful cornflour; ½ cup thick cream.

Boil the dates in the milk and pass the mixture through a course sieve or colander. Heat mixture and add the cornflour, dissolved in a little milk. Stir constantly until the mixture is thick. Pour when cool into a baked pie shell. Whip the cream to which a teaspoonful of sugar and a few drops of vanilla have been added. Spread the cream over the pie and serve cold.

### Pie Shell for One Pie

One cup flour; 1/3 cup ghee or butter; 3 tablespoonfuls water or more; ⅛ teaspoonful salt.

Mix the sifted flour with the ghee, adding salt. Add the water. Mix well. Roll out and place in a nine-inch pie plate. Bake in a moderate oven for fifteen or twenty minutes until a golden brown.

### Honey Nougat

One-third cup honey; 2/3 cup brown sugar; 1 lb. almonds; 2 egg whites, beaten stiff.

Boil honey and sugar together until mixture forms a ball when dropped in cold water. Add the well-beaten whites of eggs and cook very slowly, stirring constantly. When mixture becomes brittle when dropped in cold water, add the almonds. Pour into oiled plate and cool. Cut in pieces.

### Supper Drink

Three lemons, 2 cups honey, water, and soda water.

Extract the juice from the lemons and mix it with the honey in a jug. Stir in sufficient water to make a thin syrup. To use, half-fill a tumbler and fill up with soda water. Flavour with any kind of fruit juice, if desired.

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# RICE and RICE DIETS

MILLING: The structure and consistency of the rice grain are such that its outer layers can be easily removed by simple mechanical means. The production of refined, white wheat flour is a more elaborate and expensive process than the production of white milled rice. During the past half century and more the mechanical milling of rice has steadily replaced the ancient and laborious practice of home pounding.

The technology of the commercial milling process cannot be considered in detail in this survey. In commercial milling, which may include polishing i.e. the use of polishing powders), the pericarp, aleurone layers, and germ are largely removed, and, with them, colouring substances; the resulting rice has, therefore, an attractive white colour. It is less liable to infestation by insects and fungi, partly because of the loss during milling of nutrients which these organisms need as much as human beings do.

The degree of milling determines the amount of nutrients removed. Protein, fat, vitamins, and minerals are present in greater quantities in the germ and the outer layers than in the starchy endosperm. The loss of these nutrients in milling is thus not in proportion to the weight of the bran and polishings removed. This is particularly true in the case of thiamine which is largely concentrated in the germ and the aleurone layers. While the loss of thiamine due to milling is the main cause of beri-beri in rice eaters, the loss of other nutrients is also of considerable importance.

Another effect of milling is that the removal of the protecting seed coat or pericarp facilitates the extraction of soluble substances from the aleurone layers during washing. On the other hand, washing of the whole grain, with the seed coat intact, leads to a smaller loss of water-soluble nutrients.

Losses of nutrients resulting from milling are illustrated in the table following:

LOSS OF NUTRIENTS RESULTING FROM MILLING AND DUE TO WASHING OF RICE

| *Milling* | | *Husked Rice* | *Milled Rice* | *Loss %* |
|---|---|---|---|---|
| | | Micrograms/gram | | |
| Thiamine | | 3.55 | 0.84 | 23.7 |
| Riboflavin | | 0.6 | 0.26 | 23.0 |
| Niacin | | 53.08 | 19.62 | 37.0 |
| Protein | on moisture- | 8.67 | 8.15 | 14.9 |
| Fat | free basis | 2.45 | 0.37 | 86.1 |
| Ash | gms./100 gms. | 1.22 | 0.36 | 73.2 |
| Weight per 1000 Kernels in gms. | | 20.11 | 18.24 | 9.5 |

Thus it has been reported that thiamine, riboflavin, and niacin ordinarily present in husked rice to the extent of 76.3, 56.6, and 63.0 per cent respectively, were removed during the milling process. Special emphasis must be placed on loss of thiamine. The general effect of milling is to reduce the thiamine content of husked rice from 3.0-5.0 micrograms to 1.0 microgram or less per gram.

It has been reported that milled rice may contain 17 per cent less protein than husked rice. The loss of protein due to milling is by no means negligible. The percentage loss of fat is high; but since husked rice contains little fat, it is not of much importance.

On the other hand, there is evidence that milling increases the digestibility of rice for human beings. Husked rice is reported to be less digestible than milled rice because it contains more fibre and the cells of the pericarp and aleurone layers are less permeable to the digestive juices than the starchy parts of the grain. Under-milled and home-pounded rice come between husked and milled rice in respect of digestibility. It must be admitted, however, that the subject of the digestibility of rice at different stages of milling has been insufficiently investigated. It is possible that people who habitually consume home-pounded or undermilled rice can utilize it without appreciable losses during digestion. The problem is complicated by the fact that a sudden change from milled to under-milled rice may lead to intestinal disorders and digestive disturbances, and the same may occur when raw rice is replaced by parboiled rice and vice versa.

In general, it is justifiable to conclude that differences in percentage digestibility are far outweighed by the actual losses of nutrients resulting from milling. This is particularly true of nutrients such as thiamine which are present in much higher concentration in the outer parts of the grain than in the endosperm.

The polishing of rice with special polishing powders gives the grain a glossy white appearance which appeals to some consumers and is also said to improve keeping qualities by offering some protection against insect attack. The practice is now less common than it was twenty or thirty years ago. Some polishing powders which have been used by the rice trade are harmful to the human body. In general, the use of polishing powders may be regarded as an unnecessary, and sometimes objectional, refinement.

WASHING AND COOKING: Rice is nearly always washed before it is cooked in order to remove dust, insects, husk, etc. Another reason for washing is the removal of fine starch articles from the surface of the grains which, if left, cause stickiness in the cooked rice. The intensity of washing varies from place to place, but since rice is nearly always contaminated with impurities, washing is rarely omitted. Rice is the only cereal which is usually washed in the course of domestic preparation and this process has a serious effect on its nutrient content.

Husked (whole) rice is less impoverished by washing than home-pounded, under-milled, or milled rice because the grain is protected by the intact seed coat or pericarp. The losses of thiamine, riboflavin, and niacin, occurring during the washing of brown (husked) and milled rice respectively, are compared in the following table:

| | *Loss Per Cent* | |
|---|---|---|
| *Washing* | *Husked Rice* | *Milled Rice* |
| Thiamine | 21.14 | 43.07 |
| Riboflavin | 7.70 | 25.92 |
| Niacin | 13.00 | 23.04 |

Parboiled rice is less seriously affected by washing than ordinary rice. Rice infested with weevils or moulds is usually more impoverished by washing than sound rice, because the damage to the structure of the grain facilitates extraction of nutrients by water, and because such rice needs more intensive washing.

Methods of cooking followed in different countries include the following:

(a) Large amounts of water are used and the excess drained away, carrying with it much starch which has been rendered soluble, and most of the water-soluble vitamins.

(b) The rinsed raw rice is immersed in water just sufficient to swell the grains properly and cooked in a double boiler or over a slow fire, to avoid charring at the bottom, until the water is fully absorbed.

(c) Rinsing of the cooked rice. This is often done to ensure the complete removal of the films of soluble starch on the surface of the grains.

(d) Rice is sometimes partly cooked by boiling, after which the water is drained off and the half-cooked-rice is steamed to a state of tenderness in a pan or basket in an enclosed space over boiling water.

While faulty methods of cooking deplete the rice of its nutrients, cooking losses are, in general, less serious than those due to washing. The method of cooking which causes most depletion of nutrients is that of using excess water while cooking and subsequently discarding the surplus water.

The combined effects of washing and cooking on nutrient content may be most serious, particularly when "bad" methods are followed in each case. Thus, it has been reported that only 15 per cent of the thiamine present in milled rice remained after the rice had been washed and cooked by methods in common use in certain parts of India.

There are numerous combinations and variations of washing and cooking. Only regional studies can determine whether in any given area, rice is washed and cooked by relatively "non-depleting" methods. In some areas, e.g. in Indonesia, rice is usually steamed instead of being cooked; steaming (if done in the right way) preserves nutrient content more satisfactorily than boiling.

# DOCTOR SAYS

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MEDICINE FOR GROWING TALLER: Ques.—"If there is any medicine I can use which will make me grow taller, please let me know what it is."

Ans.—There is no medicine or treatment that will increase your height. Growth follows an hereditary pattern determined by transmission from our parents. This normal growth pattern may fail of realization due to certain dietary deficiencies. The fact is that we eat ourselves into what we are. Bones, muscles, nerves, and blood, are all built out of our food. If our food from infancy up is well selected all is well. If certain essential growth vitamins and minerals are deficient, then growth will also be deficient. Vitamins A, B, C, and D with their natural medicines are essential for growth.

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PERSISTENT COUGH: Ques.—"I have had a very bad cough for about one year. Although I have taken medicines and injections for this complaint it still is not cured. When I cough it seems to affect my breathing. Please give your prescription for a cure."

Ans.—What you need is not a prescription for a cough as such, but a thorough examination of the lungs, and

a physical check-up including X-ray and laboratory tests to determine the cause of the cough. Coughing is only a symptom indicating some kind of infection or irritation in the lungs. Until this is ascertained and corrected, taking cough medicine is of no avail. Find and correct the cause. This may be bronchitis, tuberculosis, cancer, or several other conditions. Cough medicine would be of no avail as a cure.

?

ARTHRITIS: Ques.—"I suffer from chronic arthritis with resulting deformities; so much so that I cannot walk without considerable aid. Do you think the use of an electric belt would do any good?"

Ans.—You obviously have a very advanced condition of arthritis and require close medical advice to determine if your condition is due to infection or nutritional deficiencies. The treatment would need to be arranged accordingly after the causative factors have been found. As to an electric belt, there is no reason to believe this would be of any value whatever in your condition. A well-balanced diet rich in all the essential vitamins and minerals is important. One of the newer remedies like Pabolate, containing para-aminobenzoid acid and sodium salicylate, might prove to be of value.

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BALDNESS: Ques.—"Please tell me the cause of baldness and what can be done to prevent it. I am only seventeen years of age but am losing hair every day."

Ans.—Chronic baldness is usually the result of either hereditary transmitted pattern or to some systemic derangement. In some cases a disturbance of the function of the thyroid gland secretions may be the underlying cause. The thyroid gland through its secretions is closely connected with the nutrition and health of the skin, hair, and nails. Therefore any disfunction is reflected in these structures. More recently it has been observed that deficiency of vitamin F produces brittle nails, scanty hair growth and falling hair. You can encourage a healthy scalp by frequently rubbing it with a handful of moist table salt until the scalp tingles and glows, then rinse out with plenty of water.

?

HEART DISCOMFORT: Ques.—"My son, aged twenty-four, is thin and tall, and feels as though there is a heavy weight on his heart, to such a degree that he cannot study or work properly. He does not have palpitation and the stethoscope reveals nothing. Dietetic and remedial measures have failed to afford relief. The pressure seems to shift suddenly to the spleen and then back again to the heart, but he has had this pressure constantly for nine years. What must be done in this particularly difficult case?"

Ans.—The symptom—a heavy or tight feeling in the chest—may be produced by several conditions such as disorder of the heart itself, high blood pressure, indigestion with gas pressure, and several other factors. There should be careful cardiogram and blood pressure studies. The shifting nature of the pain rather suggests indigestion. I

*(Continued on p. 23.)*

# Our Kiddie's Corner

## Jemmy Pays Back

WINNIFRED J. MOTT

"I'LL PAY you back for doing such a mean thing. I'll pay you back, and then you'll be sorry." Jemmy Watson stopped, almost choking with anger and the feeling of sorrow that welled up inside.

He was looking at the broken remnants of what had been a few minutes before, a trim little model plane, upon the making of which he had spent hours of work. Then his gaze shifted back to his younger brother, Perry, the cause of all the trouble, and he waited for an answer.

"I—I'm sorry, Jemmy," faltered the little boy. "I suppose I just got angry because you wouldn't let me help you make the plane—and so I—I broke it. But I wish I hadn't now—oh, I wish I hadn't." Tears began to run down his chubby cheeks, and he wiped them off with small, grimy hands.

The tears, however, did not move his elder brother. "You'll wish you hadn't still more when I pay you back," he said grimly. "You just wait."

"What—what are you going to do to pay me back?" Perry's eyes were wide.

"I don't know yet, but I'll think of something, for sure." Jemmy gathered up the remnants of his plane and stalked off without another word.

Two days afterward both boys went to school. This time they did not walk side by side. Jemmy walked fast purposely, so that Perry could not keep up with him. The younger boy trotted along behind, feeling very lonesome, and wondering if this was one of the ways in which he was being "paid back" for breaking the model plane.

Of course they did not see each other during the session for one was ten and the other eight, so they were in different classes. They walked home as they had come—the elder boy a bit ahead, though once or twice he did glance back as if to see if the younger one was following. That was all. However, Perry noticed a difference in his look, which was much more pleasant—and he was grateful, for he realized that he had done wrong.

A few days later Jemmy came home with two packages, alike in appearance, except that one was slightly smaller. This he handed to his brother. "I'm paying you back," he said soberly.

Perry took the package without a word. To tell the truth, he didn't know what to say. Perhaps "thank you" would have been all right, but he wasn't sure.

Slowly he opened the paper wrapping, and then stared at the envelope inside—an envelope which bore a picture of a model aeroplane, and printing which he could not read very well but which he knew told what was inside—materials to make the aeroplane.

"You—you're paying me back like this?" he stammered. "But I—I was mean to you, and now you are being good to me."

Jemmy looked straight at his brother. "That's what the lesson was about at school the other day," he said. "Returning good for evil—so I'm doing it. Now you can have a plane of your own. You can use some of my glue, and I'll help you make it."

Perry's eyes held wonder, and affection, too, as they rested on the one whom he had injured. "I'll never touch any of your stuff again, really I won't—tools, or games, or anything, unless you say I can," he promised humbly. "But if you'd paid me back as you meant to at first, I'm sure I wouldn't feel like this."

"That's what our teacher said," remembered Jemmy. "That's how mean things keep growing—and quarrels. This way is much better—this way is right. I didn't want to do it at first, but now I'm glad I did. Come on, Perry, let's get started on *our* planes."

### *SIMPLE SIMON*

*Simple Simon met a pieman*
*Going to the fair,*
*Said Simple Simon to the pieman,*
*"Let me taste your ware."*

*"Of fishy pies, and meaty pies*
*You'll find I have not any,*
*I would not sell you such as these*
*For they're not worth your penny.*

*"But cheese pies, potato pies,*
*And fruit pies sweet with honey,*
*Lemon pies and pumpkin pies,*
*Here's value for your money,"*

*Simple Simon left the pieman*
*Going to the fair.*
*"Now wise," said Simon to the pieman,*
*"We'll thrive on SIMPLE fare."*

*—B. D. Kuhnel.*

would suggest that he go on to a very simple diet, eliminating all fried or grease or fat cooked foods. Chew every mouthful carefully. Do not take food of any kind between meals. Tobacco must be eliminated. After each meal take a digestive aid such as Taka Diastase, or Caroid with bile salts. This may prove helpful.

?

ANÆMIA: Ques.—"My brother who is ten years old is becoming pale and white. Though we are using so many tonics and pills yet they are futile. Can you suggest a method to cure him?"

Ans.—A pale complexion suggests a lowering of the red colouring matter of the blood. This is called anæmia. Such a condition may result from various causes such as chronic infection, or nutritional deficiency. There are different types of anæmia resulting from many different causes. To effectively treat such a condition it becomes necessary to have a blood count and blood study done at a clinical laboratory. This will determine the type of anæmia present, and the treatment necessary to correct the condition.

?

APPENDICITIS: Ques.—"I had an attack of appendicitis in the month of March 1943, but I did not undergo an operation. The swelling subsided very slowly, but I still feel pain when I lean to the right side and that part of my abdomen is somewhat swollen. I also have pain and palpitation in my heart. Kindly let me know of some medicine to use or inform me of other measures for relief."

Ans.—If your description is correct, then you are running a grave risk by not having the abdominal condition taken care of surgically. The heart problem can also be the result of infection in the abdomen. There is no medicine or treatment other than surgery for such an abdominal infection.

?

SKIN ALLERGY; BOWEL EVACUATION: Ques.—"(1) Please tell me a remedy for curing the itching on both my wrists contracted from wearing plastic watch straps. (2) To have a complete and satisfactory bowel evacuation I must have two motions in the morning, that is, one before and one after breakfast. Please suggest a method whereby I can make this once to save valuable time."

Ans.—(1) The itching skin resulting from plastic watch straps is due to sensitization developed. The cure is to discontinue wearing this kind of strap. You may need to carry your watch in your pocket to avoid skin irritation. Pyribenzamine ointment applied locally will prove helpful. (2) As to having two evacuations, be thankful for this and do not try to inhibit nature's method of evacuating body wastes. Three movements daily, one after each meal, would be more normal.

?

ACNE; CHRONIC SORE ON CHIN: Ques.—"(1) Sometimes I get pimples on my face and have used vanishing cream but it does not seem to help matters. What should I do? (2) My brother has an ulcer on his chin which has been there for four years. What should he do to cure it?"

Ans.—(1) Such pimples are called acne and are due to the blocking of the skin oil glands. Acne is common with many boys during the ages of twelve to eighteen, and then usually clears up. Keep the bowels active by eating freely of fresh fruit and raw vegetable salads. Avoid sweets and foods cooked in fats and oils. Use only a mild soap on the face. Hot and cold applications done alternately, have a tonic effect on the skin and help to increase resistance against infection. (2) The ulcer on the chin is due to an infection. A swab from this ulcer should be examined at a clinical laboratory to determine the kind of infection present. This will indicate the needed treatment to heal the ulceration.



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USE OF A PILLOW; TIME FOR BATHING; FOOD AFTER FAST: Ques.—"(1) Please give me your opinion about the use of pillows. (2) I am a young man studying in college and I do exercise daily in the morning. I want to know whether it is better to bathe before I take the exercise or in the evening before tea. (3) Once a week I fast for one whole day but in the evening I feel like eating something light. What do you suggest I should eat at that time?"

Ans.—(1) The use of a pillow is largely a matter of personal choice and comfort. I would not like sleeping without one. (2) The time of bathing depends mostly upon the kind of exercise. Most people prefer to bathe after vigorous exercise. (3) Fruit is the best food to be taken after a day of fasting.

?

HEARTBURN; WHITE SPOTS ON SKIN: Ques.—"(1) I have been suffering from heartburn for the past six months. Usually it begins some time after taking my meals and lasts until next morning. My throat remains unclear and unclean. Sometimes I have an ache in my chest—in the lower portion. I have tried some medicines and they give momentary relief. Please suggest the cause for this discomfort and also a cure. (2) I have white spots—not so prominent, on my throat, neck and chest. Some say it is due to lack of certain things in the blood, while others say it is due to skin disease. Usually these spots spread during the summer and contract during the winter. Could you give me the cause and remedy and also let me know if they are dangerous?"

Ans.—(1) "Heartburn" so-called, indicates excessive secretion of stomach acid. The pain you describe probably is due to a stomach ulcer. If proper medical examination confirms this, then you will need to be placed on a strict ulcer diet for possibly a period of one year; together with such medication as is required to absorb the excess hydrochloric acid. Stomach ulcers incline to become worse unless such a regime is rigidly followed. (2) The white skin spots do not indicate disease, but only a faulty distribution of skin pigment. The real cause for this pigment failure is not yet known, and there is no effective treatment.

?

TINGLING AND BURNING SENSATION: Ques.—"A person aged about seventy-two years of very regular habits and apparently quite healthy, has developed a feeling of "pins and needles" and slight burning on the front and outer parts of both thighs. This comes and goes at intervals and has done so for the past two years. Can you help by suggesting any treatment?"

Ans.—Burning and tingling is frequently the result of vitamin and mineral deficiency. The B vitamin group is probably the involved factor. Niacinamide, part of the B complex frequently proves beneficial in such cases. In addition a good multi-vitamin formula should be added. Make certain that the person has as many raw fruits and salads as can be incorporated into the diet.



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FITS; PROTRUDING ABDOMEN: Ques.—"(1) Once a day and sometimes twice my wife has shivering attacks which are preceded by extreme tiredness. During this time she becomes unconscious but after three or four minutes

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becomes normal. Sometimes these attacks are more violent than others and resemble fits. What treatment should she have? (2) I am twenty-seven years old and until last year was quite slim. Now I am developing a protruding abdomen and am putting on weight elsewhere. What can I do to reduce?"

Ans.—(1) First it must be determined if these attacks are psychosomatic in nature or epileptiform in origin. These two types require different treatment. If epileptic then your physician will probably prescribe a control remedy like "Tridion." (2) Excess fat and a protruding abdomen are due to eating excessive fat-producing foods and lack of exercising the abdominal muscles. Reduce your fat, sugar, and carbohydrate foods and take regular exercise.

## SOME ILLNESSES CAN BE AVOIDED

*(Continued from p. 13.)*

eases in which the causative germs or viruses appear to gain entrance to the body through these respiratory membranes, some have thought that the logical way to introduce vaccines against these diseases should be via the same route.

Several years ago there was considerable interest among public health physicians in a report that diphtheria immunization had been successfully accomplished by dropping diphtheria toxoid into the nose. We hear no more about this method. Apparently there is no way to be sure how much of the toxoid, or vaccine, remains in contact with the absorbing membrane long enough to be absorbed. So dropping vaccines into the nose or inhaling them in spray form does not seem likely to become a practical method of immunization, though such a procedure might seem desirable to many people because of its freedom from pain and from anything worse than mild discomfort.

As yet, the only way we can be sure that an effective amount of most vaccines will enter the circulation is

to inject them through a hollow needle into a vein or into the tissues, usually muscle tissue or the loose fibrous tissue just beneath the skin, though in some cases injection into the deeper layer of the skin itself seems to be especially effective. The outstanding exception to the general rule is smallpox vaccine, which though sometimes injected is in the great majority of cases merely dropped or smeared on the skin and allowed to mix with the tiny amount of fluid that is caused to ooze from the skin by gentle scratching or pricking with an ordinary needle point. But to do its work, smallpox vaccine has to go through a process of growth or multiplication, which takes several days. In this it differs from other vaccines. Consequently, it is necessary for only a very small amount of it to mix with the tissue fluid in order to act as "seed." A smallpox vaccination, skilfully done, causes very little discomfort at the time; though if it takes, there is likely to be some fever and general feeling of illness for two or three days about a week later, and a sore arm for even longer. But these results do not compare in seriousness with even a very mild case of smallpox.

If typhoid vaccine or any other ordinary vaccine were introduced directly into the blood stream by injection into a vein, it would no doubt stimulate the production of a satisfactory immunity. This method has been tried enough, however, to prove that a high fever is likely to result within a comparatively short time; and the person involved may feel markedly ill in other ways. In other words, the reaction is severe and comes on quickly. It is not to be wondered at, therefore, that injection of a vaccine into a vein has not become a popular method of immunization.

The case of passive immunization by means of injecting an antibody-carrying serum (diphtheria antitoxic serum, for instance) is quite different. Unless the person is sensitive to something in the serum—a condition that can easily be detected if present—injecting such a serum into his body will cause no reaction at all and injecting it into a vein may be just what is needed to ensure prompt improvement if his illness from the disease is severe.

In the majority of cases vaccines are injected into the muscle tissue or the fibrous tissue immediately beneath the skin. For various reasons, habit probably being the chief one, the injection is usually made into or through the skin of the arm, and the left arm more commonly than the right, though so far as effectiveness of immunization is concerned almost any other part of the body surface might be used. Also, as a usual result, within a few hours a moderate fever develops and lasts for a day or two. Different people and different vaccines differ widely in their tendency to show other symptoms, such as headache, other aching, and soreness of the area into which the vaccine was injected. These symptoms are the outward evidence that the body has gone promptly to work producing antibodies.

So no matter how active immunization is done, some discomfort is likely to follow, though seldom enough to bother the mind of anybody who understands what is happening. The person who thinks only of his present comfort, with no regard for his future danger, is likely to refuse or neglect immunization; but the one who is willing to put up with a little discomfort today for the sake of safety tomorrow will not. King Solomon expressed the idea very well when he said, "A prudent man foreseeth the evil, and hideth himself: but the simple pass on, and are punished."

## SEEING IT THROUGH

*(Continued from p. 10.)*

It is in the gastro-intestinal tract that X-ray examination finds a particular field of usefulness. Hardly any other method of diagnosis in medicine is as accurate as the X-ray examination of the œsophagus, stomach, and first part of the small intestine for cancer or ulcer.

Diseases of the gastro-intestinal tract produce symptoms which are very difficult to evaluate. The barium meal permits us to visualize directly the inner surfaces of these organs. A good X-ray examination may demonstrate an ulcer of the stomach or the first part of the small intestine, which can only be demonstrated surgically by opening the organ. One thing to remember is that the picture of the stomach and intestinal tract presents an outline of the interior of these organs, not of the exterior. The examination of the gastro-intestinal tract is by far one of the most difficult procedures in the field of X-ray diagnosis, and may be unsuccessful in any but the most skilled and experienced hands.

With the discovery of a suitable contrast medium for the visualization of the gall-bladder and later the demonstration of the usefulness of the X-ray examination of the bile ducts after operation, the radiological method has become of first importance in the diagnosis of diseases of the gall-bladder.

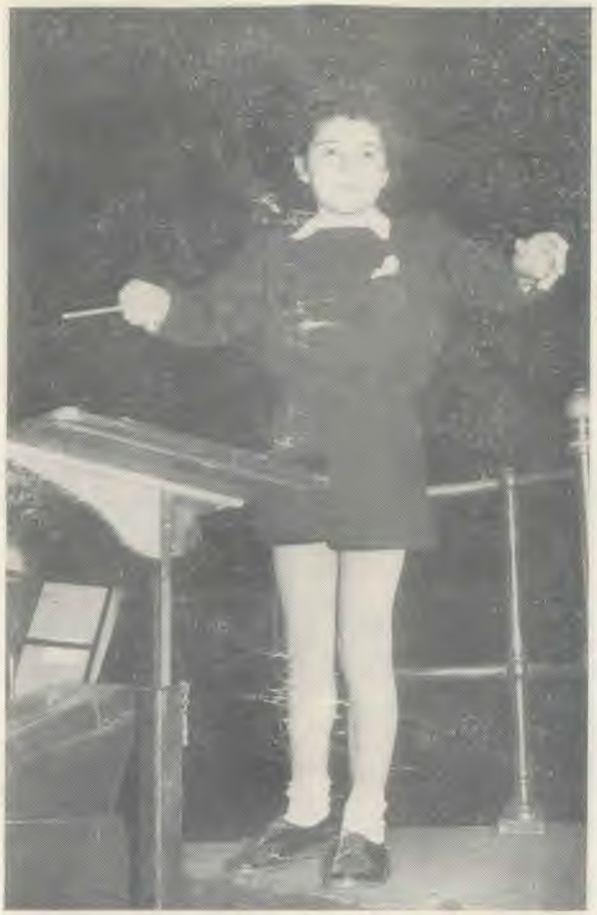
In scarcely any part of the anatomy is X-ray examination more useful in diagnosis than in the urinary system, which includes the kidneys, ureters, bladder, and urethra. Some conditions found through X-ray examination of the urinary tract are deformities, stones, cancer, and changes due to infections.

X-ray examination in cases of suspected or established pregnancy has a number of purposes and considerable value. The diagnosis of pregnancy can be positively established. The most certain positive sign is the visualization of the fœtal skeleton. This can be done as early as the third month in some instances, and in almost all cases by the fourth month.

The differentiation between a tumour mass and pregnancy can often be positively made by X-ray examination. The position of the unborn child can be accurately determined by the relationship of the head and spine of the baby to the pelvic bones of the mother. If there are twins, that, of course, can be determined too.

We have mentioned only a few of the examinations wherein X-ray studies aid your doctor in diagnosis. We have mentioned nothing concerning fluoroscopic examinations, therapy (which is X-ray treatment), localization of foreign bodies, visualization of arteries, and many other procedures too numerous to mention. We are safe in saying that there is no cavity or canal in the body that cannot be visualized by X-ray examination.

How many things of supreme importance in our daily medical lives do we take for granted! Scarcely ever do we stop and look back over the shoulder to see how far we have come along the highway of progress. It is wise now and again, to give thought to the things we of this age of wonders accept as commonplace. One of the great subjects that is of absorbing interest to us today is the mystery of the X-ray.



Nine-year-old child prodigy Roberto Benzi, of Paris, who was in London recently to conduct the Philharmonic Orchestra in a concert at the Royal Albert Hall. Roberto, whose musical career began at the age of four when his father presented him with a concertina for his birthday, became a conductor a year ago. The proceeds of his three concerts in London were to go to "displaced persons."

MOGADOR TROUPE, strong-man act, during their performance at Tom Arnold's Circus, Harringay.


Now four years old, little Prince Carl Gustaf of Sweden sits at the wheel of his miniature racing car in the grounds of Haga Castle, near Stockholm on the morning of his birthday, April 30.

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## Alternative to

# ATOMIC EXTINCTION

L. Q. DYASON

THERE are—or at least there used to be—many well-meaning people who allowed themselves to be persuaded that God, who is the essence of love and mercy, would never destroy the earth or its inhabitants. I believe that there is little room for such a belief since the tremendous discovery of the atomic bomb. More than any other single factor, this discovery has caused not only scientists, but ordinary people, to revise their thinking with regard to the possibility of the total annihilation of the human race from the face of the earth.

Speaking at Leeds University some time ago, Mr. Anthony Eden said a "third world war would mean the annihilation of the human race. The flaming message that stretched across the path of all nations in the closing stages of the second World War was 'Seek peace or face destruction,' but the terrible nature of that warning has failed to produce any healthy consequences. The nations are not joined closer together," continued Mr. Eden, "the tendency today, unhappily, is rather the reverse. The world," Mr. Eden went on to say, "is unquestionably in great danger. If ever the nations begin to throw atomic bombs about, no individual nation's security is going to avail it very much."

Mr. Albert Einstein, world-famous mathematician, said recently that atomic bombs could kill at least two-thirds of the earth's population, but he thought there would be "enough thinking men and women left to start things again."

Now I have mentioned these considered statements by two of the world's outstanding men, in order to show the trend of thinking since we received the shock of the first atomic bomb. But the most remarkable thing about these statements is that they are completely in accord with what the Bible prophets wrote thousands of years ago. Unless the world can find a happy solution to the

*(Continued on p. 4.)*

Incredible as the 5,000 foot column of sea water hurtled aloft by the power of the atomic bomb appears, it is a faint foretaste of the upheaval that will occur when God arises to destroy the earth.

# IS JESUS CHRIST T

FENTON EDWIN FROO

THE finite mind of man stands amazed at the fact of supreme importance that Jesus Christ is truly God, being of the same nature and essence as God the Father. How can we fathom the depths of such a profound truth? All that is necessary to accept such a premise is to believe God's Word.

Jesus is God! Let John the Beloved tell us: "In the beginning was the Word, and the Word was with God, and the Word was God." John 1:1. Our inspired writer assures us that Christ (the Word) was in the beginning, that He was with God, and, furthermore, that he was God. Again he says, "The same was in the beginning with God." Verse 2. In the next verse John clearly sets forth the work of Christ the Word, or God the Son. "All things were made by Him; and without Him was not anything made that was made." Verse 3.

That we might have no question as to whether "the Word" is Christ, John re-states and re-affirms his declaration in verse 14: "And the Word was made flesh, and dwelt among us, (and we beheld His glory, the glory as of the only-begotten of the Father,) full of grace and truth."

Yes, Christ, "the Word," the only-begotten Son of God, has an existence which dates back into eternity with the Father. Another inspired writer tells us that His "goings forth have been from of old, from everlasting." Micah 5:2.

In the statement, "the Word was made flesh, and dwelt among us," we have a synopsis of the plan of redemption in action. The angel said of the virgin Mary: "And she shall bring forth a son, and thou shalt call His name JESUS: for He shall save His people from their sins.... Behold, a virgin shall be with child, and shall bring forth a Son, and they shall call His name Emmanuel, which being interpreted is, God with us." Matthew 1:21, 23.

Christ laid down the glory of His heavenly home. The power with which He had created the worlds He largely left behind. However, though He was born as a babe in Bethlehem, subject to like passions as we are, for His mother was human and not divine, there was a difference between Christ and us. He was not only human but also divine.

Paul in writing to the Hebrews says: "Forasmuch then as the children are partakers of flesh and blood, He also Himself likewise took part of the same.... Therefore in all things it behoved him to be made like unto His brethren.... For in that He Himself hath suffered being tempted, He is able to succour them that are tempted." Hebrews 2:14, 17, 18.

Again the apostle informs us that Christ "was in all points tempted like as we are, yet without sin." Hebrews 4:15. With all the help of heaven, with His divine nature as well as the human nature which He possessed, He was not above the simple, everyday, complex temptations which come to you and me. If Christ had been exempt from temptation, without the power and responsibility to choose, or without the sinfilled inclinations and tendencies of our sinful nature; He could not have lived our life; He could not have atoned for our sin and have become the Saviour of mortal, lost beings.

At the age of thirty Jesus began His public ministry. His life was an exemplification of the principles of righteousness. In His memorable Sermon on the Mount, He laid down principles which, if followed today, would bring peace to this chaotic world. His mission and purpose in life was to alleviate and relieve suffering of the body and to restore in man the moral image of his Maker. No suffering one ever came to Him whose needs He did not supply. On more than one occasion He healed all the sick in the village as He passed through. Those who were brought to Him always received attention and aid, no matter how hungry or tired He was nor at what hour of the day.

Far greater than even the power to restore sick bodies to health was His power to call men back from death to life. Three times our Saviour pierced through the valley of the shadow into the unknown and called back those who had come to an untimely death. Once it was a little girl, the daughter of Jairus. On another occasion it was the son of a widow of the village of Nain.

Christ's crowning miracle was raising Lazarus from the dead. He had been dead four days. It was thought a thing incredible that anyone could come back from death after so long a period of time. But Christ assured us of His divinity. He left Christian posterity something to hope for. Christ was not just a man, but a God-man. He was divine-human. Though He partook of our human nature, still He retained His divine nature. This evidence given to the people, to the priests, and to the rulers, further established His rightful ownership of the souls of men. Had He not breathed into the nostrils of Adam and Eve the breath of life?

As foretold in Bible prophecy, Jesus was to die in the midst of the seventieth week according to Daniel 9:27. His death upon the cross, at the exact moment in relation to the types and shadows of the ancient Hebrew services which pointed forward to His death, forever sealed the fact that He is the only Man who has ever lived who could make the supreme sacrifice to save lost humanity. His ignominious death forecast a thousand years before by David, met its complete fulfilment with unerring accuracy. His death met the demands of the law.

Not only His death but His resurrection had been foretold. Prophets over five hundred years before the time of Christ had predicted that He would rise from the grave the third day. Dr. Luke gives an accurate description of the resurrection morn: "Now upon the first day of the week, very early in the morning, they came unto the sepulchre, bringing the spices which they had prepared, and certain others with them. And they found the stone rolled away from the sepulchre. And they entered in, and found not the body of the Lord Jesus." Luke 24:1-3. The angel declared, "He is not here: for He is risen." Verse 6.

This glorious truth has turned the world upside down. It is one of the pillars of our spiritual foundation and heritage. Paul defines the gospel he preached as being "that Christ died for our sins according to the Scriptures; and that He was buried, and that He rose again the third day according to the Scriptures." 2 Corinthians 15:3, 4.

# JLY GOD?

Darkness was turned into day, gloom into glory. Yes, the glory of the Son—not s-u-n, but S-o-n, the Son of God—shone forth in all its beauty, sorrow vanished, joy filled worlds afar. The apostles had something to tell men now. Their Teacher, Master, Prophet, Physician, and Friend had gone into the unknown and returned. A new day had dawned!

The risen Lord appeared to His disciples. He walked with His followers on the road to Emmaus, and Paul records that He was seen by five hundred persons at one time. Truly He is our risen Saviour. But a risen Lord alone would not be sufficient! Other prophecies predicted a further work to be accomplished in the divine plan of redemption. His death was complete, His resurrection was triumphant, now He must ascend to His Father. There was still much to be done in man's behalf so that some day we might be the recipients of God's priceless gift—eternal life.

"Seeing then that we have a great high priest, that is passed into the heavens, Jesus the Son of God, let us hold fast our profession." Hebrews 4:14.

The most detailed description of the ascension of our Lord is recorded in Acts 1:9-11. Why did He return to His heavenly home? We have already observed that Christ entered into heaven to be our High Priest. Again notice, "We have not an high priest which cannot be touched with the feeling of our infirmities; but was in all points tempted like as we are, yet without sin." Hebrews 4:15. Because our Saviour has passed through our experiences, He is therefore fully qualified to understand completely our trials, temptations, troubles, and tribulations. He represents us with intense interest in our individual, peculiar problems. Paul wrote, "Let us therefore come boldly unto the throne of grace, that we may obtain mercy, and find grace to help in time of need." Hebrews 4:16.

How thankful we are that "we have such an high priest, who is set on the right hand of the throne of the Majesty in the heavens." Hebrews 8:1. And what can Christ do for you? Ah, friend, "He is able also to save them to the uttermost that come unto God by Him, seeing He ever liveth to make intercession for them." Hebrews 7:25.

When we have entrusted ourselves to the care of Jesus we have nothing to fear from the storms of life.

Because Christ was divine, He could come to this earth, live, work for our needs, die in our stead, rise from the grave, assuring us that, if we love and serve Him, some day we too may have the privilege, if we fall asleep in Him before He returns, of hearing Christ call forth His sleeping saints on the resurrection morning.

Now He stands before the Father in heaven and pleads your case and mine. Have we asked His forgiveness for our sins? Have we made all things right? Is the slate clean, are the pages white and fair? Remember, no mark or stain of sin will be excused by God, defended by Christ, or be overlooked by the Holy Ghost. While heaven's door of mercy still stands ajar, will you thank your heavenly Father for the gift of His Son, also for the work which He is doing in heaven for you as your Advocate?

Let us rejoice that Jesus Christ is truly God, that He brought with Him His divinity to this world; that He stands ready to work in our behalf today because of His victory over sin, over death and the tomb. Let us rejoice that He is interceding for us if we will only come to Him. We dare not tarry; *now is the time!* Let us arise, follow, and serve Jesus Christ.

## ATOMIC EXTINCTION

*(Continued from p. 1.)*

present very grave situation, it will hardly be necessary for God to destroy the earth. Our scientists and militarists have in their hands the power to bring destruction and death on a scale that we cannot begin to imagine.

In less than a hundred years, science has brought to us so many blessings and conveniences that we could scarcely number them. This is all to our advantage, and we are grateful to these men of learning. Unfortunately, however, men appear to have forgotten the words of the world's greatest teacher, Jesus Christ, that "man shall not live by bread alone." Man is essentially a spiritual being, but without religion he becomes hard and cruel in his nature. It is only the Spirit of God that brings peace to the human heart. Speaking of man's failure to believe in the omnipotence of God, Paul declared, "For the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even His eternal power and Godhead; so that they are without excuse: because that, when they knew God, they glorified Him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened. Professing themselves to be wise, they became fools."

One of the leading German war criminals, Robert Ley, who was German Labour Front Leader, left a political testament in his cell before he hanged himself. This man repudiated anti-Semitism and declared: "We have forsaken God, and therefore we have been forsaken by God. Anti-Semitism has violated a basic commandment of His creation. We Nazis must have the courage to rid ourselves of it. . . . The Jew should make a friend of Germany, and Germany a friend of the Jew. God taught me that in my cell at Nuremburg."

And thus, friends, this Jew-baiter recognized the consequences of forsaking God. Would to God that these beasts of destruction and terror had been converted to that kind of thinking before ever they had plunged the world into chaos. But have we learned the lesson? Forgetful of God, men and women drift toward world destruction.

Listen to these voices from the past—voices of warning—voices of pleading to men and women to return to God—but voices that tell in no uncertain language the unavoidable result of thrusting God out of their lives. "Behold," declared the prophet Isaiah, "the Lord maketh the earth empty, and maketh it waste, and turneth it upside down, and scattereth abroad the inhabitants thereof. . . . The land shall be utterly emptied, and utterly spoiled: for the Lord hath spoken this word. . . . The earth is defiled under the inhabitants thereof; because they have transgressed the laws, changed the ordinance, broken the everlasting covenant. Therefore hath the curse devoured the earth, and they that dwell therein are desolate: therefore the inhabitants of the earth are burned, and few men left." Here in Bible language are the very words of Professor Einstein: "Few men left."

The prophet Jeremiah also declared: "Destruction upon destruction is cried; for the whole land is spoiled: suddenly are my tents spoiled, and my curtains in a moment. . . . For My people is foolish, they have not known Me; they are sottish children, and they have none understanding: they are wise to do evil, but to do good they have no knowledge." Then the prophet goes on to describe the desolate condition of the earth caused by the disaster of man's own foolishness: "I beheld the earth," he said, "and, lo, it was without form and void; and the heavens, and they had no light. I beheld the mountains, and, lo, they trembled, and all the hills moved lightly. . . . I beheld, and, lo, the fruitful place was a wilderness, and all the cities thereof were broken down at the presence of the Lord, and by His fierce anger."

With the discovery of atomic power it would almost seem that men have discovered God's own secret for the destruction of the earth. So far, this terrible weapon is in the hands of a few nations only. But other nations are feverishly working to share in the knowledge of this formula for sudden-death warfare. All the while, the machinery for peace is idly rusting and fear haunts the hearts of men and women the world around.

Now notice the words of the prophet Zephaniah who used the failure of the Hebrew nation as an illustration to us of God's determination. Listen as I read: "She obeyed not the voice; she received not correction; she trusted not in the Lord; she drew not near to her God. . . . Her prophets are light and treacherous persons: her priests have polluted the sanctuary, they have done violence to the law. . . . I have cut off the nations: their towers are desolate; I made their streets waste, that none passeth by: their cities are destroyed, so that there is no man, that there is none inhabitant. . . . Therefore wait ye upon Me, saith the Lord, until the day that I rise up to the prey; for My determination is to gather the nations, that I may assemble the kingdoms, to pour upon them Mine indignation, even all My fierce anger: for all the earth shall be devoured with the fire of My jealousy."

But let us thank God that He has provided a way of escape from the terrible blast and heat of this final catastrophe. Just as there were some lives preserved through the terrors of the atomic bomb on Hiroshima and Nagasaki, so the Lord has promised. "He that dwelleth in the secret place of the Most High shall abide under the shadow of the Almighty. I will say of the Lord, He is my refuge and my fortress: my God; in Him will I trust. . . . He shall cover thee with His feathers, and under His wings shalt thou trust: His truth shall be thy shield and buckler. Thou shalt not be afraid for the terror by night; nor for the arrow that flieth by day; nor for the pestilence that walketh in darkness; nor for the destruction that wasteth at noonday. A thousand shall fall at thy side, and ten thousand at thy right hand; but it shall not come nigh thee. Only with thine eyes shalt thou behold and see the reward of the wicked. Because thou hast made the Lord, which is my refuge, even the Most High, thy habitation." Ps. 91:1-9.

Our greatest bulwark against sin and evil is truth. God's truth, revealed in the person and purity of His Son, Jesus Christ; our acceptance of His loving invitation "Come unto Me," the assurance that "if we confess our sins, He is faithful and just to forgive us our sins, and to cleanse us from all unrighteousness," and the knowledge that He will come again to deliver all those who are obedient to His Word: such convictions, cherished in the heart, will give peace to your soul—"peace that passeth knowledge."