The Oriental Watchman and Herald of

HEALTH

for HOME and HAPPINESS

APRIL

1953

Up-to-the-Minute Articles of Interest For

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Fathers

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Mothers

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Boys and Girls

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Students

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Everybody

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DARAPRIM

A New Antimalaria Drug

AN ANTIMALARIA drug more powerful than any heretofore known has been reported by the U.S. Public Health Service. Several years of testing Daraprim as the drug is called by its manufacturers, preceded the reports to the American Society of Tropical Medicine and Hygiene at meetings in the autumn of 1952 in Galveston, Texas. There is hope that Daraprim might completely eradicate one of the world's most prevalent diseases.

Conservative scientists of the U. S. Public Health Service say that a person could, if he took Daraprim, go into a region heavily infested with malaria-carrying mosquitoes and not contract the disease, either while there or after leaving. Volunteers who were given the drug after being bitten by malaria-infested mosquitoes showed no symptoms of being stricken with the disease even a year after infection and treatment.

The scientific name for Daraprim is *pyrimethamine*. The drug was made by Dr. George H. Hitchings in the course of a search for antagonists to nucleic acids. First announcement of it was made at a meeting of the American Chemical Society in April 1950. The drug then was given extensive tests on mice and birds by Dr. Ian M. Rollo in London, England. Later still, further tests were carried out in the United States by Drs. G. Robert Coatney, Albert V. Myatt, Thomas Hernandez, Geoffrey M. Jeffery, W. Clark Cooper, Joseph Greenberg and Helen L. Trembley, all of the U. S. Public Health Service.

Daraprim is some twelve times as powerful as chloroquine, standard antimalarial drug in wide use as a suppressant in recent years. In tests with volunteers, 25 milligrams of Daraprim weekly was as effective in suppressing malaria as 300 milligrams weekly of chloroquine. Even the 25-milligram dose probably is larger than is needed to suppress malaria. Unlike chloroquine, Daraprim completely suppresses and cures malaria. Persons taking chloroquine alone will contract the disease if they are attacked by the relapsing form after they have stopped taking the drug. Primaquine, another recently developed drug, will prevent the relapses, but Daraprim needs no supplementing drug. Primaquine is too toxic to be taken over a long period as a suppressant.

Daraprim is odourless and tasteless. It is prepared as a small white tablet which is easily swallowed. It is inexpensive, and since a small dose is so effective, its ultimate cost to the user can be kept very low. This factor is most important in areas where the prevalence of malaria has kept many wage earners from gainful employment.

First tests with Daraprim were made on birds. Satisfied that the new drug did indeed have "unbelievable" potency as an antimalarial, tests on human volunteers were begun. The latter tests were particularly severe as they were made against the Chesson strain of malaria. This strain heretofore has been one of the most difficult to control.

The Public Health Service scientists also made tests to determine whether the malaria parasite might develop resistance to Daraprim. This resistance was developed under hospital and laboratory conditions, the tests showed, and the resistance could be transmitted by mosquitoes. However, the curative dose was so close to the dose at which resistance could be induced that it was considered unlikely that such a development would be a deterrent to use of the drug.

As treatment for an acute attack of malaria, Daraprim is effective, but it takes longer to act than chloroquine.

While tests were being made in the United States, English researchers were testing the drug in Africa. These tests give hope that by treating the population of malarial areas through one or two rainy seasons, the disease can be eliminated. In one such test, in an isolated village, every person was treated at the time when most of the population would be infected with malaria. The human population was cured in about two months and the mosquitoes, which ordinarily would have acquired infection, were kept malaria free. In a bag of 100 mosquitoes taken at a time when all should have been carrying malaria germs from the people they had bitten, not one mosquito was found with parasites in its body.

The new drug also gives promise of usefulness for other diseases, and tests are being made. However, its most universal application now is against malaria.

—*Science News Letter.*

The Oriental Watchman and Herald of

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44th YEAR OF PUBLICATION

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OUR COVER

Every home should be beautified by a colourful garden. Parents and children both derive much pleasure and wholesome recreation in gardening activities.

Photo by R. Krishnan

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Minute Meditations

WHERE SHALL I FIND SECURITY?

D. A. Delafield

UNIVERSAL insecurity is reflected in the fact that in 1939 there were five major secret police forces in the world, and ten years later the number had increased to thirty-nine secret police agencies in thirty-six countries.

What is true of the state is true of the average individual. In order to protect himself from dangers without and within, he carries life insurance and health insurance, invests in stocks, bonds, and property, strives for an education, and engages in numerous social activities.

People seek security in church attendance. The adversity of our times has stirred the instinct to worship God and find shelter beneath the everlasting arms. Religion has made new gains. People are looking for inspiration, assurance, and security in the spiritual life—something that materialism does not afford.

If we have made provision for our material security in the days to come—and we should—let us also make provision for our spiritual security by exercising faith in God. Time stretches before us. We do not know what joys and sorrows it may bring. But beyond the clouds God stands in the unknown realm of life, keeping watch over those who trust Him. He bids us make provision for more than our temporal needs. "Seek ye first the kingdom of God, and His righteousness; and all these things shall be added unto you."

When disaster strikes we come face to face with those indestructible things we call spiritual values. There is nothing left but faith—nothing left but God.

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YOUR EDITOR SAYS

MUCH has been written speculatively concerning the nature of the forces that would be released by the explosion of the hydrogen bomb, familiarly known to most readers as the H-bomb. There have been many wild assertions made as to the possible effects in the event of its being used in another war. However, until recently, very recently in fact, the actual effects of the H-bomb exploded last November at Eniwetok have not been known. Now a little information is beginning to trickle through the walls of the Pentagon concerning the possibilities of this new weapon. Ex-President Truman, in his last address to the American people, made certain vague references to the possible use of the bomb, and apparently taking that as a signal authorizing the release of information, the little which is now known was made public.

In World War II we were startled to read of the TNT blockbuster which is supposed to have weighed about eleven tons and was capable of destroying a square city block. Those blockbusters were thought to be the ultimate in destructive power that an aeroplane was capable of carrying. However, within a few months after the blockbuster was introduced with such devastating effects in Europe, the world was sickeningly startled by the events at Hiroshima and Nagasaki. The bombs dropped on those two ill-fated Japanese cities were made of uranium and plutonium and are now spoken of as "the old-fashioned atom bombs."

Those bombs had an explosive power equal to twenty thousand tons of TNT and were possessed as well of deadly radioactive principles. A blast equalling the explosive force of 1,000 tons of TNT was known as a Kiloton. The Hiroshima blast, therefore, rated twenty Kilotons. Now we have a new rating of the explosive forces. The new force is termed the Megaton. The Megaton equals the explosive force of one million tons of TNT.

According to information recently received, the H-bomb explosion referred to above, had a force of 3.5 Megatons. This, as any student of elementary arithmetic could determine, is the equal of a combined explosion of 175 atom bombs as powerful as the one dropped on Hiroshima. This force, as we stop to think of it, is incomprehensible. We know that one of the "old-fashioned" atom bombs exploded anywhere in the world causes such a stupendous series of vibrations within the earth's crust that it sets in motion the needles of the seismographs around the world. What, therefore, must be the effect of the H-bomb explosion?

The H-bomb, such as that exploded at Eniwetok, could "severely blast an area of 140 square miles and moderately to severely blast an area of 260 square miles." This means that one of these bombs dropped over the centre of any one of Southern Asia's leading cities could obliterate that city from the face of the earth in the twinkling of an eye. We are further told, that the Eniwetok blast produced a fire-ball which could "send a heat flash sufficient to ignite combustible material, or to cause killing third-degree burns on exposed skin, within an area of 300 square miles."

Now if we assume that a bomb is dropped over a flat country such as is found where the great cities of the world are usually located, there would be nothing to obstruct the force of the explosion and the effects of the fire-ball, and the bomb then would explode roughly in the centre of a circle of devastation having a diameter of 19.6 miles.

If this fact is not fearful enough, we are informed "that men can make . . . the ten-megaton bomb with a force of ten million tons of TNT." The new bomb is possessed of a third destructive factor in addition to the blast and the heat, known as the gamma ray, which is deadly to human life. *Time* magazine of January 19, 1953, states:

"It seems to be impossible to understand the political and military implications of the existence of atomic weapons. Indeed, these implications are not even understood by the experts. Man is about to destroy himself unless he has a corresponding revolution in his political thinking to equal the incredible advance which the scientists have produced for him in his ability to destroy fellow men."

Now, as never before, "Men's hearts are failing them for fear and for looking after those things which are coming on the earth." It is true today more than ever before that there is distress of nations upon the earth even as was prophesied by the great Teacher of Galilee 2,000 years ago. He said that these things were signs which would indicate that the time for His return to the earth was at hand. So we say to those who fear for the future of

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WHERE SHALL I FIND SECURITY?

(Continued from p. 3)

When we have God, do we not possess the greatest treasure? True security may be found in Him. He is a Refuge and Fortress to which we may flee for shelter when the storms of life beat upon us.

BOOK REVIEW

"The Indian Concrete Journal" —Silver Jubilee Issue—Published by the Concrete Association of India. Contains 30 original articles. Price Rs. 2.

The Concrete Association of India and its technical organ, *The Indian Concrete Journal,* celebrate their Silver Jubilee this month. To mark this occasion, a special issue of the *Journal* has just been published. Through a series of original articles contributed by leading engineers throughout the country, this special number covers the progress made in concrete engineering during the past twenty-five years.

The articles reveal the important role played by Portland cement concrete in the development of our country and review the progress made in various constructional fields—irrigation, multi-purpose projects, roads, buildings, etc. Indeed, in most Civil Engineering constructions of today, concrete is an indispensable material. The Association, as well as its promoters, the Associated Cement Companies, Ltd., deserve congratulations on the production of this magnificent number which is a vital contribution to engineering literature.

What's in the News?

A tablet taken by mouth was successful in preventing childbirth in 298 out of 300 couples who participated in an experimental project, Dr. Benjamin F. Sieve of Boston reports in "Science." All couples previously had given birth to at least one child. After three to thirty months, 220 couples stopped taking the tablets and then conceived within three months, according to Dr. Sieve.

The pill is made of a chemical called phosphorylated hesperidin which has been used in the past to counteract haemorrhage. Dr. Sieve believes the ability of the male sperm to penetrate an ovum depends largely on the enzyme hyaluronidase. Hesperidin, he finds, counteracts this enzyme and blocks fertilization.

Much more clinical data must be accumulated before general use of this antifertility factor is warranted, Dr. Sieve says. One undesirable feature is the dosage. The pills must be taken three times a day by the husband and four times daily by the wife in order that the amount of the chemical in the blood be kept continuously at a saturation level. The two couples in whom the experiment did not prove successful were those who forgot to take their pills at regular times.

* * * *

Thousands of surgical patients know of the pain that sometimes comes after the anaesthetic wears off. For some, it is necessary to administer narcotics. Others are subjected to the repeated hourly doses of a local anaesthetic.

A new-type drug has been developed with which a single injection can control pain for six to twelve days. It is a combination of time-tested local anaesthetics mixed in a solvent that allows absorption by the tissues at a slow rate, thus creating an anaesthetic depot in the body.

Known as Efocaine, the drug mixture has been used to control pain after major chest and abdominal operations which formerly needed post-operative narcotics.

* * * *

Absurd as it seems today, there was during the last century some concern about whether eyes could stand a nine-candlepower light—the power of the early Argand lamp, which burned whale oil. An encyclopedia published in 1804 urged people to use a small screen between their eyes and such a powerful illumination. The hostility continued well toward the middle of the century, and in 1847 the Franklin Institute of Philadelphia warned of the "unpleasant, and to many eyes painful, effects of the naked flame of a candle, lamp, or gas burner."

* * * *

Tooth decay may be affected by the amount of saliva in a person's mouth, it has been found in research by Dr. Ralph E. McDonald at the Indiana University School of Dentistry.

The more saliva normally produced in a person's mouth, the less tooth decay he is likely to have, Dr. McDonald learned. Also, the more viscous the saliva, the more the chance of decay.

It seems to be the washing effect of the saliva on teeth that does the trick. The more saliva, the greater the washing effect, and the more viscous it is, the less the washing effect.

* * * *

U. S. Industry now requires one engineer for every 60 employees, reports Dr. C. G. Suits, General Electric vice-president and director of research. He contrasts this with the year 1900, when one engineer sufficed for every 250 employees in industry.

* * * *

Children with peptic ulcers often have an emotional make-up similar to adult victims who "keep the lid on," according to Dr. Bertram R. Girdany, University of Pittsburgh pediatrician. They are usually bright, tense, and possessed with an inner "drive," much like a successful business man. They tend to keep their emotions bottled up.

Girdany's report was based on "random observations" of 45 peptic ulcer cases among children ranging in age from 14 months to 11 years. They came from a group of 50,000 children examined.

Children have more peptic ulcers than is generally believed, Dr. Girdany says. "It is an important pediatric problem," he warns. "In some adults, their ulcer symptoms date back to childhood."

DRAMA AND A BLOOD COUNT

GRACE PAUL

SOME patients get a false sense of security from a normal blood count, and occasionally are like the young woman who said, "Well, my blood count is normal, so all these pains in my back must be imaginary."

She had forgotten a serious fall four years before, when she sat down where the chair wasn't. At the time she felt stiff and sore but was able to keep moving. When she finally mentioned the fall, the doctor's job was easy.

There are other people with far more serious ailments who stop going to the doctor because of a normal blood count. Actually, the blood count is ordered to rule out certain inflammatory conditions that would make it difficult for the doctor to make a diagnosis. The number of white blood cells present in the blood is an indication of how the body is responding to whatever is causing the pain. If there is an infection present, the number of "soldier boy" white cells, called neutrophilic polymorphonuclears, is increased. If the patient has good resistance, the total number of white blood cells is greater than in a patient who does not have good resistance.

The amount of hæmoglobin and the number of red blood cells are decreased if a person is anæmic, and the cells take on bizarre shapes and vary greatly in size if a person is markedly anæmic.

When the technologist does a blood count she usually counts the total number of white blood cells and the percentage of each kind, the total number of red blood cells, and the amount of hæmoglobin. The doctor correlates the report with what he has learned, and knows he can eliminate some of the possible causes of the patient's difficulties. If the physician suspects appendicitis, he can be reasonably certain from the results of the blood count whether the pain was due to an inflamed appendix. If he suspects malaria, he can be certain only when the parasites are visible, for even the best of technologists miss parasites in some stages of their development.

The trained technologist can increase the value of a blood count considerably by giving the doctor a scientific description of any unusual cells and informing him as to the relative number of immature cells.

There is no field in which it is more important to have the work of an experienced technologist than in blood counting. Even some of

"Impure air makes impure blood, and impure blood poisons the brain and paralyzes the nerves."

the counts that look normal so far as numbers go are actually suggestive of certain pathological conditions. Doctors almost always order a blood count when a person has a severe sore throat, for the possible causes of the inflammation or swelling must be determined.

Several years ago a young man was sent to a laboratory for a blood count, and everything seemed just about normal on the report. After work hours that night the medical technologist made her usual check of the smears counted by students and non-registered technologists. When she checked the young man's blood smear, she instantly recognized cells strongly suggestive of a disease called infectious mono-nucleosis. On the record they had been reported as normal cells. Fortunately a specimen had been taken for serum testing, and with it she was able to run further tests and be sure of her analysis before admitting to the doctor that a misleading report had been allowed to leave the laboratory. The further tests confirmed her suspicions, and she telephoned the clinical pathologist, who in turn called the physician.

All the patient needed to do was rest and gargle frequently. In a few days he was as good as new, and probably in better health than if the doctor had continued to treat the throat for an infection to which he apparently had no resistance.

In another case the diagnosis was not made so quickly. A businessman who had had intermittent chills for two weeks was sent to a laboratory where the technologist had a reputation for finding malaria parasites when others missed them. Although she did not find parasites after a careful count, she had an idea. She reported to the pathologist that there was a condition present very commonly found in undulant fever. The pathologist learned from the physician that the patient had not been tested for undulant fever, and subsequent tests gave strong evidence of its presence.

Experience with many types of cases pays off. A child with a diagnosis of acute leukemia was sent to a laboratory to have the diagnosis verified and the kind of leukemia determined. An experienced technologist took the child's blood count. She got extra slides for special stains, because she was curious. She stained the slides while the patient was still in the waiting room. To her surprise she saw cells that she associated with pneumonia following whooping cough. Well-trained technologists do not give opinions, but they can ask questions.

This technologist hurried to the waiting room. "Is the baby feeling worse?" she asked.

"Yes, she doesn't have any pep, and she's hot," the mother answered. "When she had whooping cough, she didn't seem to feel bad at all, but now—"

The mother continued talking, but the technologist was not listening. She was giving her report to the physician, including the fact that the cells were suggestive of those occurring in pneumonia following whooping cough. Her interest in her work and her quick action brought a happy ending to the story.

Although every technologist observes such dramatic blood count results, still hæmatology is not so dramatic as many other phases of laboratory work.

Occasionally the blood count solves important mysteries and leads to the correction of practices injurious to health. Lead poisoning is one of the conditions in which much information can be gained from a blood count, because there is a fine stippling of the red blood cells if lead has been absorbed. Unfortunately other metals cause a similar reaction, and there is a slightly similar condition in severe anæmias.

Technologists observe more than the usual number of stippled red blood cells among poverty-stricken people. A child was admitted to a hospital because of abdominal pains. Stippled red blood cells were reported, but no apparent cause could be found. The child died, and the parents refused a postmortem examination. A second child was admitted with similar pain. Again stippled red blood cells were reported, and the doctor asked the technologist to check her stain. She did; in fact, she made up a special stain, and in it the dots showed more clearly. Doctors assured her that these dots were due to malnutrition; so the medical technologist searched the literature for records of stippled cells in malnutrition that didn't cause anæmia. The literature showed nothing.

The second child died, and the father gave permission for a postmortem examination. He didn't tell that another child at home was similarly afflicted, and the pathologist made no attempt to hurry the examination of tissues removed.

Even before the funeral the father visited the laboratory to ask the results of the tests. When he pressed the pathologist the doctor admitted that he suspected lead poisoning. The bereaved father could think of no way the child

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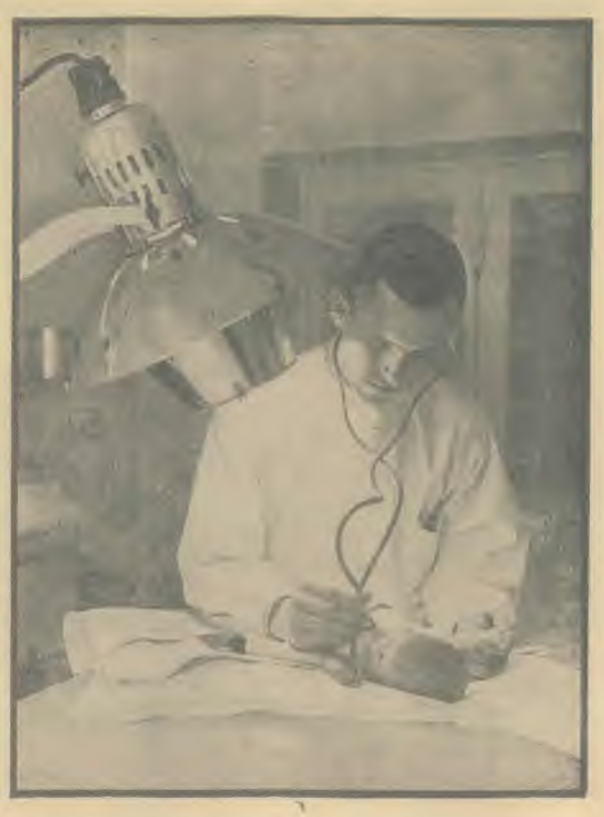
SAVING PREMATURE BABIES



EDITH L. POTTER, M.D.

THE crowd in the grandstand surged to its feet as Jim Cousins slid across the goal line for the first touchdown of the last game of the football season. I rose, too, cheering wildly because of the excitement of the game and because I was proud of Jim. Jim is my god-child so I am allowed a little extra enthusiasm for him and I never observe one of his minor triumphs without remembering the first time I ever saw him.

He was born prematurely—almost three months before the expected date and a tinier, more fragile-looking baby it would be hard to imagine. His thin, delicate skin seemed almost transparent, and on the infrequent occasions when he opened his eyes they seemed far too big for the rest of his face.

From the first he was a vigorous baby even though he weighed less than three pounds. Thanks to his inherent vitality and to the excellent nursing care he received in those early weeks, he thrived and when his normal birth date came he actually was larger and more advanced than the usual newborn infant. While he was still small his mother was worried for fear he might be permanently handicapped by having been born so early, but there was never a hint of it. He has always been one of the leaders at school, both scholastically and in extra-curricular activities and is as fine and handsome a boy as you could find.

What is a premature baby? How do you tell when a baby is premature?

A baby is said to be premature if it is smaller and less well developed at the time of birth than the average child. This is ordinarily because it remains in the uterus too short a time although occasionally growth is unusually slow and the infant is underweight in spite of a normal length of intrauterine life.

The average age of a child at birth is 38 weeks. More than 90 per cent of all children are born within two weeks of the expected time; the majority of the others are born earlier, a few later. The average birth weight of white infants in Western countries is about seven and a half pounds. Some may weigh as much as two pounds less than this and still be well enough developed to establish themselves as independent individuals quite adequately, but they cannot be much smaller without finding extra-uterine life unusually difficult.

We have learned from experience that babies weighing less than five and a half pounds often need special care and the division between mature and premature is ordinarily based on weight instead of on the number of weeks the baby grew before birth. Errors are often made in the date of the last menstrual period and occasionally babies weighing as much as ten or twelve pounds have been recorded as premature because they were born before the anticipated time.

The reasons why babies are born earlier than expected vary, and in more than one third of all premature births no cause can be found. About ten per cent of premature babies are twins. Being a twin is a definite hazard. Because there are two babies instead of one, the uterus enlarges more rapidly than usual and labour often sets in when the combined weight of the babies is about equal to what a single infant would normally weigh at the onset of labour.

Hard physical work during the latter months of pregnancy may cause early delivery. For this reason many companies employing women for jobs necessitating active physical exercise require them to stop work well in advance of the time the baby is expected to arrive.

If the baby does not develop normally nature may institute labour early, almost as if to get rid of a poor pregnancy in order to start another.

The hormones produced by the ovaries and placenta, which are necessary for the establishment and progress of pregnancy, are sometimes deficient and may prevent the normal continuation of pregnancy.

It has recently been shown that women who are underweight at the beginning of pregnancy and do not gain normally during the first few months are several times more apt to deliver prematurely than women of normal weight.

A few women appear to have some inborn hyperirritability of the uterus which causes the expulsion of the baby prematurely in all pregnancies. In most instances, even though a woman may bear one baby that is premature, her other babies are likely to be born at the expected time.

After carefully studying the histories of many women who have had premature babies, it becomes evident that in some instances we can find no reason, but in general, the healthier the mother and the more complete her diet in required minerals, vitamins and proteins, the less likely she is to have a premature infant.

When labour sets in prematurely, special preparations must be made for the delivery of the child and for its care after birth. Premature babies find it more difficult to establish a life of their own than do full term babies, because they are less well developed—the lungs, heart, digestive system and other organs are incompletely developed, and every effort must be made to put as little strain on these organs as possible.

The tissues of a premature baby are fragile and must be protected during birth. Breathing is not established as readily as in larger infants and, because of this, drugs given to a mother for pain relief during labour must be kept to a minimum. This usually produces no hardship for the mother, since labour is generally shorter than

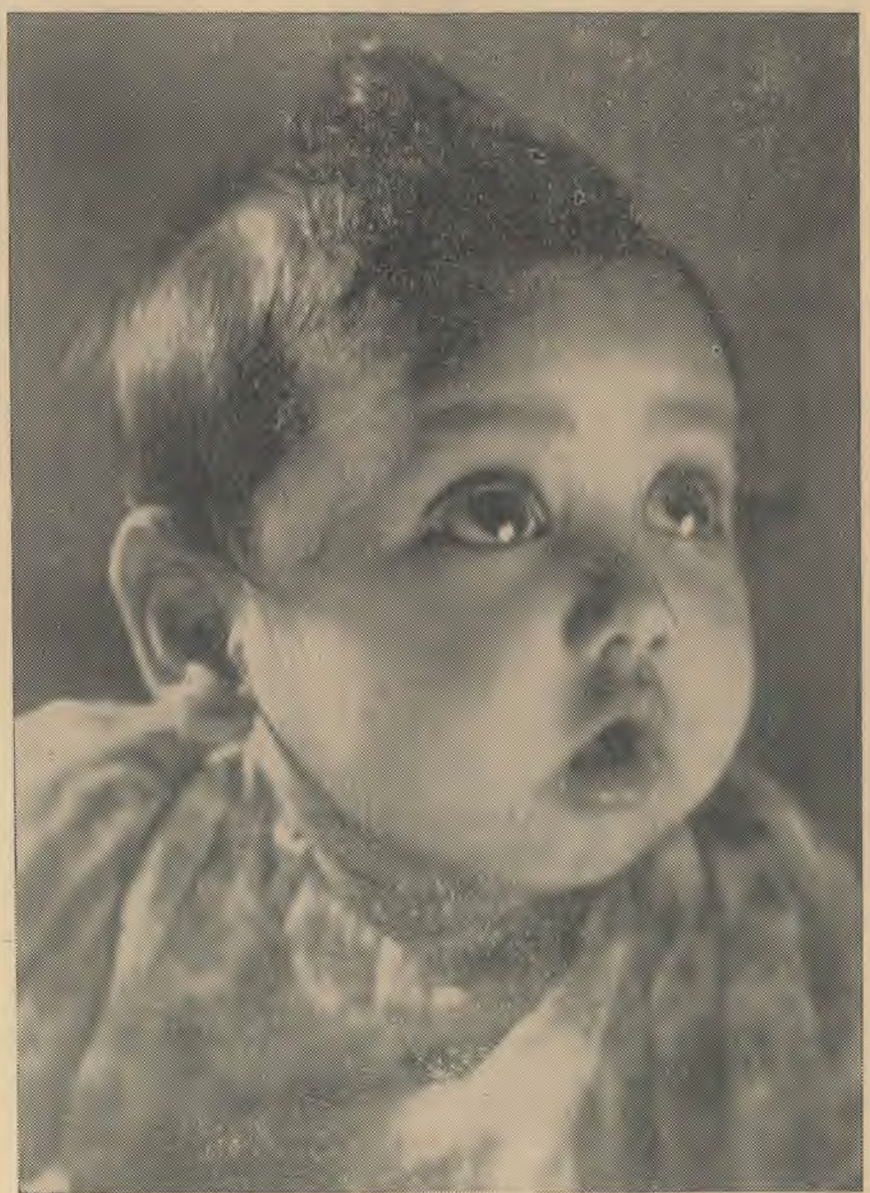


Photo by R. Krishnan

Modern medical science is making it possible for many babies born prematurely to grow and develop normally.

when it occurs later in the pregnancy. During the actual delivery, a local anæsthetic can be injected into the lower part of the spinal canal or into the tissues around the nerves supplying the uterus. This does not harm the baby. But a general anæsthetic used to put the mother to sleep may similarly affect the baby and cause considerable delay in the establishment of respiration.

When a premature baby is born it is immediately put into a heated crib or an incubator to protect it from chilling. The mouth, throat and air passages to the lungs are carefully cleaned out and if the baby is very small an extra supply of oxygen is added to the air it breathes to compensate for the incomplete development of the lungs.

Almost all hospitals have nurseries specially equipped to take care of premature infants and staffed with specially trained nurses. An infant is usually transferred from the birth room to the premature nursery as quickly as possible so that it may take every advantage of this special care. It is usually kept in this special nursery until it weighs five and a half pounds. This may be for many weeks if the weight is no more than two or three pounds at birth.

Small premature babies are kept in closed incubators in which the temperature is maintained around 90 degrees, the oxygen concentration of the air is increased to 50 to 60 per cent and the humidity from 70 to 90 per cent, depending on the condition of the infant. There is some difference of opinion as to whether or not the baby should be clothed. Many doctors feel that clothing inhibits normal activity and development and think that the child grows faster and is subject to less skin irritation when unclothed. Others feel that since the baby has been expelled prematurely from the closely encompassing walls of the uterus, clothing aids to some extent in simulating the snugness of the intra-uterine environment.

The food on which a premature baby will best thrive is also the subject of some disagreement. It has long been believed that human milk is more easily digested by small infants than is cow's milk and every effort has generally been made to provide it. In recent years some doctors have thought that cow's milk might have an advantage over human milk but most still believe that human milk is preferable. If the mother has a sufficient amount of breast milk, this is expressed into a bottle and after being sterilized is fed to the infant in small amounts at frequent intervals.

The small premature baby has insufficient strength to nurse and is fed with a medicine dropper or through a small soft rubber tube passed into its stomach. Even larger prematures are often fed this way for the first several days to conserve their strength.

All newborn infants are extremely susceptible to infection, but in prematures this tendency is exaggerated. Before birth, the infant is well protected by the walls of the uterus and does not normally come in contact with bacteria. Consequently it has no resistance, and any bacteria, even those that are harmless for adults, may be dangerous for premature newborns. Because of this, every premature infant must be carefully protected. The most common entry-ways for bacteria are the lungs, the stomach, and the skin. To prevent bacteria from entering the lungs and causing pneumonia an attempt is always made to keep the bacteria in the nose and throat of the nurse or other attendant from getting to the baby. All other people are completely excluded from the nursery. The nose and mouth of every person caring for the infant are covered with a mask and no nurse with a cold, even a mild one, goes into the nursery.

To prevent bacteria from entering the stomach all food and water is sterilized, except in the case of larger or older premature infants who are able to nurse directly at the breast. No one with any kind of infection, especially diarrhœa, should come in contact with a premature infant or with anything that may go into his mouth.

The skin of the premature baby is delicate and must be handled with great care to prevent infection. All bedding, diapers and gowns are sterilized during washing and are handled as little as possible to keep them uncontaminated. Care must be taken in cleaning the skin to prevent injury, for an injured skin is more susceptible to infection. Soap and water are not often used for bathing premature infants and generally only a little sterile oil is used.

When a premature infant is kept in a warm moist atmosphere rich in oxygen, is fed properly, and is protected from infection, it has a very good chance of survival provided it is not too tiny when born. When an infant is normal at the time of birth and is cared for under ideal conditions, the likelihood of survival is directly related to birth weight. Every additional ounce improves the chances.

An old wives' tale says that a seven months baby has a better chance of survival than an eight months baby. Most beliefs of this sort have some basis in fact, but this has none. Its origin is unknown but several explanations are offered. One is that this belief is related to the fact that in olden days seven was considered an especially lucky number. It may have been thought that if a baby could force its way out of the uterus at seven months it must be unusually vigorous. If unsuccessful in the attempt at seven months, it would try again at eight months and this time, if successful, it would be exhausted by the two attempts and would probably die.

The average baby at the end of seven months weighs only slightly more than two pounds. Few babies weighing less than this at birth survive. The principal reason such babies cannot live is that their lungs are not sufficiently developed. Until the fifth month the air sacs are lined with a solid layer of cells. About this time small blood vessels begin to penetrate this lining. When enough blood vessels have grown through to take enough oxygen from the air, the infant can breathe successfully. This is usually accomplished by the end of the seventh month—the beginning of the time when survival outside the uterus is possible. We give premature babies oxygen so they can make the best possible use of their incompletely developed lungs.

In the best obstetric hospitals more than 99 per cent of babies who weigh more than five and a half pounds, and are consequently considered mature, live and are entirely normal babies. In the same hospitals only 85 to 90 per cent of those weighing from two and a half to five and a half pounds live.

The reasons for failure to survive are much the same in the two groups except that the premature is considerably more susceptible to disturbances in the lungs than a full-term baby. Other reasons for nonsurvival are injury incurred before birth as a result of partial cutting off of the oxygen supply received from the mother through the umbilical cord or placenta; mechanical injury to the head during delivery; abnormal development with the production of a malformation; bacterial infection of the lungs, stomach and intestines or skin; Rh incompatibility, and a few other miscellaneous conditions.

The majority of premature babies who live are not handicapped by their prematurity. They may seem to develop a little more slowly than mature babies but much of the apparent difference disappears when it is remembered that six months after birth the baby born at seven months is actually three months younger than one born at the expected time. Occasionally children born prematurely continue for several years to weigh slightly less than mature babies of the same postnatal age but generally inside of three or four years it is impossible to notice a difference. The same is true for mental and general physical development.

On rare occasions a tragic thing may happen to a small premature who, because of low weight, is on the border between life and death at birth. In spite of having surmounted the hurdle of establishing an extra-uterine existence he may become blind. The blindness results from a detachment of the retina, the inner lining of the eyeball. Folds form in the retina and it gradually loosens up and condenses into a solid mass behind the lens. It is occasionally mistaken for a cancerous growth but it is not a cancer and does no harm to the baby except to destroy eyesight. At present no one knows why this occurs or how to prevent it. There is no cure after it once develops. This condition is found only in very small prematures and seems to be directly related to the unfinished state of the eyes at birth. Fortunately, even in small infants, it is rare. Many physicians are studying this problem and it is hoped that before long we may find some way of preventing any premature baby from being deprived of eyesight.

We have come to be more concerned with the causes of prematurity and, by prenatal advice to expectant mothers, are hoping to decrease the number of premature births. Through research we are hoping to find other means as yet unknown for preventing prematurity. Research is also constantly being carried on to find the best ways to help a premature baby adjust to his new surroundings and attain normal babyhood.

At present prematurity is eighth among the leading causes of death at all ages. This is in spite of the great reduction in the number of deaths that has been brought about in the last few years. Although only six to seven per cent of all babies are bore prematurely, more than half the newborn deaths are in this group. To further decrease the mortality among premature infants is one of the goals of modern medicine.

—Today's Health.

KIDDIES' KORNER

FOUND: ONE BROWN PUPPY

Florence J. Johnson

THE birthday party was over. The boys and girls had gone home and Sundar was left alone looking at the presents his friends had brought him.

There was one present, however, that he had wanted, but no one had remembered to give it to him.

None of his friends brought him the present. They all brought nice gifts, but—

Sundar wanted a little puppy like the one he had seen in the window of the pet shop.

Lonesomely, Sundar went out the back door to put his new bicycle away in the garage. Halfway to the garage he stopped suddenly, listened, and looked around. He thought he heard a rustling in the leaves that had fallen from the big tree. Seeing nothing, he started to go on. This time the rustle came from near his feet. He looked down, then knelt with a cry of sympathy.

There lay a little brown puppy, his eyes big and pleading, his short stubby tail wagging hopefully. He tried to get up, failed, tried again, and stood, wobbling on three legs. One front leg was twisted, broken.

When Sundar picked him up, a pink tongue licked his cheek. The puppy gave a tired, but hopeful, little bark. He was sure that he had found a friend.

Sundar ran to the house with his unexpected birthday present in his arms. His mother shook her head when she saw the broken leg.

"We will have to take him to the dog hospital. There is just time enough before dinner."

"I can keep him, can't I, mother? He came to me. He is just what I wanted for a birthday present. Not that I don't like my other presents, but I did so what a puppy."

"He is most likely someone's pet who ran away and has been struck by a car. I will telephone to the newspaper that a puppy has been found."

"Do we have to?" Then Sundar sighed, and said, "Yes, I suppose so. But the boy who had this puppy couldn't have liked him very much if he let him run away."

Two days passed. The notice was in the paper that Sundar Dass had found a little puppy, but no one called for him. Sundar was happy, and so was Rover, for that was the name Sundar had given to him.

But—every so often—Rover would hobble to the door and look as if he was expecting someone, It was at these times that Sundar looked sad. Rover was remembering the other boy.

One week passed—two—three—four. Still no one claimed the little puppy, who was now hopping around, very much at home and never far from Sundar.

"I guess Rover will be my puppy," said Sundar happily one afternoon as he came from school and found Rover waiting for him at the gate.

But that night a man came to the door, Sundar's father answered the doorbell. Sundar was listening.

"I understand you found a little puppy. I've just come back from a trip to find that my son's pet has been missing for some time," Sundar heard a man's voice say. He started to grab Rover, but Rover had recognized the voice. He darted out into the hall, barking joyfully.

"Well, old man, what does this mean?" The man picked up the dog and held him close. "Don't you know it's wrong to run away? I suppose you got lonely for Sorab and started to hunt for a new playmate."

"You have boy?" Sundar asked slowly, following his pet into the hall.

"Yes, his name is Sorab. His mother and I had to take him to the hospital for a month, and we left the puppy with a neighbour. She didn't like dogs, but said she would take care of him while we were gone. I guess she was rather glad when he disappeared. And I am glad you found him. Sorab thinks the world of him, and it will be several months yet before Sorab can walk again."

"O," said Sundar thoughtfully.

"Would you like to come and see Sorab tomorrow? I am sure he will want to thank you for taking such good care of his Skipper."

"Is that his name? I called him Rover."

The next day Sundar went to call on Sorab, who was in a wheel-chair with his dog Skipper,

curled up beside him. Skipper remembered Sundar and greeted him with joyful barks, but he didn't leave Sorab. He was Sorab's dog.

But his barking started something. Out of a box beside Sorab's chair tumbled another little brown puppy. He stopped and looked at Sundar, his eyes big and pleading, his short stubby tail wagging hopefully. Sundar picked him up. A pink tongue licked his cheek.

"How do you like Rover?" asked Sorab, grinning happily.

"Rover? Is his name Rover?"

"Sure. That was the name you gave Skipper. So this morning dad went to the kennels and got him. They're brothers, and alike as two peas. He's yours."

"Mine!" Sundar hugged his Rover happily, and looked at Skipper's real owner.

What a birthday! A new friend and a puppy all his own. He had Rover.

LOW-COST HOUSES FOR THE MASSES

A.C.C.'s Contribution to Constructional Engineering

A Symposium on Low-cost Concrete Houses, an architectural competition on Low-cost Houses, and an Engineering Exhibition, high-lighted the Silver Jubilee celebrations of the Concrete Association of India, held in January at the Council Hall, Bombay.

The symposium attracted considerable attention from the engineering profession in India and a number of interesting papers on the design and construction of economical concrete houses for low income groups, suitable for the varying climatic conditions of India were received and discussed. The architectural competition has also resulted in numerous pleasing architectural designs for one-room kitchen self-contained tenements to four-room quarters for a middle class medium-sized family. The emphasis is on the "expanding" design so that more space could be added to the original living space according to the needs of the growing family. Some of these designs as well as models of expandable houses, as well as interesting exhibits of working models of a cement factory, a ready-mix concrete plant, etc., are on show at the Engineering Exhibition at the Council Hall. The Concrete Association has also brought out a special issue of *The Indian Concrete Journal* recording twenty-five years of concrete engineering and construction in India to commemorate the event.

During the twenty-five years of its useful service, the Association, which has been sponsored by the Associated Cement Companies, Ltd., has seen the establishment of Portland cement concrete as a foremost construction material in India. Through its own efforts and free technical service to cement users, it has promoted the use of Indian cement. Its notable contribution has been its unceasing campaign for better roads in the country and its technical advice on design and construction of concrete roads and free supervision through its trained personnel. Mention may also be made of the pioneering efforts of the Association in improvement work carried out in selected rural areas which may well be adopted in the community development projects now under way. The Concrete Association has also, in collaboration with other engineering organizations, contributed a good deal towards the establishment of improved building methods and better engineering standards in the country.

The service rendered by the Concrete Association has been made possible by the foresighted policy of the Associated Cement Companies to assist cement users with technical data. The Silver Jubilee Year sees this institution occupying a position of national importance and in the years to come there need be little doubt that the organization will continue to serve the people of this land with the same zeal and spirit of helpfulness as before.

National News Photo

A working model of a cement factory shown at the engineering exhibition.

PAIN Is a BLESSING

HAROLD J. HOXIE, M.D.

NALATHUMBY has many scars and three unhealed sores on his skin. He has just recovered from a toe infection caused by a nail in his shoe. He frequently burns his fingers. The reason is that two years ago he was almost fatally poisoned by arsenic, and was left without feeling in his hands or below his knees. He cannot tell when his hands, legs, and feet are being injured. He would give almost anything to be able to feel pain in his hands and legs.

Pain is one of nature's methods of saving us from destruction. Without skin pain we could not safely move about in a world made up of so many things that are hard, angular, sharp, and hot. We learn to respect knives, stones, and hot stoves. Because they have caused us pain, we have changed our attitude toward them. Thus we avoid new danger.

Durai couldn't move his left ankle after falling from a step-ladder. It hurt too much. First-aiders splinted his leg and foot with boards until he was taken to a doctor's office. The X-ray film showed that the bone was broken. The pain had insisted on rest for his injured ankle, and this rest prevented further injury.

When we feel pain in the skin we go into action. We withdraw from whatever causes the pain. But when pain arises inside our bodies we are likely to lie down and be quiet. This pain serves a useful purpose, because it ensures rest to the injured or diseased part.

Pain is the greatest enemy of procrastination. It is a sort of burglar alarm, a warning that should be heeded. Without pain, many a disease would reach an incurable stage before being detected.

Take toothache, for example. If there were no pain, the cavity in the tooth would not be discovered until a large part of the tooth was decayed. We should see our dentist frequently, of course, so that the cavity will be discovered before the aching starts.

Appendicitis without pain would very likely spread infection to other parts of the abdomen, and cause serious damage before being discovered. Pain in the abdomen is usually the complaint that makes the patient go to the surgeon for early care in appendicitis.

Angina pectoris, or pain in the chest, impels its victim to be quiet and to seek relief. The pleurisy that often accompanies pneumonia is a strong incentive to get early treatment. The pain that accompanies a peptic ulcer can make us do something to heal the ulcer and avoid serious trouble, such as perforation and bleeding.

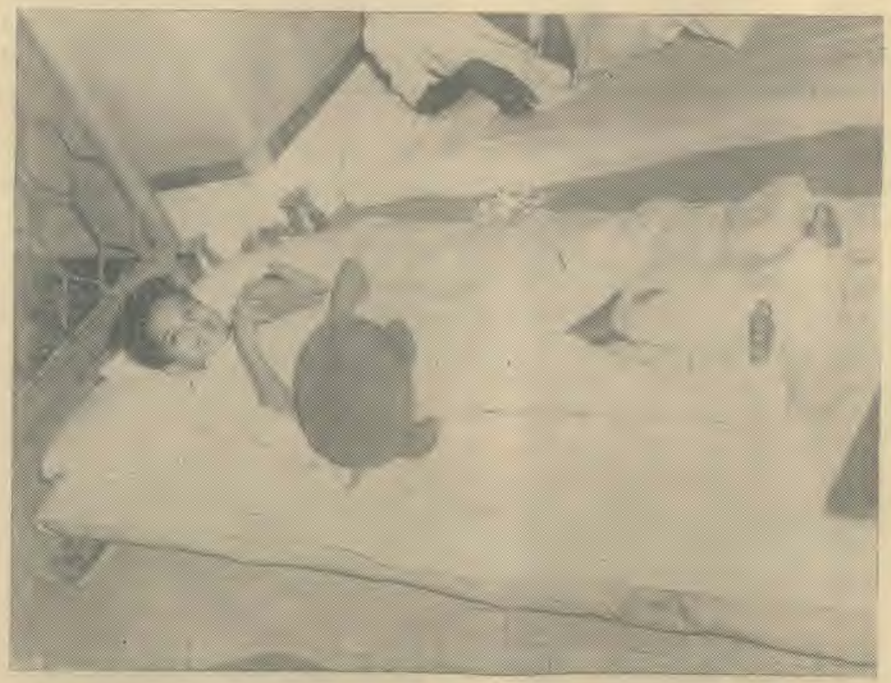


Photo by U. S. I. S.

Pain can sorely try us but it can produce patience and courage.

Acting alone, you cannot always end pain. But over the years pain has stimulated the minds of men to find ways to relieve and prevent suffering. This is the domain of medicine and surgery.

Pain is one of the most common complaints of persons seeking medical help. The physician knows that location, characteristics, and relation of the pain to bodily activities are of great importance in making a diagnosis. Observe these qualities of your pain in order to help your doctor find the cause.

Your pain nerve endings are most highly concentrated at the surface of the body in the skin. But the tissues under your skin also have pain nerves. These nerves enable you to feel pain originating in the muscles, tendons, bones, joints, and organs such as heart, lungs, kidneys, liver, gallbladder, and intestines.

Many of your nerves that are capable of carrying pain sensation are never used. Nevertheless, they are there for your protection in case of need.

We can tell just where a pain is coming from if it is on the surface of the body. This is because of the more abundant nerve supply to the skin, and because we have other sensations such as touch and temperature that are stimulated at the same time. Also, our brains have had a great deal of experience evaluating sensations from the skin.

When pain originates in a deep structure, such as a joint, a muscle, or an inner organ, it is not so easily located. Our brains have not had much experience with deep pain, so it is referred to the body surface. But we know that it is not just on the surface. Not sharply localized, it is an aching rather than the sharply defined feeling characteristic of skin pain.

Sometimes pain is produced by an irritation or injury to the pain nerves in the path to the brain. The pain will appear to be wherever the source of those nerves is.

Pain sensation reaches the brain by way of three sets of nerve cells. Along the way, in the spinal cord, the first set of these nerves makes contact with other nerves going out to muscles. This connection, called a spinal reflex, enables us quickly, without thinking, to pull our hand away from a hot iron.

Once in the brain the sensation is evaluated and interpreted as to its meaning. Our reaction to pain depends largely on this interpretation. If we are tired, in poor general health, or fearful, pain may be magnified. Courage, knowledge that the pain does not mean danger, and concentration of attention on something else all lessen the feeling of pain. So pain is an experience as well as a sensation.

Most of us have been surprised, after a scuffle or a swim, to find that we have a cut or bruise that caused little or no pain.

Sometimes pain is belittled, with disastrous results. Mr. M., a middle-aged lawyer, awoke one night with pain in his upper abdomen and lower chest. Thinking it to be indigestion from the heavy meal he had eaten a few hours before, he took some soda and a dose of salts. His skin became pale, cold, and clammy. After about an hour and a half he began to feel better. The next day he didn't feel too well, but because it was a holiday, he rested, and the next morning he felt well enough to work. Three days later he died in his office. The medical examiner reported the death caused by a heart condition that had given warning several days before.

When pain tells you that something is wrong and you cannot find and remove the cause, see your doctor. Don't disconnect or muffle the alarm system by taking aspirin or other drugs that simply relieve the pain without correcting the trouble.

Your doctor is trained to find the cause of your pain and to treat the cause. He may use surgery, physical therapy, or medicine to correct the condition causing the pain.

The pain may be aggravating the condition that is causing the pain. Also your way of living may be the reason for the pain. If so, it will be necessary for your doctor to prescribe temporary use of drugs that you would be unwise to take yourself. Used wisely, drugs that lessen pain can aid recovery.

Unfortunately, the relief of pain sometimes removes the incentive to follow a programme that would lead to better health. Mrs. C. was given tablets containing aspirin and caffeine for relief of headaches caused by nervous tension and fatigue. The relief they gave her enabled her, contrary to her doctor's advice, to continue her same habits. Within three months the tablets were no longer relieving her headache, and she was lying awake at night. Only after three weeks' rest in a sanitarium did she recover.

Pain has other benefits besides compelling us to seek relief. Solomon recognized this when he wrote, "Sorrow is better than laughter: for by the sadness of the countenance the heart is made better." Pain can sorely try us, but it can produce patience and courage. Nobly borne, it strengthens the soul, knits hearts together, helps us to pity the pitiful. But it can do more than this—it can bring us to trust in God. The suffering of our Lord on Calvary proves that we can trust Him.

Yes, pain is a blessing, physically and spiritually, if we take the right attitude toward it.

BLOOD COUNT

(Continued from p. 7)

could have got lead. The pathologist dismissed him courteously, yet the father stood quietly in the laboratory as though he still wanted to talk.

The medical technologist, simply to be friendly and sympathetic, asked him a few questions about the plans for the funeral, and the father burst out, "I think they ought to wait. My other little boy has the same thing, and the doctors don't know what's wrong. I don't want to bring him to the hospital, but we're downright cold out there hovering around the open fire with just one battery box burning."

"What did you say you burned?" asked the technologist, forgetting she was supposed to be

very calm in all situations.

"Battery boxes. They give us the discards at a junk shop. They smell awful, but they provide a little heat."

"Battery boxes are lined with lead!" The technologist recalled aloud some of the things she'd learned in chemistry. Her voice was loud with excitement, but her reaction was mild compared with that of the pathologist, who literally bounced out of his office.

"So you burn battery boxes," he said, looking at the man with the gleam that comes into a scientist's eyes when he was made a discovery.

"Yes, doctor," came the calm reply. "Do you think that could have had anything to do with the children's getting sick?"

The pathologist merely explained that the fuel had caused the first child's death. The man explained that the parents of the other dead child also burned battery boxes, and told of other homes where children were suffering from abdominal pains.

Prompt medication saved the lives of all the other children in the neighbourhood, and a brotherly city provided stoves and wood for poverty-stricken homes. Other cities have faced the problem since; and usually the trouble is first discovered by some medical technologist doing a blood count.

The services of a registered medical technologist will bring to you a thorough study of your blood. Your physician will study her report. If it is normal, he may ask for further investigation until he finds the cause of your health difficulty. Although a good blood count is assuring, just remember that it doesn't reveal everything that may happen within the human body. Because of this your physician often will ask for other studies to help establish a true diagnosis of your illness.

VITAMIN NUTRITION

James Gregory

You may be eating three big meals a day and yet be slowly starving yourself for vitamins essential to your well-being.

The total amount of food you eat often has little to do with your general health. Your diet must be balanced to include essential minerals and vitamins if you want to avoid deficiencies that cause crippling diseases.

Vitamin deficiencies do not appear in one race, class or group of people. They occur as often among higher income groups as among poorer classes.

One famous nutritionist says that he has observed poor labourers in Asia who live to a healthy old age on unpolished rice and sea food. Such a diet supplies necessary vitamins and minerals.

Many factors enter into the selection of a poor diet. Ignorance of vitamin content of foods, lack of money, and seasonal scarcities are a few. Many medical authorities say that supplementary vitamins in pill or liquid form would probably be helpful to almost anyone.

What are vitamins? Briefly, vitamins are naturally occurring organic substances that are essential for normal growth and the maintenance of life. Vitamins do not furnish energy, but are necessary for transforming foods into energy. They also regulate many body processes.

Strangely, practically all vitamin deficiencies result from the lack of several vitamins, rather than just one. For example, the primary cause of pellagra is a deficiency of niacin, one of the B vitamins. But the condition is also accompanied by deficiencies of vitamin B_1 and B_2 as well as others.

Since many vitamins are destroyed through cooking, nutritionists recommend that raw fruits and vegetables be included in the diet whenever possible. Vitamin deficiency diseases are disappearing in areas where people are following this advice.

Of all the vitamins identified to date, only vitamin D can be manufactured in the body. Vitamin D is obtained in the skin of man by the action of the sun. All other known vitamins must be taken into the body as parts of normal food.

The animal organism, unfortunately, does not have special storage organs for vitamins, so a fairly steady intake is necessary for good health. Scientists generally believe that a person cannot injure himself by taking moderate amounts of vitamins, even if these are in excess of his needs. Any excess appears to be eliminated through natural body functions.

YOUR EDITOR SAYS

(Continued from p. 4)

mankind, *the end of all things is at hand!*

But we would also remind our readers of the words of Isaiah the prophet when He wrote: "Strengthen ye the weak hands, and confirm the feeble knees. Say to them that are of a fearful heart, Be strong, fear not: behold, your God will come with vengeance, even God with a recompense; He will come and save you. Then the eyes of the blind shall be opened, and the ears of the deaf shall be unstopped. Then shall the lame man leap as a hart, and the tongue of the dumb sing: for in the wilderness shall waters break out, and streams in the desert. And the parched ground shall become a pool, and the thirsty land springs of water: . . ."

Let us each live daily in such a way that we may be ready for that great day so soon to come.

READY TO QUIT?

SHIRLEY NELSON SHUMAN

IN ONE of Tolstoy's books a hard-working farmer was once asked, "If you knew you had a short time to live, what would you do?"

The farmer looked up for an instant from his ploughing. "Why—keep on ploughing, of course," he answered.

That was a courageous attitude. How many of us, when faced with a similar situation, could respond in like manner? Yet there are some who, despite dire warnings by their doctors, plough on and somehow do escape the limits put on their life span.

There is the example of the man who was told by his doctor that he had six months to live and that he could most profitably spend it by staying in bed. Despite his doctor's injunctions, he got up and had such a wonderful time travelling all over the world that he lived many years afterward to tell about it.

John D. Rockefeller, Sr., was at one time given two weeks to live because of a serious stomach ailment. We all know to what high age this financial wizard lived. He too ploughed on, but he was sensible and moderate about it.

In an airy cottage high up in the mountains a man was busily and happily engaged in woodcarving. All around him were samples of his craft—exquisite matchboxes, inkstands, bookstands, and numerous other articles. These he sold to an exchange at fairly high prices. As he talked there was an unusual brightness in his eyes.

He was still tubercular, he said, but felt much better in the clean, dry air amid the mountains and in doing the work he loved.

"The medicos gave me up for dead fifteen years ago," he said with a wry smile. "But I'm still at it, even though they warned me the shavings weren't good for me. When I get tired of carving, my wife and I work the land, and there's a piece of change now and then from the produce of our little farm. We get by and we're happy in doing; that's what counts."

This man's hobby was the making of him.

Tom, a man of fifty, suffered a shock ten years ago. This left him paralyzed in side and leg. For months he lay in anguish, a state of mind aggravated by a witless remark that were he to have another shock, that would be the end of him.

However, as time wore on, the impact of that remark gradually lost its efficacy. Moreover, Tom, being a man of strong mind, resolved to take himself in hand. Somehow the long and dreary winter passed. Through the windows came the spring sunshine. Outside the budding trees whispered of hope, and their message warmed him.

In time Tom got better. His side and leg cried for movement, and those who loved Tom helped him. He got off the bed and learned to

Photo by U.S.I.S.

Even the loss of both arms and a leg has not discouraged this young Indian patient.

shamble along. There was a new sparkle to his eyes, a new set to his chin.

As the days went by, Tom learned to walk haltingly with a cane. His lips, that had been twisted, learned to smile, and he took a new lease on life.

Today his photography takes prizes at exhibitions. An avid reader, he has developed a critic's attitude, which has netted him some rupees in writing an occasional review for the periodicals. In summer his hobbies have extended to horticulture, a prize example of which are his gladioli.

Yes, Tom has had another shock. His foot drags a little more. It is difficult for him to get up alone. It is difficult for him to walk unaided. But his wonderful spirit is still there.

Another such is our friend Ann. This unfortunate woman of thirty-odd summers has the progressive disease known as multiple sclerosis. Although chronically weak and incapable of moving her legs other than in jerky movements, she is a constant inspiration to her husband and children because of her sweetness and fortitude.

In the community she is sought after for her floral and fruit arrangements. Other communities have recognized her unusual gift and have also patronized her. Doing good for others has left her little time to think of herself and her disease.

If limits are put on our lives, let us calmly appraise them. Let our minds rule our bodies in a constructive way. With medical science to guide us, and the will to do, we may rise above those limits and live far beyond them. But first of all we must have faith in God, and then in ourselves.

Where there's life, there's hope. Even in the last flicker of life, hope may be so strong that it may make a flame of it.

And if there is no hope, as even in that deadly scourge, cancer? Bertha Andre, the concert singer from Oakland, California, met it by requesting the editor of a local newspaper to arrange for her to sing in the rotunda of Oakland's city hall—her farewell performance, she said.

Given less than a year to live by her doctor, she sang before hundreds of admirers. With a beaming smile on her face, she began Schubert's immortal melody:

"Oh, listen to a maiden's prayer, for thou canst hear tho' from the wild, and thou canst save amidst despair. . . ."

The audience listened with bated breath, and when she finished, many had tears in their eyes. The applause was deafening.

When the crowd began dispersing, Mrs. Andre sat down to discuss the wonderful events in her life. Then she said, "I might as well face it. It would do no good to do otherwise. If God gives me a few more days or months to stay, it is to enjoy them and not to make others moan or weep."

What a wonderful philosophy for all of us!

Photo by R. Krishnan

The farmer looked up for an instance from his ploughing, "Why, keep on ploughing, of course!" he answered.

E. R. Squibb & Sons combines with leading U. S. manufacturer of Basic Chemicals

Greatly enlarged facilities will increase scope and tempo of medical research

E. R. Squibb & Sons, the internationally known manufacturers of ethical pharmaceuticals, has recently combined with the Mathieson Chemical Corporation, a major producer of industrial and agricultural chemicals and petrochemicals in the U. S. A. This combination has paved the way for an even greater development of research, manufacturing and marketing facilities of both companies throughout the world.

The policies and standards of the century-old firm of E. R. Squibb & Sons, will not only be carefully maintained but broadened by the additional research facilities offered by the Mathieson Chemical Corporation. The products and the organization which have made Squibb a leader in the pharmaceutical field of research throughout the world will be continued and expanded.

Co-operation of the broadened research facilities of both Squibb and Mathieson is expected to make available new specialities to the medical profession everywhere. Wherever possible, these will be manufactured locally.

Since the end of World War II Squibb manufacturing facilities have been established locally in Mexico, Cuba, Colombia, Peru, Argentine, Uruguay, Brazil and in Europe and the Far East.

Late in 1950 Squibb and Sarabhai Chemicals, Baroda, began a programme in India under which Sarabhai is now manufacturing an extensive line of Squibb Products, including antibiotics, vitamin preparations and medical specialities.

One of the outstanding achievements of Squibb and Sarabhai was that they were the first in India to make available the dramatic new drug, Nydrazid, for the treatment of tuberculosis. Rigid control, emphasis on high standards of quality and the availability in India of the latest advancements in medical science to come out of the United States, are important features of the Sarabhai-Squibb programme.

THE 37TH SWISS INDUSTRIES FAIR IN BASEL

The 37th Industries Fair will be held in Basel from the 11th to 21st April, 1953. More than 2,200 exhibitors cover an exhibition area of over 1,000,000 sq. feet and is rightfully considered one of the finest displays of the kind in Europe. The Fair will be a compact exhibit by 17 industrial groups in 14 different halls and will present a panorama suggestive of the abundance and variety of Swiss industrial production, the keynote of which is highly specialized precision engineering.

THE DOCTOR SAYS

1. This question and answer service is free only to regular subscribers.

2. No attempt will be made to treat disease nor to take the place of a regular physician in caring for individual cases.

3. All questions must be addressed to The Doctor Says. Correspondence personally with the doctor is not available through this service.

4. Questions to which personal answers are desired must be accompanied by ADDRESSED AND STAMPED ENVELOPES. Answers cannot be expected under ONE MONTH.

5. Questions sent in on Post Cards will not receive attention.

6. Make questions short and to the point. Type them or write them very clearly.

7. Questions and answers will be published only if they are of such a nature as to be of general interest and without objection, but no names will be published. Address "The Doctor Says," Oriental Watchman and Herald of Health, P. O. Box 35, Poona 1.

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LEUCODERMA: Ques.—"Please give me a good treatment for leucoderma."

Ans.—Treatment for leucoderma is not very satisfactory. Injections of *oil of bouchi* into the involved skin is of some value. The patches may be masked by painting with a weak solution of walnut juice or with permanganate of potash 0.2 to 0.5 per cent in water

?

THE WAY TO REDUCE: Ques.—"What must I do to reduce? What should be the quantity of food I should take? Are there any kind of tablets to curb the appetite?"

Ans.—The way to reduce weight is to eat less. Few fat people are willing to pay this price as they love food very much. You should restrict yourself to a 1,500 calorie per day diet.

Exercises are of value but you would have to hike many miles to lose one pound. The best exercise is to push back from the table after eating a small amount of food.

There are some tablets that can be taken which will decrease the appetite. These, however, should be taken under a doctor's supervision.

?

BLEEDING GUMS: Ques.—"My gums bleed profusely. Will you please suggest a remedy to stop or at least lessen the bleeding."

Ans.—For your bleeding gums I would advise ascorbic acid tablets, 50 milligrams three times daily with a good vitamin B complex tablet three times daily.

?

INCREASE HEIGHT: Ques.— "I am eighteen years of age and am only 4 feet 10½ inches tall. Is there any possibility of my growing any more?"

Ans.—I am sorry, but as you are eighteen years of age further growth is probably impossible for at about eighteen the growth zones in the ends of the long bones disappear.

Don't fret about being short for as someone has said, "Precious things come in small packages." Many of the world's great and gifted have been short. God will make up for your shortness with compensating blessings.

?

ECZEMA AND HEADACHES: Ques.—"What causes eczema? Along with eczema I have been suffering with headaches. Are these two ailments connected in any way?"

Ans.—The condition formerly called eczema is now largely found to be a skin manifestation of a food allergy, usually some protein, but may also be associated with other types of foods.

Finding and eliminating the irritating foods is the effective cure. You could try using an anti-allergic ointment like Pyribenzamine cream. Take tablets of the same too and see if there is any change in the condition.

The headache could also be a part of the same allergic picture. If so, the Pyribenzamine tablets would relieve it.

If it is due to digestive disorder, you may find a digestive like Liquor Diastase helpful.

?

HYDROCHLORIC ACID AND PSYLLIUM SEED: Ques.—"With reference to your reply to the question heading SLOW DIGESTION AND CONSTIPATION of *Health* September, 1952, would you please clarify the following:

1. What dose of dilute hydrochloric acid should be taken?

2. What is the Hindi name of Psyllium Seed?

3. The meaning of the phrase "for soft bulk"?

4. What is Caroid?

Ans.—One teaspoonful of dilute hydrochloric acid in at least half a glass of water sipped through a straw during each meal. If not sipped through a straw the acid may "eat" the teeth.

I don't know the Hindi name of Psyllium seed. The expression "soft bulk" in connection with Psyllium seed describes what happens when the seed swells as it absorbs water. A large soft mass is formed which promotes bowel activity. Psyllium seed is obtained from a plant named Planta'go psyllium. If you cannot get psyllium seed I would suggest that you try agar-agar, which is prepared from sea weed. Take three teaspoonsful dissolved in water and followed with a full glass of water daily.

"Caroid" is a trade name.

?

BURNING SENSATION: Ques.—"For many years I have suffered with a burning sensation on the soles of my feet. Kindly suggest a remedy for this."

Ans.—For the burning sensation in the soles of your feet I would suggest that you use two vitamin B complex tablets three times daily for two weeks.

?

CLEAN TEETH: Ques.—"I cannot get my teeth to look clean and white. I use good toothpaste and yet there is no improvement."

Ans.—Have your teeth cleaned by a reputable dentist then keep them clean by brushing immediately after meals with a good brush and some good toothpaste.

?

LACK OF CONCENTRATION: Ques.—"I find it very difficult to concentrate. What may I do to improve?"

Ans.—The best plan is to select subjects for short period concentration and gradually train your mind to give attention to the subject in hand. You will need to make it a business to train your attention on what you want to accomplish.

(Continued on p. 28)

HOMEMAKERS' HELPS

CARE OF THE BABY

H. C. MENKEL, M.D.

IF POSSIBLE your baby should be fed mother's milk. A baby nursed by his mother has ten times the chance of living over one that is fed cow's milk or any other substitute.

The baby should be fed regularly. From birth to four or five months, nurse baby every three hours (6, 9, 12, 3, 6, 10) and only once during the night if he wakes.

After four or five months, nurse every four hours at 6, 10, 2, 6, 10. Be sure to nurse your child five times every twenty-four hours or your milk will get steadily less.

Each nursing should take from ten to fifteen minutes, not more than twenty. Use one breast at one feeding, and the other at the next. If the milk is scanty use both breasts seven to ten minutes each.

Wash the nipples with boiled water before and after each feeding. Baby's tongue may be washed occasionally with cotton.

Hold baby upright against shoulder after feeding until he passes gas, then lay him down.

Do not play with baby after nursing. Let him sleep. Never nurse him just because he cries. Regular feeding followed by sleep will tend to prevent indigestion.

Between feedings give baby one ounce of warm water. No sugar. Not more than four ounces of water a day. Only boiled water should be used.

Have baby watched by a doctor so that you may know that he is doing well. If he does not gain properly and regularly, the doctor will tell you what to do. Do not wean him unless told to do so by the doctor.

The baby should sleep twenty-one hours out of twenty-four, for sleep is necessary for the proper development of a young baby. Never waken baby to show him to your friends. Your baby's growth and health are more important than your friends' amusement or praise. Change the clothing at night.

Fresh Air

A baby should sleep alone in crib, carriage or basket. He does not need rocking or handling except to keep him clean and make him comfortable.

The open air is the best place for the crib or carriage. At the end of the first month in mild weather, or at the end of the second month in winter, the baby should be outdoors as much as possible. Park air is better than street air. Protect head from sun.

Through winter and summer nights the crib should be in a room with open windows, and the baby protected from cold and draft by soft, warm, and light blankets, well pinned so he cannot kick them off. Sunlight is important for every baby. It makes the bones grow strong and straight. Let the sun shine directly on baby's arms, legs and back, part of every day.

Cleanliness

Every day in a warm room, the baby should be gently sponged with a piece of gauze wet with warm water and castile soap. Wash and dry one part at a time and keep the rest of the body covered.

A tub bath can be given as soon as the navel is healed and dry.

Powder is unnecessary except in the folds of the skin and about the genitals. Do not use powder unless ordered by the doctor. Only a mild unscented talc should be used. Do not let the baby play with the powder box, as he may breathe in the powder.

Do not touch the baby's cord or allow your neighbours to do so. It should be carefully dressed each day by the doctor, nurse or midwife.

Get the doctor or nurse to show you how to wash the genitals.

Wash the hair daily and smooth it with a soft brush. Applying albolene or oil to the scalp each day prevents "cradle cap."

Keep the finger nails clean and cut them so that they are rounded at the end.

Clothing

Clothe the baby with warm, loose, soft and easily removed garments.

A band is necessary as long as a cord dressing is used, and if used should be of flannel and must be kept loose and big enough to extend from the thighs to the armpits.

The undershirts should be of wool and silk, or cotton and silk. Petticoat of flannelette or baby flannel, made open down the back from neck to hem and fastened with tapes.

Diapers should be of soft hemmed cotton diapering. They should always be washed after use and rough dried. The kimona slip may be made of either flannelette or thin white material made open down back from neck to hem and fastened with tapes.

Take off most of the clothing in hot weather.

Have the clothing not too long or tight. Let the baby kick and roll and creep, if he wants to. Exercise will help him to grow.

Habits

Do not allow the use of pacifiers, rings or toys for sucking. They spread disease and spoil the shape of the mouth and chin.

Before the third month, begin to train the baby in the use of a small bowl or chamber in emptying the bladder and bowels. The best time for this is after the first morning feeding.

The Feeding of Children

Careful feeding in childhood lays the foundation for good health in

(Continued on p. 25)

THE STUDENTS' GUIDE

NOTE-TAKING

PART I

THERE are a number of reasons why you should take notes. If you take notes you will develop the skill of searching out the main points. Writing the important ideas down helps to impress them upon your memory. Having noted down the important points in a given section, review is made easy and rapid. By taking a few good concise notes of some material found in a dependable magazine or book you will have at your command valuable points to use later when you may not have that particular book or magazine readily available. There may be volumes that are unobtainable. You still may have the main points they contain if you will take good notes. In listening to spoken discussions or lectures, note-taking may be your only means of obtaining in permanent form the high-lights of the hour.

In note-taking as in outlining, a good standard system is necessary. Lew Sarett says that "a hit-or-miss jotting down of quotations in a bound notebook is a popular way of arduously getting nowhere." You want every effort to yield returns. Let us therefore give heed to the following suggestions.

First we shall discuss formal note-taking. Later we intend to consider various forms of informal notation. Remember—taking notes helps you to remember what you see, hear, read, think, or do.

The following rules for formal note-taking are good ones:

1. Use cards (3 x 5 inches is a good size for notes in longhand), or loose-leaf notebooks, and write on one side only.

2. Head each card with a single caption which summarizes the text of the note, and on each card deal with one sub-topic only.

3. Select those words which have the most direct bearing on the subject and underline them.

4. If at all possible, quote from the original source.

5. Do not postpone recording the source. Note that immediately. If you omit anything use a series of dots, thus .... to show the omission. If you desire to insert some of your own words into the quotation you must enclose them within brackets.

6. Use any abbreviations you wish that will really save time.

You will see from the above that each card will logically be divided into three sections. Each section contains a different portion of the information you are recording. In the upper left-hand corner you should place some identifying word or phrase giving the general subject matter of the card. This identifying word or phrase is called "the slug." Across from the slug, in the upper right-hand corner the source from which the material was quoted should be placed. Some authors prefer, however, to provide a space at the bottom of the card for the source. It is generally conceded that the source is more readily recognized if recorded in the upper right-hand corner as we have suggested. Especially is this true if you keep your cards in some sort of file. The third section of the card contains the quotation or note based on the subject matter. Direct quotations are always to be prefered to personal versions of what the author or speaker said.

We suggested you might use a loose-leaf notebook for your notes. In such case, only one subject may be listed on a page and the individual sources of the various notes must be very accurately tabulated to show which note belongs to which source. For all practical purposes you will find the card system preferable.

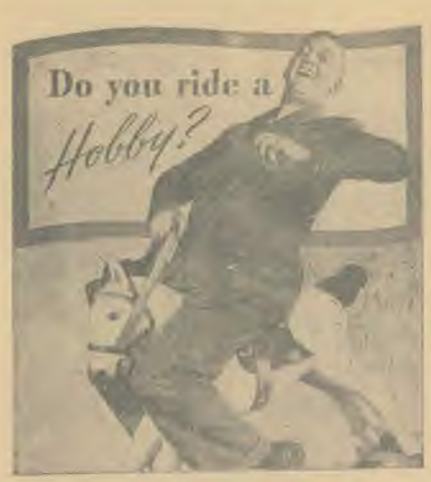
Having compiled your notes on cards it is possible for you to gather all the cards dealing with the subject under discussion and lay them out on the desk before you. Then by giving them a little study you can readily arrange them according to main topics, sub-topics, and sub-sub-topics and so reconstruct an outline with some of the more choice portions already attached to the bones.

The above discussion deals more directly with the research problems that may be assigned to you during your college course or that you may meet in ordinary life. Most note-taking is done to help us to remember something later on.

Before we leave the formal note-taking and go on to the informal it might be well to suggest that if you are taking a series of notes from one source, you should give the full title of the source on the first card of the series and then number each succeeding card serially with some short abbreviation of the source title. Sometimes the first letter of each major word in the title followed by a dash and the first letter of the author's name is used. But you can work out your own system.

Some teachers recommend that their pupils do not mark up their text books. That is generally due to the fact that many students are so foolish as to try to sell their texts as soon as they have completed the courses in which they were used. Your text books will be some of your most valued possessions in later life. if you will but use them intelligently

(Continued on p. 29)



DRAWING IS FUN

Grace Fields

MANY glib things have been written about how "Anyone can draw," "If you can hold a pencil, you can draw," "Drawing is easy, as easy as writing." Frankly, we hold these to be oversimplifications, but there *is* something to be said for drawing by us commoners. We think Andrew Loomis said it: "Most folks love to draw even when they know little about it. . . . Because it's so much fun, and so easy, it's a shame not to be able to do it better." Therein lies our excuse for holding forth this month for drawing.

Drawing has not so much to do with the pencil as with the eye. It is easy to teach yourself to draw if you first teach yourself to see. Actually, most of us already have reasonable skill with a pencil—we've been taught to use one for years. So, actually, drawing requires just a bit of extra eye-hand co-ordination.

In setting about to get our eyes skilled enough to team up with our hands, we discover that we have lazy eyes. When we look at our friends we know them from one another without the aid of any other sense than sight, but how many of us can say in just what respect they differ? Which faces are round, which are oval, which are egg shaped? If you can analyze those differences, you're well started toward being able to put reasonable facsimiles of those people down on paper.

We look out the window and see that it has been raining, but exactly how does the front walk look that makes you know it's wet? Train yourself to make a mental note of the visual appearance of the things you see. What makes clouds look light and fluffy? What makes fog look different from smoke?

In the course of this business of really seeing things, we come to the matter of light and dark. Light striking an object divides it into two parts, or areas—the lighted area and the shadow area. Remember, the half tones, the delicately shaded parts of the lighted area, are parts of the light. Watch for them.

Now, a bit about equipment. To begin with, you don't actually need any at all. You can use your regular lead pencil and whatever paper you have.

But if you want to feel that you have a full stature, self-respecting hobby, get yourself a drawing board of light wood (20 by 26 inches is a recommended size), a box of thumbtacks to fasten the paper, and—the handiest bits of equipment of all—a T square and two transparent triangles, one 45 degrees and one 30 by 60 degrees.

Actually it's the T square and triangles that take you out of that category of people who, when drawing is mentioned, always gasp, "Why, I can't even draw a straight line." With these tools you can draw straight lines whenever and wherever.

To be realistic, you'll need erasers—a pencil eraser and a kneaded eraser. And, of course, pencils. You'll find a great range of hardness and softness in pencils. Don't be confused. Just look confidently into the eyes of the salesperson and say you'll have a 2H, an HB, and a 4B. That will give you plenty of variety, and you won't be cumbered with too many tools. Stick to these same pencils for a while. It's important that you get used to them and know what each of them will do.

Paper. If you had the idea that paper is just paper, prepare for new joys. There are many wonderfully different varieties, each with a delightful, individual texture. Feel every kind of paper, try out your pencils on as many kinds as you can. You'll get so you choose your paper like a connoisseur. Meantime, for pencil work a smooth hard-surfaced paper is good (it will stand lots of erasing and correcting). Also along the paper line you'll want a sketching pad of the largest size to be carried easily in pocket or purse. Take it and your three pencils wherever you go, and briefly sketch things you see that interest you. This is glorified doodling. From these sketches you'll develop larger, finished drawings.

At this point we should give you a line-by-line lesson in drawing a tumbler, a man's head, or some other convincing creation—but space has a way of disappearing. It's done it again!

If you have come along this far just for fun, we strongly recommend that you keep going with our good friend "Andy" Loomis. His book *Fun With a Pencil* will give you the time of your life. Hilariously, he begins, "All you need to know to start this book is how to draw a circle. . . . And it can be as lopsided as the family budget, and still work out." He proves it too.

So if you draw designs on telephone books, have the urge to draw mustaches on the people in bus ads, or draw on tablecloths (shame on you), give your drawing urge a whirl—you're going to have fun!

CARE OF THE BABY

(Continued from p. 22)

later life. Much can be accomplished by proper feeding during the developing years to obtain good results not only in a physical way, but in character building—a higher intellectual, moral, and spiritual development.

Children who have been taught to form the habits of eating wholesome foods at regular hours are laying a physical foundation that will protect them from being subject to every disease germ that comes their way. When infants are fed artificially, use only sterilized milk as it is more easily digested than in its raw state, and, too, raw milk may introduce harmful germs into the digestive tract causing more or less bowel disorders. As a precaution, when feeding sterilized (boiled or pasteurized) milk, against nutritional disturbances, such as rickets, eczema and scurvy, introduce orange juice into the diet, or if oranges are not obtainable, the juice of boiled tomato, or sweet limes is used with the same benefit. An ounce of juice daily is necessary to make up the loss of vitamins sustained through sterilizing the milk. The juice should not be given during the feeding of the milk, but a half hour before the feeding is due. Divide the juice into three portions, dilute with boiled water and feed a portion of it in the morning, the other in the afternoon. An infant of one month can begin to take a teaspoonful of orange juice.

When a child is about four months old gradually include in his diet vegetable soups and vegetable purees strained; a well cooked porridge soojee; yolk of egg beaten up in a little milk, and a bit of hard toast.

Milk is an important food all through the growing period, four cupfuls a day is not too much for each child, but if this quantity is not available, supplement with soups, rich in vitamins, made from vegetables. First wash them thoroughly, then cut up, allowing the skins of carrots and potatoes to remain on, add a leaf vegetable as beetroot tops or celery tops, mustard greens, lettuce leaves, a little red skinned onion, peas and tomatoes. All of the above mentioned vegetables need not be used in the same soup, but can be varied, making a number of delicious soups. For young children the strained soup or broth is the best, adding milk, and a very little cream but no butter.

Do not make the mistake of adding sugar to the milk and porridge dish, to encourage the child to eat it, rather add a few sultanas or chopped dates to sweeten the porridge, if the child is old enough to use such fruits. A little date puree or prune fluff is acceptable with milk and soojee, or milk and rice. Too much sugar is harmful at any time, and when eaten as sweets combined with ghee it not only causes digestive disorders but favours catarrhal conditions, frequent colds and throat troubles. Give the child a good supply of nourishing food containing an ample amount of protein as the body demands are great during the growing period. Encourage water drinking.

Important Food Nutrients . . .

	WHERE YOU FIND THEM	WHEN YOU NEED THEM	WHY YOU NEED THEM
CARBOHYDRATES	In starches—cereals, breads, crackers, flour, potatoes, vegetables, spaghetti, macaroni, rice, noodles, and dried beans. In sugars—sugars, molasses, fruits, honey and syrups.	Throughout life. Need is greater when body is very active.	For energy, for providing heat to maintain body temperature, to spare body proteins.
PROTEINS	In eggs, cheese, milk, nuts, peanuts, yeast, beans, peas, dahl, whole grain cereals and soybean products.	Throughout life. Need is greater for growing children, pregnant women and nursing mothers; also after wasting diseases when tissues need to be repaired.	For building new tissues, repairing and maintaining mature body tissues, for building and repairing muscles, for energy and for carrying minerals and vitamins.
FATS	In butter, lard, margarine, shortening, vegetable oils, salad oil, salad dressing, meat fats, cream, cheese, nuts, chocolate and legumes.	Throughout life. Need is greater when body is very active.	For essential fatty acids, for energy, to spare body proteins, for providing heat to maintain body temperature and for carriers of vitamins A, D.
CALCIUM	In milk, cheese, egg yolk, green leafy vegetables, molasses, almonds, Brazil nuts, soybean products and dried beans.	Throughout life. Need is greater during infancy, periods of growth, for pregnant women and nursing mothers.	For building and maintaining strong bones and teeth, for blood-clotting, for normal muscular activity, for regulating heart beat, for utilization of other minerals.
PHOSPHORUS	In eggs, milk, cheese, beans, peas, dahl, soybean products and whole grain cereals.	Throughout life. Need is greater during periods of growth, for pregnant women and nursing mothers.	For building and maintaining strong bones and teeth, for body cell structure especially the cells of the brain, nerves and muscles. Present in all living cells.
IRON	In eggs, green vegetables, leafy vegetables, dahl, dried fruits, whole grain cereals, whole wheat or enriched flour and bread, molasses, legumes, soybean products and yeast.	Throughout life. Need is greater during infancy, adolescence, for pregnant women and nursing mothers.	For building and maintaining blood, for activities of all body cells.
COPPER	In leafy vegetables, legumes and root vegetables, molasses, chocolate, cocoa, whole grain cereals, fruits, nuts, currants.	Throughout life. More is required for pregnant women and nursing mothers.	For utilization of iron and formation of haemoglobin.
VITAMIN A	In milk, eggs, butter, fortified margarine, cream, fish liver oils, green and yellow vegetables, red tomatoes and yellow fruits.	Throughout life. Need is greater during fever, rapid growth, general infection, for pregnant women and nursing mothers.	For growth, for maintenance of accurate vision especially in dim light, for formation and maintenance of good teeth, bones, skin and nerves, for healthy mucous membranes, for guarding against infections.
THIAMIN Vitamin B_1	In milk, potatoes, green vegetables, beans, peas, dahl, peanuts, whole grain cereals, whole grain or enriched flour, bread, soybean products, yeast and wheat germ.	Throughout life. Need is greater during infancy, for pregnant women and nursing mothers, childhood and increases with increased amount of carbohydrate in the diet.	For efficient use of carbohydrates, for appetite, for growth, for good digestion, for normal functioning of nerves and intestinal tract, for prevention and cure of beriberi.
RIBOFLAVIN (Formerly called vitamin B_2 or G)	In milk, cheese, whole grain cereals, yellow, red and green vegetables, yeast, some fruits, especially dried apricots, prunes, dried beans and soybean products.	Throughout life. Need is relatively greater during periods of rapid growth, for pregnant women and nursing mothers. Increases with greater body activity, higher caloric intake.	For growth, general health and vitality, health of eyes, hair, skin, digestive and nervous systems, for chemical processes in all body cells.
VITAMIN C	In citrus and other fruits; berries, melons, tomatoes and vegetables especially raw, and potatoes cooked in their skins.	Throughout life. Need is greater during infancy, childhood, for pregnant women and nursing mothers, and diseases in which high temperature occurs.	For growth and maintenance of good teeth and bones, for healthy gums, for improving resistance to certain infections, for strong body cells and capillary blood vessels, for preventing and curing scurvy.
NIACIN (A "B" vitamin. Formerly called nicotinic acid.)	In dried peas and beans, wheat germ, eggs, whole grain cereals, red, yellow and green leafy vegetables, dried apricots, prunes, peanut products, yeast, soybean products, milk and cheese.	Throughout life. Need is relatively greater for pregnant women and nursing mothers, and increases with increased physical activity.	For healthy nervous system, for normal functioning of digestive system, an aid for the prevention of pellagra and for healthy skin.
VITAMIN D	In fish liver oil, butter, eggs, irradiated evaporated milk, vitamin D enriched milk and sunshine.	Throughout life. Need is greater during infancy, periods of growth, for pregnant women and nursing mothers.	For building and maintaining strong bones and teeth, for preventing rickets in infants and softening of bones in adults, for good growth, for efficient utilization of calcium and phosphorus.
VITAMIN K	Alfalfa, spinach, cabbage, cauliflower, carrot tops, soybean oil and tomatoes.	Need is greater during infancy and for pregnant women.	For normal function of the liver, for proper clotting of the blood.

What Makes a Happy Family?

The Family Enterprise

The family is a co-operative effort in which father, mother, brother, and sister all have an active interest and responsibility. It is the primary duty of everyone in the family to see that the family succeeds.

Ingredient of Affection

No family can get along without this ingredient. A family without affection is a trap in whose jaws each is caught every time he goes home, and everyone in that trap wants to get out just as soon as he can. General affection is easily generated in a family if there is affection between father and mother.

Kindly Cheerfulness

It means so much in a family if the children are not crabbing and saying nasty things to each other. If the parents do not engage in this nefarious activity, the children can be taught not to. If the parents are continuously pleasant and cheerful to each other, then it can be a family rule that no one is to be nasty or mean to anyone else.

Reasonable, Yet Pleasant Discipline

Unhappy parents probably won't believe this, but in a happy family there isn't much call for discipline. Unhappy children are usually misbehaving children. If you provide for them a happy, pleasant atmosphere, two-thirds of your disciplinary problems disappear.—*Science Digest.*

DR. SAYS

(Continued from p. 21)

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BRONCHIECTASIS: Ques.—"What is bronchiectasis? What causes it and how may it be cured?"

Ans.—There is a condition of the lungs called bronchiectasis, in which small sacks or pockets form as dilations of the bronchial tubes. These pockets fill with mucous secretions and pus. There usually is much coughing and raising of grey or yellow foul-smelling matter from the lungs.

A person having this condition should learn how to assume a position with head and chest down and remainder of the body up so as to facilitate drainage of the pus-filled bags in the lungs.

In such a condition the exercise of standing on one's head would be helpful. However, for most people it would be easier learning to hang the head down by hooking the knees over a bar or trapeze.

?

GRINDING TEETH: Ques.—"My child keeps grinding his teeth all the time. What is the cause?"

Ans.—Grinding teeth is one of those habits for which there is no known cause. There have been various suggestions as worms, indigestion, and others. However, there are many children who grind their teeth but have none of these supposed causes. The habit usually clears by itself.

?

CEREAL COFFEE: Ques.—"Will you please recommend to me some good beverage that could be taken with no harm done to the body."

Ans.—The best beverages are milk, vegetable and fruit juices. However, you could prepare your own cereal coffee by roasting, to a caramel stage, bran, soy beans, wheat, figs, honey and black molasses. A little practice will enable you to toast the cereals together and the molasses and honey separately so as to develop the flavour you prefer. You can toast the cereals in an oven. While the caramelization of the molasses is better done in a pan separately.

?

ROUNDWORMS: Ques.—"My friend has roundworms. He is having treatment but so far has found no relief. Please prescribe some treatment."

Ans.—For roundworms I would advise your friend to see a reputable physician who would supervise the treatment which is dangerous for a non-medical person to take on his own. I would advise him to have a careful examination made of his stool as he may have an infection by amœba.

?

MOLES: Ques.—"I have several moles on my face. Is there any way to remove these?"

Ans.—The moles can be removed surgically and should be done by a well qualified surgeon as moles improperly and incompletely removed may develop into cancers.

NOTE-TAKING

(Continued from p. 23)

and keep them. They will be doubly valuable if you follow the practice of most real scholars by using one or the other of two systems of marking your books. You may find that a combination of the two systems will be helpful at times. Any notes placed in your books, or note-taking done in your books should be done neatly with the thought of preserving the value of the book for future reference. When you underscore, underscore neatly. When you write short notes or references in the margins, do the work neatly and very accurately. Use pencil, or coloured pencil as you prefer. If you use regular lead pencil, you will find that a so-called hard lead pencil is best. Soft pencils will smudge in time. But, in the use of your pencils, lead or coloured, again, be uniform. Do not use ink. You will understand why later.

The most common and popular method of informal note-taking is known as underscoring. It is the speediest of all methods of note-taking. However, the value of this method will be determined to a great extent by the method the author followed. Underscoring in some books will become a veritable outline. In other books, where much incidental matter is thrown in, the underscoring plan is not so practical.

(To be concluded next month)

L. J. L.

ORIENTAL WATCHMAN

APRIL SUPPLEMENT 1953

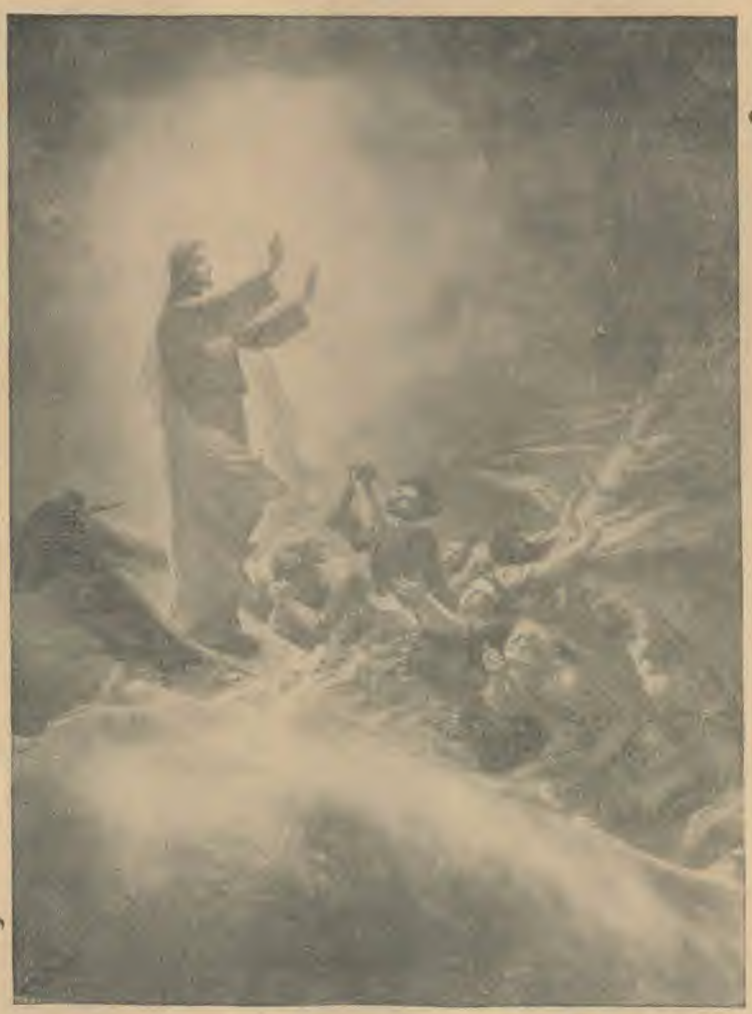
The Leading of the Lord

CARLYLE B. HAYNES

THE most disturbing element in the present world situation is its uncertainty. The wisest statesmen seem not to have the remotest idea where we are going. Many of them have scornfully turned their backs upon the experience of the ages, and have launched out into whirlpools of dangerous experimentation.

Amid all this confusion, however, the child of God may be at peace. He understands that there is nothing haphazard about his life, for God is guiding and directing in every experience.

If God asks us to strike our tent and move it yonder, it is because out yonder there is a higher possibility, a more glorious outlook, a more perfect sphere of service. All these possibilities and advantages will not be seen at first, but God's eye is always on the consummation. He moves His people step by step, at the right moment, in the right way, always onward and upward to a glorious, predetermined goal.



I know of no more comprehensive and exquisite statement of this great truth than that contained in the following passage:

"For the Lord's portion is His people; Jacob is the lot of His inheritance. He found him in a desert land, and in the waste howling wilderness; He led him about, He instructed him, He kept him as the apple of His eye. As an eagle stirreth up her nest, fluttereth over her young, spreadeth abroad her wings, taketh them, beareth them on her wings; so the Lord alone did lead him." Deuteronomy 32:9-12.

Here is a wonderful figure. Do not overlook its teaching. God's portion is His people. He found them "in the waste howling wilderness." He compassed them about, then dealt with them as an eagle deals with her young.

Eagles are accustomed to making their nests on high, inaccessible pinnacles of rock, where beasts of prey cannot disturb them. In making their nests they choose strange materials, brambles, thorns, briers. And they see to it that, in shaping these into a nest, the thorns turn inward.

Then they cover these thorns with wool and other soft materials. Here the mother eagle lays her eggs. Here she hatches her young. When the time comes for the eaglets to learn to fly, the mother eagle reaches into the nest and pulls out the soft covering of the thorns. Home thus becomes unbearable. No comfortable place can

be found in it any more. Then when the right time comes, the mother eagle sets the eaglets on the edge of the nest, sweeps them off with her wing, and watches them flutter down toward the rocks below.

The eaglets have never been in the air before. Is not the mother cruel? Why has she dealt with them in such a fashion? Watch her and you will understand. As long as you watch the falling eaglets you will miss the point. Keep your eye on the eagle.

She "spreadeth abroad her wings, taketh them, beareth them on her wings." The eaglets are falling, struggling. But the mother eagle knows what she is doing. When it seems that they are going to be dashed in pieces on the rocks below, she sweeps down, catches them on her wings, bears them up, and deposits them again in the nest.

What is she doing? She is teaching them to fly. Again and again she goes through this procedure. Each time the eaglets struggle, but not so helplessly. Always as they fall she catches them.

That is a divinely inspired picture of how God deals with you and me. Perhaps He has been stirring up your nest and you find yourself projected into elements new and strange. Very well, watch Him. He is not lost in that element. He spreads out the wings of His omnipotence, comes beneath you, catches you. You may have thought that when He flung you out of your comfortable nest He was unkind and unloving. Not at all. He was teaching you to fly, that you might "mount up with wings as eagles." He was teaching you to use the gifts and talents He has given you and which you cannot use so long as you remain in the nest.

There is purpose in the mother eagle. What is it? Flight, sunward. There is purpose in God for you. Flight, sunward, heavenward, Godward. If you stay in the nest you will never get anywhere.

So God comes into your life, disturbs it, breaks up your plans, extinguishes your hopes, breaks off your education, precipitates you into a new situation and the light goes out. What for? That He may catch you on His wings and teach you the secret forces of your life and lead you to higher development, higher purposes. You see, you are going somewhere, and He would have you on your way. He is getting you ready

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The Bible and Archaeology

H. M. S. Richards

SOMEONE may ask the question, "What is the value of archæology in relation to the Bible, anyway?" The answer is twofold. First, it has often illuminated passages of the Bible that have long puzzled the commentators. Secondly, it has confirmed countless passages that have been thought by some to be unhistorical. Always it has upheld the sacred Scriptures.

For instance, critics and sceptics have said that the accounts of Abraham are legendary; that the Mosaic legislation was formulated hundreds of years after the time of Moses; that such people as the Hittites never existed; that the book of Judges is made up of some good stories, not historical accounts; that various people mentioned in the Bible, such as Sargon and Sanballat, were legendary. But archæological discoveries have produced proof that all these charges are wrong. The Bible has been proved absolutely trustworthy from a scientific standpoint.

In its story of Abraham the Bible states that he went down to Egypt about 2,000 B.C. Genesis 12:10-20. Yet some critics, basing their statements upon the Greek historian Diodorus, claim that Egypt was not open to strangers until about the seventh century B.C. However, archæologists have discovered a tomb at Beni Hasan in Egypt which dates from about 2,000 B.C., and on its walls is a picture showing thirty-seven tribesmen who had come from Palestine to trade with the ruler of the Egyptians.

The Bible has a great deal to say about Abraham, and it is interesting to know that the name of Abraham has been found on clay tablets. In Genesis 12:10 we read, "Abraham went down into Egypt." In verse 16 it says that he had sheep and oxen and asses and menservants and maidservants and camels. But the critics have set this all aside as error. They have said that there were no camels in Egypt until long after the time of Abraham. Yet not long ago archæologists actually dug up statues of camels. They discovered rock carvings and drawings of camels. Next they found camel bones and a camel's skull.

In Genesis 14 we read of the kings of Mesopotamia who came to fight against the kings of Sodom and Gomorrah. They won the victory and captured, along with others, Lot, Abraham's nephew. The Bible record says that Abraham pursued the army and recovered Lot. Some critics have denied this, saying that in those days there was no extensive travel across those stretches of desert as indicated in this military expedition. But some clay tablets have been discovered right in that territory—in the ancient city of Mari—which contain, among other things, a contract stipulating that a wagon is rented on condition that it should not be driven over to the Mediterranean coast. This shows that in the days of Abraham, not only did people travel, but they drove wagons back and forth over those hundreds of miles.

In the sixteenth chapter of Genesis we read how Sarah, Abraham's wife, gave Abraham a secondary wife, Hagar, in order that a son might be born to fulfil the prophecy. This was not according to God's will. Sarah and Abraham were running ahead of the Lord. Archæological discoveries have shown that this was a custom at that time. The Code of Hammurabi indicates that in Babylon a wife might give a servant girl to her husband as a secondary wife in order to bear him children.

In the twenty-third chapter of Genesis we read of the death of Sarah. On this occasion Abraham purchased a cave—the cave of Machpelah—at Hebron. When Abraham paid for it, he weighed out four hundred shekels of silver, as we read in verse 23. This shows that money was measured by weight in those days. Archæological discoveries have shown that coinage did not begin

until about 700 B.C., probably developed first by the Lydians in Asia Minor. So we find that archæology sustains the scriptural statements.

In Genesis 24:10 we read of the city of Nahor, to which Abraham sent his servant to find a wife for Isaac. This town is frequently mentioned on the famous Mari tablets.

We have all read the story of Jacob and Esau and of how Esau sold his birthright for a mess of pottage. This is told in the twenty-fifth chapter of Genesis. Archæologists in Mesopotamia have dug up some wonderful tablets known as the Nuzi tablets, which date from the times of Abraham and the patriarchs. One of them tells about a man who transferred his inheritance rights in a grove of trees to his brother, whose name was Kurpazah, in exchange for three sheep. Esau did almost the same thing when he traded his birthright to Jacob.

In Deuteronomy 8:9 we read that copper was available in the Holy Land, to which the Israelites were going. Notice the words: "Whose stones are iron, and out of whose hills thou mayest dig brass," or copper, as it should be translated. Dr. Nelson Glueck, well-known modern archæologist, said that many people thought that this was only a pious hope on the part of Moses; but Glueck found the evidence of a great copper-mining region about twenty miles south of the Dead Sea. Later on, through his explorations, he found the furnaces where, in the days of King Solomon, copper was smelted.

Here is something interesting about a forgotten empire—the empire of the Hittites. In Joshua 1:4 God referred to the land of the Hittites as being near the Promised Land. This is but one of more than forty passages in the Bible that mention these people, yet scholars of the nineteenth century expressed doubt as to the existence of such a nation. In 1906 Hugo Winckler went to a place in central Turkey and there dug up the ruins of the capital of the Hittite Empire. This proves that God was right and the critics wrong.

In Joshua 6:20 we read about the fall of Jericho. The Bible says that the walls fell down flat when Israel had marched around it seven days. Professor John Garstang excavated Jericho in 1936 and found the walls of that ancient city. The walls were double, and both of them had fallen down flat, one upon the other, as the Bible indicated. Evidences of intense fire were found—cracked stones, charred timber, and ashes. The city had not been sacked before its burning. This is in harmony with the Bible statements in Joshua 6:18, 24 that the Israelites were to take nothing from Jericho and that they set it on fire.

In reading the sixteenth chapter of 1 Samuel we learn about David's musical ability and how he could play on the harp. In 1 Chronicles 23:5 we read also of the music in the temple which was inaugurated by David. But objectors and critics have claimed that musical instruments were not known at this time. They have said that these were not invented until five hundred years later. What are the facts? At Beni Hasan, about seventy miles south of Cairo, a tomb has been found that dates back nearly two thousand years before Christ. On this tomb, cut in the stone, are pictures of musical instruments. One portrays a man with a lyre, or harp, thus showing that this instrument was known nearly a thousand years before David's time. On another tomb nearby is a picture of two girls, one with a harp and the other with a double oboe.

In 1 Samuel 31:10 we read that, after Saul's death in the battle of Gilboa, the Philistines took his armour and hung it up in the temple of Ashtaroth, in the city of Beth-shan. This temple has been discovered. According to 1 Chronicles 10:10, Saul's head was placed in the temple of Dagon, in the same city. This temple has been found, as has the

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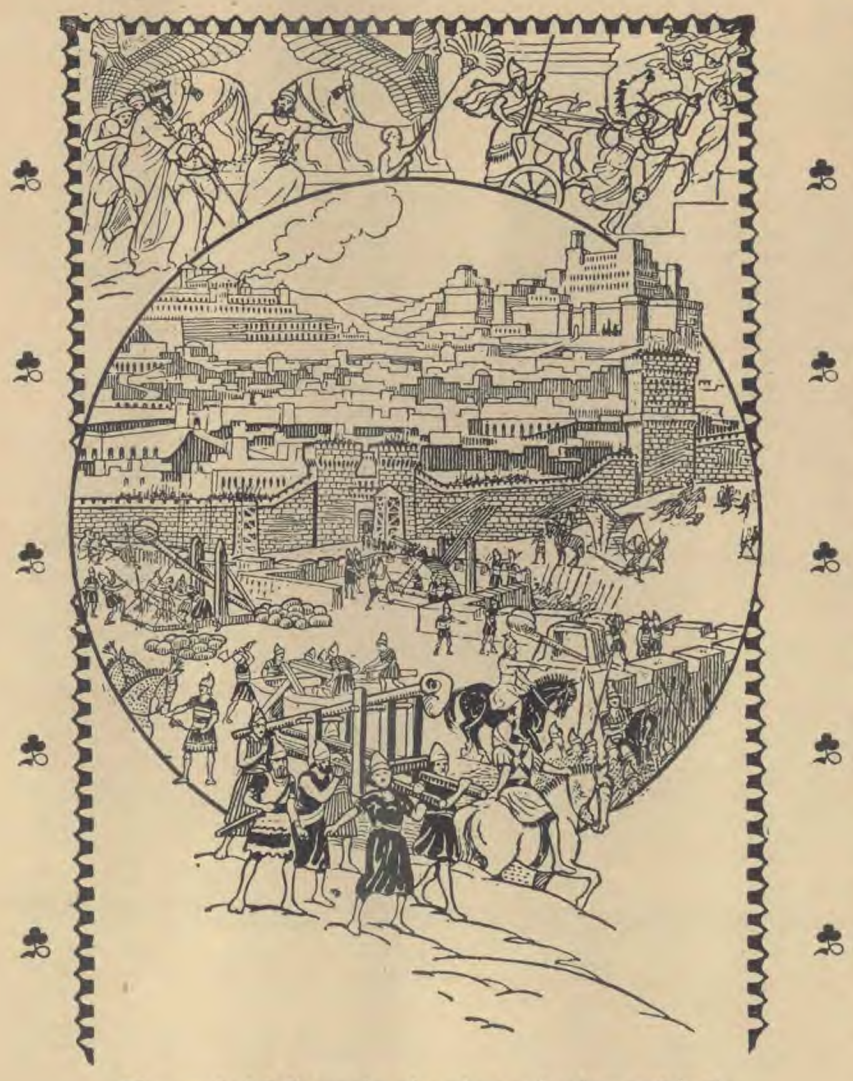

The wonderful discoveries of modern archæology sustain the Bible records and show us that we can depend upon the accuracy of God's Holy Word.

ROOTED IN THE ROCK

RICHARD H. UTT

OCCUPYING a distinguished place among the world's famous trees is a twisted, deformed old Jeffrey pine barely twenty feet tall. This venerable conifer, centuries old, is stationed atop 9,127-foot Sentinel Dome in Yosemite National Park, U. S. A., high amidst a breath-taking assortment of sheer cliffs, great glaciers, silver waterfalls, and snowy mountain peaks. Apparently defying nature's most rudimentary laws, this uncouth old pine has sent roots deep into the solid granite, from whence it draws nutriment and strength to withstand the icy hurricanes that sweep across the dome in winter, mercilessly flogging each branch and needle of the tree.

The National Park Service has placed at its base a plaque with the fitting legend:

JEFFREY PINE (PINUS JEFFREYI)
THIS GNARLED WINDSWEPT TREE HAS
CLUNG TENACIOUSLY TO LIFE IN SPITE
OF GREAT ODDS

Who could fail to see in this rugged, solitary pine growing out of granite an inspiring example of human beings? Here is a pattern for living in this atomic age—an age when winds of strife, fear, doubt, and perplexity of every kind are whistling over the bleak slopes of man's failures, threatening to uproot every vestige of faith and hope from the hearts of men.

The tree lives and thrives only because its roots are firmly and deeply anchored to the rock. From some hidden source within the rock it finds a little soil and water where seemingly there is none. Likewise, in these tempestuous times in which we are living we may anchor our lives firmly in Christ, the Rock of Ages. "Thou art my Rock and my Fortress," said the psalmist. Hoping and trusting in this Rock, we have "an anchor of the soul, both sure and steadfast," which enables us to hold fast our faith regardless of how ruthlessly the gusts of discouragement may blow. Deep within this same Rock is an inexhaustible supply of the needed soul nourishment, for Christ is also the Water of Life and the Bread of Life.

Of Him the prophet Isaiah wrote, "For He shall grow up before Him as a tender plant, and as a root out of a dry ground." Isaiah 53:2. Our Saviour grew to manhood in Nazareth, a town proverbial for its wickedness. But because His soul was fed from the hidden springs of the Word of God in the secret place of prayer, the fiercest winds of opposition, jealousy, and hatred that blew upon Him continually could not move Him or disturb His serenity. His frenzied captors could abuse Him, spit upon Him, mock Him, even nail Him to a rude cross, until "His visage was so marred more than any man, and His form more than the sons of men" (Isaiah 52:14), but they could never destroy the peace in His soul or uproot His faith in God, His Father.

This same inward peace, this same firmness, this same serenity, He freely offers to all: "Peace I leave with you, My peace I give unto you." John 14:27. Gales of trouble may howl around you and tug at the very roots of your being, but you need not fear being uprooted if you cling tenaciously to the Rock of Ages. "He only is my Rock and my Salvation; He is my Defence; I shall not be greatly moved." Psalm 62:2.

We have hard work to do, and loads to lift; Shun not the struggle—face it; 'tis God's gift.—Maltbie Babcock.

The Bible and Archæology

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ivory house of King Ahab, mentioned in 1 Kings 22:39.

All these wonderful discoveries sustain the Bible records and show us that we can depend upon the accuracy of God's Holy Word.

Let us receive the Bible and believe it. We read in Psalm 119:160: "*Thy Word is true from the beginning: and every one of Thy righteous judgments endureth forever.*"

These marvellous archæological discoveries may form a basis for our faith, but they will not bring faith itself. He who comes to Christ must come in faith, believing. If we wait until we have entire knowledge before we exercise faith, we shall never come to God. Let us remember Jesus' words to Thomas:

"*Because thou has seen Me, thou hast believed: blessed are they that have not seen, and yet have believed.*" John 20:29.

May God help us all to go on step by step into full faith, accepting Christ, who is the Word of God incarnate, as our Saviour and our Lord.

The Leading of the Lord

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for something. There is an ultimate goal in the mind of God. He never disturbs His children without purpose and clearly marked direction. There is direction toward possession.

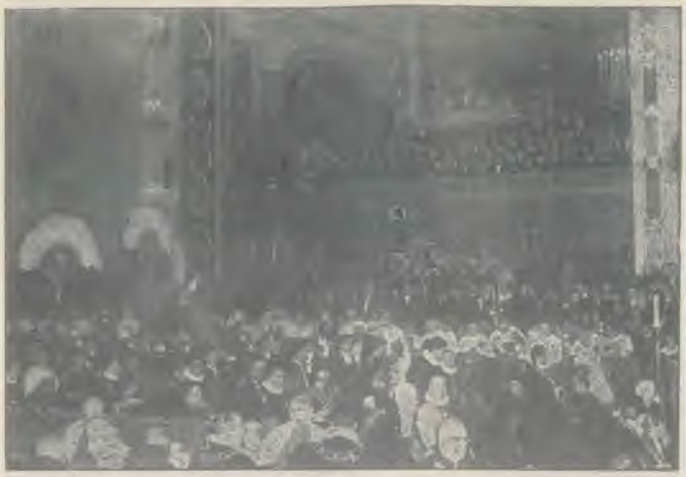
"Yet in this thing ye did not believe the Lord your God, who went in the way before you, to search you out a place to pitch your tents in, in fire by night, to show you by what way ye should go, and in a cloud by day." Deuteronomy 1:32, 33.

How wonderful it all is, God's plan for your life! He goes in front. What for? He is choosing a place for you, going ahead over the way.

There is nothing haphazard in such a life, nothing accidental. God's children move in a chosen pathway, step by step. If your life is in the control of God do not forget that every day that dawns, God has been preparing for you. God is in tomorrow, getting ready for you to come. God is choosing, selecting, arranging everything for you.

I repeat, there can be no accident to such a man. Nothing can go wrong in the life that is surrendered to the divine will.

Imposing Scenes in Rome



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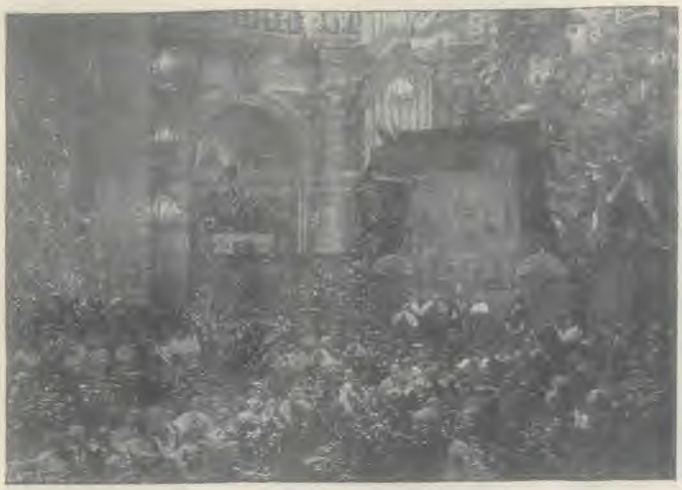

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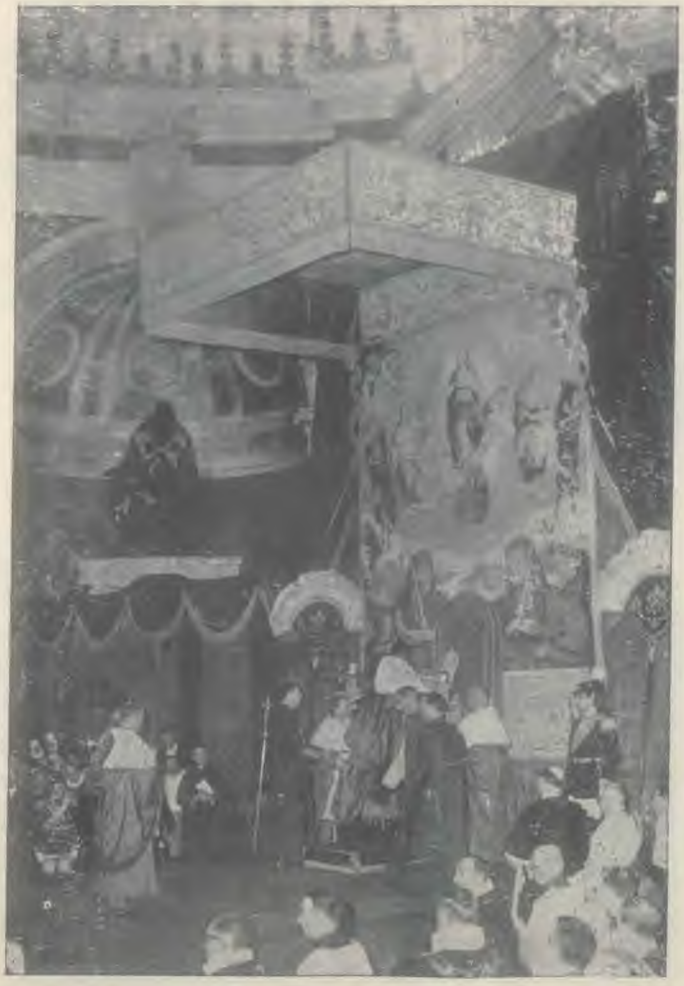

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1. Vatican City: Borne on his gestatorial chair, Pope Pius XII arrives in the section of the altar of the chair of St. Peter's Basilica, to attend the public consistory during which sixteen of twenty-four newly elevated cardinals will be installed. More than 30,000 faithful, many of them from abroad, crowded the huge church to watch the colourful ceremony.

2. An imposing general view of St. Peter's Basilica section of the chair, as sixteen of twenty-four newly named cardinals approach the papal throne to pay homage to Pope Pius XII. The new princes of the church each kissed the pope on both cheeks, then kissed his slipper. Later they received the large red "Galeros" from the pope in a symbolic gesture. The hats will be actually delivered to them later during the day.

3. While Joseph Cardinal Wendel, of Munich, Germany (left) waits his turn to mount to the pontifical throne, Valerio Cardinal Gracias embraces Pope Pius XII, as sixteen newly elevated cardinals greet the pontiff during the public consistory.

Photos: Gobind Lal.

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