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ISSUE:

SUMMER SKIN TROUBLES

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HEALTH AND HYGIENE

JULY-AUGUST, 1938

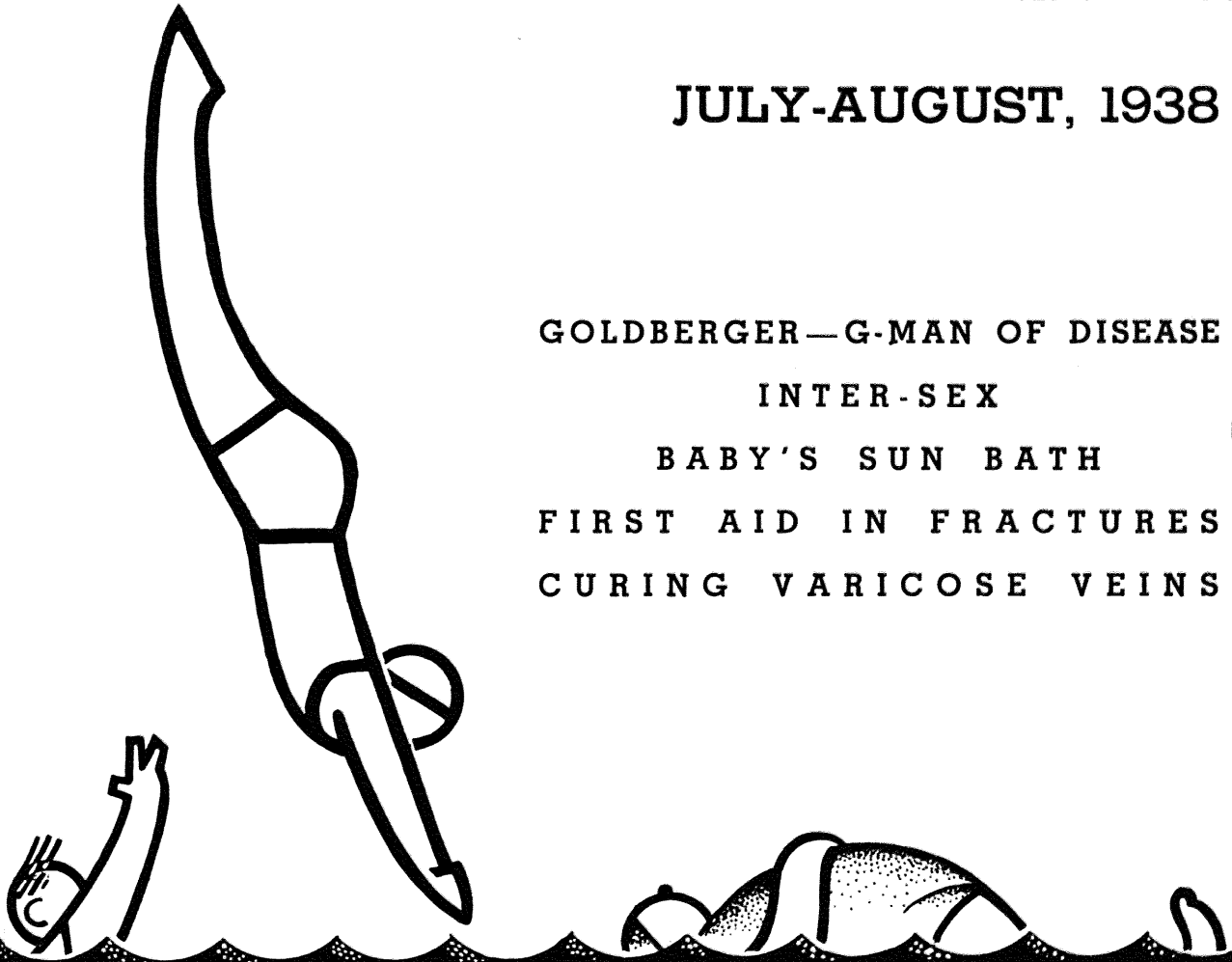
GOLDBERGER—G-MAN OF DISEASE

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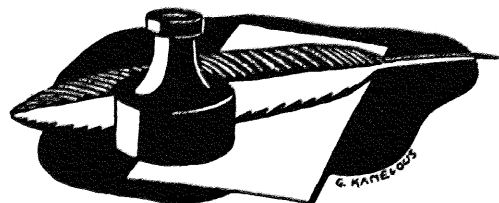
CURING VARICOSE VEINS



THE POPULAR HEALTH MAGAZINE WRITTEN BY DOCTORS

HIKING FOR HEALTH AND RECREATION

PURELY PERSONAL



READER-EDITOR CORRESPONDENCE

As YOU WILL NOTE on the front cover and in the column next to this one, this is the July-August issue. A word of explanation is in order.

The summer months are notoriously slack ones in the magazine business. People pursue health and relaxation in the outdoors whenever they have spare time, and we don't blame them in the least. And if they pick up poison ivy, athlete's foot, or an overdose of sunburn, they're as likely as not to put off reading about these ailments, and learning how to avoid them, until fall when there is more time.

So naturally we take it on the chin during the hot spell. Subscriptions fall off and we have to scratch around and find some way of cutting expenses which are already at rock-bottom level. This year we helped solve the problem by combining the two midsummer issues and putting them out as one. All subscriptions will be extended one month, so every subscriber will get the full number of issues.

We also did another thing. We asked our subscribers to contribute to a sustaining fund to help us through this trying period. The response was gratifying. Contributions ranging from ten cents to twenty dollars came in by return mail, and are still coming in. We wish to take this opportunity to thank all contributors, especially those whose remittances we cannot acknowledge personally since they did not send us their names.

But gratifying as the response was, we still need subscriptions to carry us through, and we ask all our readers who are not subscribers to subscribe at this time. We also ask them to urge their friends to the same. And, of course, we need not point out that cash contributions are still being gratefully received.

HEALTH AND HYGIENE does not have money to spend on promotion. For advertising our magazine we depend wholly upon our readers who recommend it to their friends. If you think that HEALTH AND HYGIENE is a magazine worth having, won't you see that your friends become acquainted with it, and, whenever possible, subscribe?

There is a special short-term subscription offer on the back cover of this issue. We suggest that you turn to it now.

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*Drawings by Charles Martin
 and Mischa Richter*

HEALTH and HYGIENE

Magazine of the People's Health Education League

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JULY-AUGUST, 1938

Outdoor activity increases risk of skin ailments. Prevention and treatment discussed.

Summer Skin Troubles

THERE are certain skin disorders which are particularly common during the summer months because of greater exposure to the sun, water, animal and plant life. In some instances these skin conditions are easily preventable and by taking proper precautions a number of them can be kept from becoming major nuisances.

Most of us feel better after a certain amount of exposure to the sun, though just how beneficial such exposure is to the normal adult is a matter of some doubt. It is probable that the benefits of outdoor sunning, as far as the adult is concerned, are due as much to the fresh air and exercise that usually accompany outdoor activity as to the sunshine itself. However, a moderate amount of sunshine is certainly not harmful and it may even be beneficial to a degree. But sudden and excessive exposure to the sun can have very unpleasant and, in extreme cases, even fatal consequences.

The reaction of the skin to sunshine depends upon the amount of previous exposure to the sun and the amount of pigment or coloring matter in the skin. Blondes and red-haired persons must exercise far more caution than brunettes and dark-complexioned individuals.

There are a number of proprietary preparations which are sold for the prevention of sunburn and the production of an "even tan." While some of these do offer some protection, the protective properties of most of them are very limited; those which do really protect are usually sticky, messy, and generally objectionable. A good protective cream that can be easily made up at home or by a druggist is salol (10 per cent) in cold cream or any other ointment base. The salol is first dissolved in the smallest possible amount of liquid albolene and then mixed up in the cold cream base.

TREATMENT OF SUNBURN

On the whole, though, the best and most satisfactory method of preventing sunburn is to expose oneself gradually to the sun. The amount of sun that can safely be tolerated will, of course, vary with the individual person, the time of day and season of the year, and the intensity of the sun's rays.

There are various degrees of sunburn, and treatment depends on the severity of the burn. In mild cases in which the skin is reddened, slightly swollen, and painful, gentle yet thorough cleaning of the part with soap and water

"So, the sunshine is beneficial, is it?"



Mischa Richter

HEALTH AND HYGIENE

and the application of cold, wet dressings is sufficient. In the more severe cases bed rest and special treatment that will require the attendance of a physician may be necessary. An important point in the treatment of all burns, sunburn included, is the prevention of secondary infection. Whenever a burn is so severe that the skin is blistered or raw a physician should be consulted. Improper treatment in such cases may lead to infection with consequent serious illness, as well as scarring and disfigurement of the affected part.

Fever blisters or cold sores (herpes simplex) are frequent accompaniments of sunburn. They usually occur on the face in the form of clusters of minute, superficial water blisters, and their appearance is usually preceded by a localized tingling sensation. The best method of dealing with cold sores or fever blisters is to prevent their occurrence by avoiding undue exposure to the sun, and in doing this the salol preparation mentioned above will be found useful. When the blisters are very extensive or when they are near vital and delicate tissues such as the eye, more expert treatment is necessary.



Charles Martin

RASHES AND ATHLETE'S FOOT

A summer skin ailment that seems to be becoming more prevalent is lupus erythematosus. This increasing prevalence may be due to the growing popularity of outdoor activities and the increasing brevity of summer sports attire. At any rate, now that the ailment is receiving more attention, a simpler name will probably have to be found for it, and undoubtedly the advertising copy writers will soon provide us with one.

This eruption usually starts about the nose and cheeks and spreads outward in "butterfly" or "batwing" formation. As it heals, also from the center outward, it leaves the tissue shriveled and unsightly. Lupus erythematosus often follows a severe sunburn and is always aggravated by exposure to the sun. A person who has this disease should use a protective lotion or cream, such as the salol preparation mentioned above, and should wear a wide-brimmed hat when out-

of-doors. Above all, direct exposure to the sun's rays must be avoided.

The condition popularly known as athlete's foot and also called ringworm is caused by a fungus growth. The fungus may affect any part of the body, although it usually starts between the toes, spreads to the toenails and to the adjacent skin, and may even become generalized. In its mild stage the infection is characterized by itching, scaling, and soggy skin. As the infection progresses, small, deep water blisters appear, and these blisters may become pustular. The skin turns red, becomes swollen and painful, and at this stage it may easily become infected by other germs.

GUARDING AGAINST CONTAGION

The fungi thrive best in warmth and moisture, so that bath mats, swimming pools, shower bath floors, and gymnasiums are the most common places in which this highly contagious infection is contractable. The fact that the athlete's foot fungus thrives in such places explains the prevalence of the ailment during the summer months.

Many swimming pools are now equipped with entrances and exits which require the swimmer to step through a fungus-killing solution. It is doubtful, however, that much good is accomplished in this way, and individual care is necessary to guard against contracting the disease. Frequent bathing, individual wash cloths and towels, thorough drying of the skin, especially between the toes, a daily change of hosiery and frequent change of shoes are all important in the prevention of athlete's foot. The use of a mildly antiseptic powder such as two per cent salicylic acid in corn starch or boric acid powder is also helpful as a method of prevention.

To treat this condition, keep the feet as dry as possible by frequent change of hosiery and occasional sponging with alcohol. Apply the following preparation to the affected area every night:

Thymol	1 per cent
Salicylic acid	3 per cent
Anhydrous lanolin	96 per cent

This treatment will cure most cases within two weeks. If the ointment is too strong for your skin and irritates it, mix it half and half with ordinary vaseline.

Ringworm sometimes also appears in the

groin. The same ointment may be used in treating this manifestation of the ailment.

X-ray treatment has also proved beneficial in many cases. It should be borne in mind that while the treatment advised above may be safely resorted to in chronic cases, acute cases call for the more expert treatment of a physician.

Eruptions of the hands, with minute water blisters on the palms and fingers are sometimes toxic manifestations of fungus infection of the feet. As soon as the foot condition is cured the hand lesions also disappear.

PLANT POISONING

There are many skin eruptions that are caused by sensitivity to certain plants, among the most common of which are poison ivy, poison oak, and sumac. Such eruptions start on the part of the body that has come in contact with the offending substance. Usually the hands, forearms, face, neck, and in children the ankles and legs are affected first. The infection then spreads to other parts of the body as the individual touches or scratches the itching area.

When a sensitive person has been exposed to the offending plant the hands and the exposed area should be very thoroughly washed with soap and water and then alcohol should be applied. After the eruption has appeared, some mild and soothing antiseptic such as calamine lotion or simple boric acid soaks may be used. Lukewarm starch baths frequently give relief. In the more severe forms of the ailment one or more injections of the plant extract may shorten the duration and severity of the attack. There is no guarantee, however, that any individual will be helped by the injection method; authorities are by no means agreed as to the value of the method.

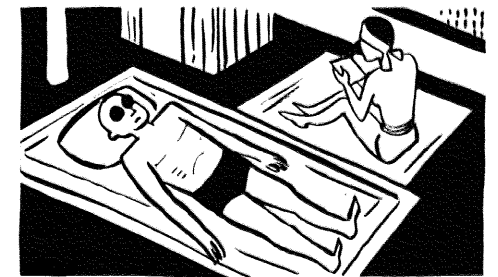
In plant poisoning large blisters are sometimes formed from the grouping of several smaller blisters, and such large blisters may have to be opened before healing will occur. Needless to say, this operation should be performed only under sterile conditions.

PROPHYLACTIC TREATMENTS

Persons who are excessively sensitive to poisonous plants and who cannot avoid exposure may find it advisable to undergo a series of prophylactic treatments. These treatments consist either of the injection of the plant ex-

tract or its administration by mouth. There are many medical reports of cases in which satisfactory results of various degrees have been achieved by these methods, but the results achieved have by no means been uniformly successful. Although a person may feel it worthwhile to make an attempt to secure protection by these methods, he should not be over-confident of the results. Much more investigation will be necessary before the real value of these attempts at protection can be ascertained.

Summer time is also the season when insect bites are likely to cause the most trouble. Mosquitoes, ants, bees, fleas, and flies are the most common pests whose bites are likely to prove troublesome. Different persons are affected in various degrees. The remedy is both simple and effective—merely the application of cold



Charles Martin

wet dressings until relief is obtained. The most important precaution in insect bites is to refrain from scratching the swollen area, for the chief danger lies in secondary infection.

The summer skin ailments discussed above are among the most common of man's bodily afflictions. In most instances they are not in themselves very serious although as nuisances they may rate high. However, sound information concerning the best simple methods of prevention and treatment will enable us to cope with them intelligently and with the least danger of serious complications.

Rubber Prophylactics

IT IS ESTIMATED that about 317,000,000 individual rubber sheaths for the prevention of venereal disease, as well as for contraception, are made annually in the United States. A recent study made by experts indicates that only about 40 per cent of these sheaths are free from defects that render them of very questionable value in the uses to which they are put.

Broken bones are serious emergencies that require prompt and skilful attention.

First Aid in Fractures

By MARY BAYLEY NOEL, R. N.

FRACTURES or broken bones are serious and not infrequent emergencies. When unaccompanied by a wound a fracture does not require extreme haste but it does require extreme care. Every surgeon and physician knows of cases in which severe and sometimes irreparable damage has been done to injured persons by unskilful handling at the scene of an accident.

When a person with a fracture is moved there is always danger that the sharp ends of the broken bone may cut into the blood vessels or push through the muscle and skin. When this happens a "simple fracture" becomes a "compound fracture." A compound fracture is much more serious than a simple fracture not only because of the added pain but also because of the danger of infection. Therefore, when an emergency arises every person should know how to protect the injured part from further damage. With this knowledge much serious harm can be averted.

Broken vertebrae (bones of the spine) are especially dangerous because if the injured person's head is lifted by rescuers or if, as often happens, he is placed in the back seat of an automobile, the spinal cord may be crushed and life-long crippling may result.

Never lift the head of a conscious, injured person until he has told you whether or not he can move his

legs and hands. If he cannot move his legs his back may be broken; if he cannot move his hands his neck may be broken. If he is unconscious, either the back or neck may be broken and the most skilful handling is required. Total or partial paralysis may be the tragic result of negligent handling if there is the slightest possibility of a fractured spine, and in every case in which the victim is unconscious the pos-

sibility of a fracture must be considered.

So the first rule to remember when one is dealing with an injured person is never to attempt to raise either the person or the injured part until something of the nature of the injury has been ascertained.

If there is extreme pain, with inability to move the injured member, a fracture may be suspected. What, then, should be done? First, place the injured part in as comfortable a position as possible. Then remove the clothing from it. Cut the clothing or rip it along the seams and undress *the uninjured side first*, thus avoiding the necessity of moving the injured side when undressing it.

In raising a fractured limb never take hold of it from above. Slip the hands underneath, one on either side of the site of the fracture, exerting a slight pull with the hand nearest the extremity, in order to keep the jagged ends of the broken bone from rubbing together. Lift evenly with both hands at the same time. With one person holding the injured part in this way and with several other persons lifting the victim and all carefully keeping step, a person with a broken bone may safely be moved a short distance.

If the patient has to be moved any distance splints must be applied. The two things to bear in mind in splinting are that the injured bone

must be made immovable and that the splints must be well padded in order to prevent injury.

Immobility of a fractured bone is secured by preventing movement of the joints above and below the point of fracture. To accomplish this it is often necessary to have the splints long enough so that their ends extend slightly beyond the two joints. Glazed cotton that can be cut into strips is ordinarily used for padding but in

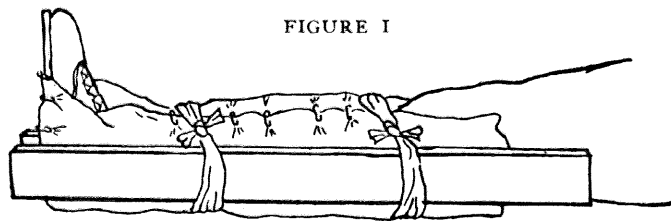


FIGURE I

emergencies a pillow, blanket, hay, straw, or even leaves may be utilized.

For a fracture of the leg between the knee and ankle almost any rigid objects of sufficient length will do for splints: thin pieces of board, walking sticks, or umbrellas. If only one splint is available it may be used for the outer splint and the sound leg may be used for the inner splint. Strips of clothing, ribbon, handkerchiefs, or whatever is at hand may be used as bandages. These should be passed around both legs at several points and tied *not too tightly*.

Figure I shows an emergency leg splint made with two boards, a pillow, two handkerchiefs, and a few safety pins.

If the forearm is broken, two splints should be used. They should be long enough so that one end of the inner splint can be taken in the hand while the other extends just beyond the elbow. One splint should be applied to the front, the other to the back of the hand. The arm should then be suspended in a sling which takes in the hand and also the elbow. The method of making a sling for the arm is shown in figure II.

When the bone in the upper arm has been broken, bind it securely to the side and suspend the forearm in a sling.

OTHER TYPES OF FRACTURES

If the collar bone has been fractured and the injured person must be moved before the doctor can arrive, place a firm pad made of handkerchiefs or other soft material into the armpit of the injured side. Then flex the forearm across the chest and with a wide bandage bind the arm securely to the body.

For a fractured rib, apply broad strips of adhesive tape, one overlapping the other, half way or three-quarters of the way around the injured side. Before the strapping is applied the injured person should draw in his breath and hold it. If there is no adhesive tape at hand apply a bandage made from a blanket or any other sufficiently large piece of cloth.

If the jaw has been fractured, raise it gently until the teeth are closed upon one another.

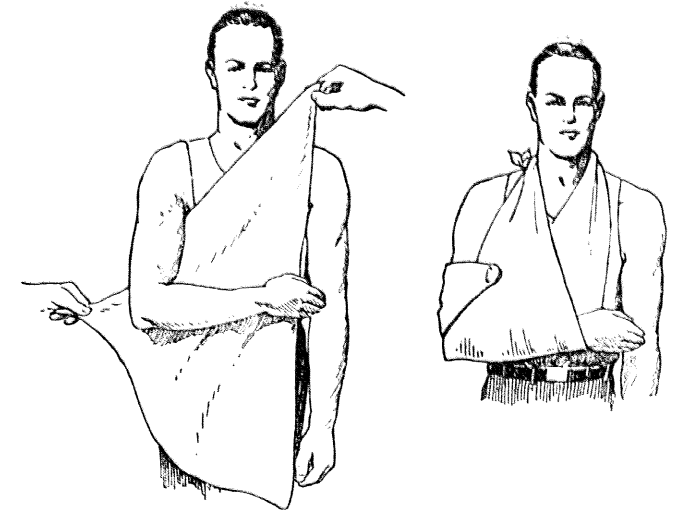


FIGURE II

Then, while some one holds it this way, place the center of a handkerchief under the chin, draw the ends over the top of the head and tie or pin them together. Then apply the center of a second handkerchief across the chin in front and tie or pin it at the back of the neck.

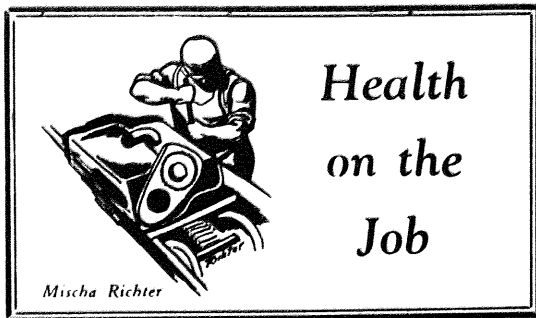
If the head has been injured and there is a possibility that the skull has been fractured, little can be done before the arrival of the doctor. However, the victim may be kept flat on his back and moved into a darkened room where he should be kept absolutely quiet. Cold wet cloths may be applied to the head. But a person with a suspected skull fracture *should never be given a stimulant*.

While it is advisable to have a fractured bone set as soon as possible, a wait of several hours will do no harm.

Paul de Kruif Radio Programs

FFEDERAL Theatre Radio Division has announced that in co-operation with the Columbia Broadcasting System it will dramatize and produce Paul de Kruif's internationally popular books in the order of their creation over Station WABC and the coast-to-coast network of the Columbia Broadcasting System on Thursday nights at 8 o'clock (Eastern Daylight Saving Time).

Dr. de Kruif, a member of the contributing and advisory board of HEALTH AND HYGIENE, has granted gratis to the Federal Theatre Radio Division the radio rights to his books.



Health on the Job

Mischa Richter

Motion Picture Operators

IF MOVING PICTURE PROJECTION BOOTHS are not ventilated sufficiently to ensure the operator's comfort there is not only danger from the heat but also from the gas given off by the burning of the carbon arc. It is recommended that the flue pipe from the projector lamp be ventilated at a minimum rate of 12 c.f.m. and that the projection booth be connected to the air conditioning system of the theatre.

Working with Heart Disease

EXPERIENCE GAINED OVER A PERIOD of seven years by the Eastman Kodak Company indicates that the presence of heart disease is not a sufficient reason for indiscriminately firing or refusing to employ workers. Men with heart disease can safely and efficiently perform certain types of work, as proved by the Eastman Company experiment in which 278 men with heart disease were kept on the job for seven years without a single case of heart failure.

Mercury in Hats

THE MERCURY CONTENT of carotted felt and in finished hats may be as high as 4 per cent. Argyro-felt and Autofelt are two substitutes that have been recommended in place of mercury-containing catalysts, but they have not always been satisfactory. Now a new substance, Autofelt-El, has been developed which is as good as the mercury substances and which does not present as great hazards. Moreover, Autofelt-El is just as cheap as the mercury-containing substances, and substituting it involves no new apparatus nor any major changes in production methods.

Cotton Mill Hazards

A STUDY OF THE COTTON SPINNING industry in Mexico revealed that dust was the most important health hazard in the mills. Two kinds of dust were found: small particles of cotton and sand containing as much as 50.9 per cent of silicon dioxide. This would account for the prevalence

of lung trouble among the workers. Ventilation of the carding machine and the use of respirators by workers was recommended.

Metal Spraying

RECENT TESTS OF METAL SPRAYING processes show that regardless of how skilled or careful the operator is, some of the sprayed metal misses its mark and pollutes the surrounding air. Even with the exhaust hoods in use some of the spray is usually blown back in the face of the operator. For this reason it is recommended that spray-gun operators be provided with air-supplied respirators and that the booth or workroom be scientifically ventilated.

Leather Hand Guards

PIECES OF LEATHER WORN BY WORKERS for protection of the hands are of often made of poorly tanned skins and are responsible for skin infections. Such leather should always be soft and pliable; it should contain no formalin, and when it comes in contact with sweat it should give off no acids, alkalies, or chlorine compounds. If the leather irritates the hands the presence of these substances should be suspected.

Use and Care of Respirators

WORKERS IN THE DUSTY AND CHEMICAL trades will be interested in a bulletin entitled *The Use and Care of Respirators* published by the Air Hygiene Foundation of Pittsburgh, Pa. (25 cents). The bulletin contains a list of the respiratory equipment approved by the U. S. Bureau of Mines.

Too Old at Forty

Employers are not justified in their reluctance to hire middle-aged men, according to a New York State joint legislative committee appointed to investigate discrimination in employment of the middle-aged. According to the committee, figures prove that the middle-aged employee costs the employer no more in compensation than the younger employee. In fact, the younger employee is more likely to be injured than the older man who is expert at his work.

"Health on the Job" will appear as a regular feature in HEALTH AND HYGIENE. Each month we will describe briefly the latest developments in industrial hygiene. We invite workers and trade unions to send us material that they feel would be of interest to readers of this department. We also invite queries on the subject of industrial hygiene, and we suggest that the topics discussed in this department be taken up in the meetings of the unions concerned.

The story of the brilliant investigator who tracked down the cause of pellagra.

G-Man of Disease

Joseph Goldberger

FIFTY-SEVEN years ago, bearded Samuel Goldberger brought his little family to America from his native village in the Carpathian corner of the Austro-Hungarian Empire, a single immigrant family in the vast mass of humanity that the Old World poured into the New during the latter half of the nineteenth century.

It was no silly vision of gold-paved streets or easy riches that drove the Goldbergers from their age-old home to the new and bewildering America. Life had been hard in the old country, and comforts few; yet Samuel Goldberger came not in search of ease but of something much more precious, something that poverty and religious bigotry had denied to him and his fathers, something that he was ready and eager to pay for with his sweat and his toil—an opportunity to educate his son.

And so the natural center about which the home life of the Goldbergers on New York's East Side revolved was the education of little six-year-old Joseph. The knowledge that he was a smart boy, taking well to his studies, must have lightened a little for old Samuel the weight of the peddler's pack that he carried around the streets. And a few years later when he managed to establish a little grocery store on Pitt Street, the rapid progress that the boy was making must have eased the burden of the endless hours behind the counter.

AN INQUIRING MIND

For the boy was doing well. At sixteen, he was ready to enter City College, then a small red building in the residential district at Lexington Avenue and 23rd Street. Two years later his accidental attendance at a medical lecture determined him upon a medical career, and three years after that he was graduated from the Bellevue Medical College—second in his class—ready to repay both his family and his adopted country for the chance they had given him. The overwhelming measure of that repayment is our story here.

An internship at Bellevue and two years of private practice at Wilkes-Barre, Pennsylvania, convinced young Dr. Goldberger that the general practice of medicine was not for him. He did not want to apply to patients the medical knowledge that others had worked out; he wanted rather to do his part towards the further building of that body of knowledge. Practice could give him a measure of material comfort, but not the intellectual joy and satisfaction that a mind like his demanded. That, he realized, could come only from personal exploration on the frontiers of medicine. Therefore, in 1899, he joined the United States Public Health Service, that incredible body of men, the trouble-shooters, the G-men of the health of America.

BIG ASSIGNMENT

Just about this time obscure reports were beginning to creep into the medical periodicals about a new disease that had appeared in the Southern States, a disease that was called "pellagra." Fifteen years later the new public health man and the new disease were to meet with memorable results. In the meantime there were several productive years spent in the study of typhus in Texas and yellow fever in Mexico. Finally, in 1913, came the big assignment: This new pellagra had assumed scourge-like proportions and was killing tens of thousands annually; yet no one knew what caused it or what could be done about it. Those were the things the Health Service wanted someone to find out. The assignment was a sort of accolade—a tribute to the industry and ability young Goldberger had shown. Hopeful, yet a little awed at the magnitude of the task, Goldberger plunged in.

First he talked to the Southern doctors. What did this disease look like? Like nothing ever seen before, they told him. The patients were of all ages and of both sexes. They would turn up with a peculiar scaly red rash which eventually, in bad cases, would turn into oozing ulcers.

The rash usually appeared on the back of the neck and shoulders, on the forearms, the backs of the hands, and sometimes across the nose. They complained of weakness and lassitude and a troublesome diarrhea. After months or years they would gradually lose their reason and become demented, until death mercifully released them.

The insane asylums were full of pellagrins; the orphanages had them; the old people's homes had them; the villages and towns were full of them. What, asked Goldberger, did the doctors think caused it? They didn't know but they were sure it was contagious. It must be contagious, they said, because whole families and sometimes whole districts would come down with it at once, whereas other districts seemed to be entirely free of it. Besides, it seemed to have some sort of seasonal rhythm; it was always worse in the summer than in the winter.

With this information at hand, Goldberger went out to see for himself. For months, the figure of the tall, lank, stoop-shouldered, curly-haired Jew became a familiar sight in the villages, towns, and institutions of the South. He went about endlessly, peering at rashes, talking to doctors, ordinary citizens, and institutional directors, asking endless questions in a voice from which the trace of East-side New Yorkese had never entirely disappeared. The doctors were amazed. What kind of peculiar scientist was this? Where was the shiny, tile-walled laboratory they had learned to expect from the men whose job it was to track down microbes? Where was the injection of rabbits and guinea-pigs with mysterious substances? Where was the solemn peering through microscopes in search of some bacterium? This man did not conform to their ideas of a scientist at all.

PELLAGRA CHOOSES THE POOR

Yet Goldberger knew what he was doing. He had seen enough in those few months to realize that nothing so simple as a bacterium lay at the basis of pellagra. Here was a disease involving tremendous numbers of the population, yet he had been unable to find a single case among the rich, or the moderately well-to-do, or even among the servants in the homes of the rich. No contagious disease could be so consistent and scrupulous a respecter of economic lines. In the institutions for the insane where

many pellagrins were confined he had been unable to find a single case of the disease among the doctors or the nurses or the attendants. And, most amazing of all, in the orphan asylums, housing children of all ages, the disease seemed to be confined, as if by a miracle, to the children over six years of age—yet children of all ages played together constantly.

No, Goldberger decided, this was no occasion for microscopes or culture media or experimental animals. It wasn't that Goldberger lacked expertness in the use of these tools. Only a few years previously he had been sent to Philadelphia to study a new skin disease that had been known in Europe for many years, but had then appeared for the first time in this country. The European doctors had no even a theory to offer as to its cause. In forty-eight hours Dr. Goldberger held in his hand the ascarine mite, the insect that was responsible for the disease, and showed that it lived in straw and that the disease could be prevented by the sterilization of straw bedding. This was probably the fastest piece of successful epidemiological investigation in history. But pellagra was different and called for a different mode of attack.

ORPHANS AND PRISONERS

So Goldberger settled down in one of the orphan asylums and kept his eyes open. What was the difference, he wondered, in the living conditions of the kids under six, and the kids over six? Their sleeping-quarters were the same. Their play hours in the sun were the same. There was only one difference that he could put his finger on—the kids under six got fresh milk daily, the others got none. He hurried to another orphan asylum—the same was true there. He dashed back to the institutions for the insane to check on this point as between the patients and the staff; true again, except that those on the staff who didn't get milk got fresh meat or vegetables, while the patients got none of these things. Then Goldberger knew he had the answer. Pellagra was caused by the absence from the diet of some protective factor that resided in fresh protein foods. How neatly every fact he had gathered now fitted into its place! The poor lived entirely on corn-bread, hominy-grits, fat-back, and molasses—the rich got fresh meat, milk, and vegetables. The disease abated somewhat

in the winter because the previous summer's vegetables were still available; by the time summer came around again they were gone.

Now to prove it. At government expense the children over six in one orphan asylum were fed milk twice a day and meat four times a week, for one whole year—1914. Result: 1913—seventy-nine cases of pellagra; 1914—none.

For most men, so brilliant an achievement in eighteen months' work would have seemed more than enough, and they would have gone smugly home. Not Goldberger. If his theory was right, if diet was at the basis of the disease, he should be able not only to cure it by supplying the missing factors but to produce the disease by withholding them.

This was a much harder task. Where could he get a group of adults to submit to a diet, which, he would have to tell them, would be likely to turn them into pellagrins? He decided to try to win the cooperation of the Governor of Mississippi, an intelligent and sympathetic man who seemed genuinely touched by the 1,200 deaths that pellagra has caused in the state the previous year, as well as by the large expense incurred by the state in caring for pellagrins. Would the Governor allow him to ask for volunteers among the inmates of the state prison, on promise of freedom for the volunteers after the experiment was over? The Governor hesitated. After all, the prisoners were human beings. Burglars, rapists, thieves though they were, if one should die the hue and cry would be hard to still and it might cost the Governor his political life. Could Dr. Goldberger promise him that there would be no deaths during the proposed six-months' period of the experiment? So far as anything could be promised in medicine, Dr. Goldberger could promise that. Would the experiment be conducted entirely at government expense, without cost to the State of Mississippi? It would. Somewhat dubiously, the Governor gave his assent.

A stockade was built on the grounds of the Rankin Prison Farm, and eleven husky human guinea pigs were housed there. They were jubilant at the chance. Freedom after six months as a reward for eating all they wanted of corn-

pone, white bread, grits, sweet potatoes, salt pork, cane syrup, and cabbage? Who wouldn't grab at it? Goldberger was not so jubilant. Six months was a frightfully short time. Suppose he was wrong? Suppose he failed?

He needn't have worried. In a few weeks one after another of the volunteers began to complain of the well-known weakness and lassitude, and after four months the tell-tale rashes began to appear. The prison van which at the end of the six-months' period carried the pel-



JOSEPH GOLDBERGER

lourous volunteers to the railroad station and freedom, also carried the corpse of the contagion theory of pellagra. Not quite. Nothing new and revolutionary is ever accepted without a struggle. The advocates of the old contagion theory raised certain doubts. Could the men in the test not have been victims of an epidemic? "Epidemics" of pellagra had occurred before. Besides, the rash had not been exactly typical—and so forth. Goldberger then decided on an extreme measure to settle all doubts. If the disease is contagious, the contagion must be in the blood of the pellagrin, in the scales from the rash, or in the intestinal discharges. All right—he would try to infect himself. He injected under his skin a syringe-ful of blood from a patient with pellagra, and into his diet he incorporated the scales from the rash as well as samples of the intestinal discharges. He induced his wife to do the same, and his assistants, and his friends. Nothing happened, and the proof was complete.

DISEASE IS STILL WITH US

Of course, the story of pellagra does not end here. To tell the poor in the South what they should eat is a far cry from enabling them to have it. Fresh milk and meat are as far out of their reach as gold. Was there not something, Goldberger wondered, some cheap food that would contain the same protective factor? He came across the answer accidentally

(Continued on page 30)

The A. M. A. Convention The annual convention of the American Medical Association held last month in San Francisco ran true to form. Faced with increasing public and even professional dissatisfaction with the inadequacies of medical care in the country today, the Association's House of Delegates failed to make a single constructive proposal. As always, however, it restated the belief that no agency other than itself was capable of making sound proposals.

During the past few years there has been an unprecedented amount of interest in the subject of the people's health and the distribution of medical care. Surveys by both private and public agencies have shown that the American people are receiving medical care that is grossly inadequate both in quantity and quality. By its failure to act at this crucial time the leadership of the American Medical Association has shown itself to be almost hopelessly bogged down in that morass of reactionary conservatism into which it has been sinking deeper for years.

One of two things must happen in the near future. Either the rank and file members of the American Medical Association will revolt against this stand-pat attitude of their officialdom and demand that the Association take cognizance of the people's demand for some sort of progressive health program, or the people will go ahead to see that such a program is achieved without the help or sanction of the American Medical Association.

The National Health Conference Fortunately, the people are already in motion. A national health conference has been called in Washington for July 18-20, at which public health officials, medical professionals, representatives of labor, industry, social welfare groups, and professional and civic organizations will meet to discuss the health

needs of the people and the methods of meeting these needs.

Judging from the report of President Roosevelt's Interdepartmental Committee's Technical Subcommittee on Medical Care, upon which the discussions at the conference will be based, we may expect something more than the mealy-mouthed platitudes and carefully worded evasions that issue with discouraging regularity from the tightly controlled sessions of the A.M.A. conventions.

Six-year TB Program An important item which is scheduled for discussion at the National Health Conference is the six-year tuberculosis control program proposed by the National Tuberculosis Association at its annual meeting in Los Angeles last month. At long last coordinated efforts are being made to wipe out the "white plague" which kills about 70,000 people every year in the United States. The proposed plan which has the approval of Surgeon General Parran will require the outlay of \$269,044,000 over a six-year period, with more than two-thirds of the funds coming from the federal government. With this money the shortage of sanatoria and hospital facilities will be partially remedied and wide case-finding examination campaigns will be undertaken, particularly among those who have been in contact with persons discovered to be ill with tuberculosis. However, there is much else that needs to be done; additional projects such as investigation of certain industries known to be associated with a high incidence of tuberculosis, especially the dusty trades, as well as projects for the gradual restoration and rehabilitation of successfully treated patients so that they may assume their place in life again—these and other items could fruitfully be added to the national "blue-print" for eradicating tuberculosis.

The eyes of the nation are focussed hopefully on the National Health Conference.

The sun bath is essential for the child's health but certain precautions must be taken.

Don't Broil the Baby!

IF you've ever returned from the beach looking—and feeling—like a raw steak, you probably have some idea of what too much sun can do to a young baby. *Gradually* is the word for baby's sun tanning. For yours, too, in case harsh experience hasn't taught you by now.

Too much sun is a real danger to the infant. Mothers who enjoy suburban or country homes should take care to avoid it. But insufficient sunlight may also be a serious threat to the baby's health. The great majority of mothers whose household duties leave them little time or energy for baby's outdoor life, and whose living quarters make sunshine available only at the expense of great effort, should see to it that baby gets his sun bath even at the neglect of other obligations. And they should become the country's most vocal advocates of low-cost federal housing projects which will provide ample sunlight indoors and clean, immediately accessible open space outdoors.

SUNLIGHT AND COD LIVER OIL

The growth of healthy bones and muscles requires direct sunlight and cod liver oil. Advice of the kind that we give here will not help those who cannot afford cod liver oil, which is necessary to supplement sunlight throughout the first two years of life. Sunlight, fortunately, is cheaper. No food will take its place, for sunlight enables the body to utilize food. The ultra-violet rays, which prevent and cure rickets, do not penetrate through clothing or ordinary window glass. The rays must reach the skin directly.

Great care must be taken to prevent burning. Be particularly careful to protect the baby's eyes, which will be injured by sunlight if they are open and turned directly to the sun. Young infants must be turned so that the rays cannot enter the eyes directly. A baby old enough to sit up will protect his own eyes by the shadow cast by his forehead.

The baby born in spring or summer may begin outdoor sun baths when three or four weeks old; the late fall or winter baby should have

indoor sun baths beside an open window at the same age. Climate and the weather will determine when outdoor sun baths may be begun. In many parts of the United States the baby's outdoor sun bath may be begun as early as the middle of March or the first of April, if the place chosen is protected from the wind. In the southern sections of the country they may be begun earlier or even given throughout the year.

STARTING THE SUN BATH

If you have a brand new baby or an older one whose career in the sun has not yet started, all the baby's clothes except his diaper may be taken off for the first outdoor sun bath at this time of year. Choose a time when the sun is warm but not too hot—between eight and eleven o'clock or even earlier in the morning and after three in the afternoon. Allow the sun to shine for five minutes on his front, then five minutes on his back—no partiality, please.



Charles Martin

The next day increase the time of exposure to sun from three to five minutes, depending on how fair the baby's skin is. Add the same number of minutes each day until the sun bath lasts half an hour in the morning and half an hour in the afternoon. As the summer wears on, the time may be increased to three-quarters of an hour once or twice a day, and, for babies over four months old, even to as long as an hour once or twice a day. Sun baths which begin in extremely hot weather should, of course, be even shorter and should be lengthened more gradually.

For future reference: A baby born in the fall needs as much sun as it can safely get. On warm days even a small infant may be given outdoor sun baths with arms, legs, and head bare. The first exposure may be from fifteen to twenty minutes, given some time between

10 and 1 o'clock and between 2 and 3. Increase the exposure by five minutes a day until the baby gets half an hour of sun twice a day.

On bright winter days the baby may be put outdoors in the middle of the day for a long sunning in a place protected from the wind. Winter sunnings should be longer than summer ones to compensate for the decreased strength of the ultra-violet rays. The baby's face and hands should be exposed to the direct rays of the sun; in localities where the climate is warmer arms and legs may also be exposed.



Charles Martin

Babies born in fall or winter should be given long indoor sun baths throughout the winter. The baby should be placed in the patch of sunlight coming through the open space of a window opened at top or bottom. If the room is heated and the doors closed to prevent drafts, the baby need not be wrapped up. The face, hands, and arms, and afterwards the legs, can be exposed for from fifteen to twenty minutes each day, and later for increasing periods until the sun bath lasts for from one to two hours. Even the shirt may be taken off if the sun is very warm. However, care must be taken to keep the baby covered when the sun goes be-

hind a cloud. By holding her own hands in the sunlight the mother can tell just how warm it is.

For those looking even farther ahead: A baby who begins his sun bathing in early spring may have his bare head and hands exposed to direct sunlight outdoors on the first sunny day for ten or fifteen minutes. Turn him first on one side, then on the other, to expose the cheeks evenly and protect the eyes. Repeat later in the day. Each day increase the time from three to five minutes. After the face and hands are used to exposure, bare the arms, one at a time; later, both together. Then the legs in the same manner. When the baby is an experienced sun bather, by the middle of May or the beginning of June, sun baths may be given to the whole body, front and back, and the time may be lengthened to half an hour twice a day as the summer progresses. Between eleven and one is the best time for morning sunning in early spring, before three for the afternoon sun bath. As the weather gets warmer avoid the sun during the hot midday hours between eleven and

It should be borne in mind that although tanning of the skin is a sign that the sun's rays are reaching the baby directly, not all babies tan, even though exposed to the sun. Some babies burn more easily than others, and great care must be taken to prevent burning.

No matter when you begin baby's sun baths, remember that they are vital to his health. They must be given regularly, gradually, and in accordance with these instructions tempered by your own good judgment.

Wanted—Blood from Measles Convalescents

BECAUSE of the prevalence of measles this year and also because of the favorable results attending the prophylactic use of serum from recent convalescents in children who have been exposed to measles, the demands for such serum are beginning to tax the resources of the Manhattan Convalescent Serum Laboratory.

Physicians having under their care measles convalescents fifteen years of age or over can render a valuable service by inducing such of these convalescents whose physical condition permits to sell a reasonable quantity of their blood to the laboratory. A fee of \$5.00 will be paid at the time of bleeding and an experienced physician will take

the blood by venepuncture. The period during which the blood is sufficiently potent is limited to four months after the attack. Robust individuals may easily be bled several times during this period and for these the opportunity of earning the extra money afforded by the set fee may be welcome.

Information regarding measles convalescents willing to supply blood should be sent by letter or telephone to Dr. William Thalheimer, Director, Manhattan Convalescent Serum Laboratory, foot of East Fifteenth Street, New York, Telephone STuyvesant 9-3100, Extension 2, or GRamercy 3-8080.

Who's Who on Our Advisory Board

Dr. Henry E. Sigerist

DR. HENRY ERNEST SIGERIST was born of Swiss parents in 1891 in Paris, where he was reared as a French-speaking child. Upon his father's death his mother took him to Zurich and his language became German. During his years as a student at the Gymnasium in Zurich he not only pursued the customary studies but worked by himself on Arabic, quite as another boy might have "done" cross-word puzzles. In the year at University College in London that followed he was cast into an English-speaking world; studied the Indo-European languages formally; and Chinese, with a private tutor, informally.



DR. SIGERIST

Then came the time when he was told he must elect a field of specialization. Would he choose the Oriental languages or those of the early Western World? He decided to select neither group but to have a look at the sciences instead. In the fateful year of 1914, therefore, he matriculated at the University of Munich. The sciences proved interesting; he became curious to see their application to medicine. And so, once more in Zurich, he entered its university as a medical student. By the time the war was over he had received the M.D. degree and had fought in uniform—not against other nations, for Switzerland was spared from that—but against disease in the rural areas.

Again a decision had to be made. How could he best utilize his knowledge of languages, of science, and of medicine. He found the answer in the history of medicine, that insufficiently tilled field. For its cultivation both his extensive background and a wide understanding of the social sciences were needed. Consequently there was much reading of economics, history,

anthropology, and sociology before he became professor of the history of medicine at the University of Zurich. Later he was called to the University of Leipzig to occupy what was then, in pre-Nazi times, the foremost chair of medical history in the world.

It was there that Dr. William H. Welch, the famous American physician and teacher, visited him and persuaded him to deliver a series of lectures at the newly created Institute of the History of Medicine of Johns Hopkins University in Baltimore. The lectures were followed by a trip throughout the United States for the purpose of viewing our system of health services. The trip led, in turn, to *American Medicine*, published in Germany in 1933 and in the United States, in translation, in 1934. This book is only one of several that Dr. Sigerist has written but it was the first in which he attempted a nation-wide survey of those health services that seemed to him to hold considerable promise for the future.

In 1932 Dr. Sigerist joined the faculty of the Institute of the History of Medicine of Johns Hopkins University, upon the retirement of Dr. Welch, and became its director. Since then his time has been taken up by his duties at Johns Hopkins, as well as by extensive traveling and lecturing. In the summers of 1935 and 1936 he visited the Soviet Union and intensively studied its system of preventive medicine. The results of those visits are recorded in *Socialized Medicine in the Soviet Union*, published both in the United States and in England in the fall of 1937.

It may conservatively be said that Dr. Sigerist's contribution to the cause of progressive medicine and to other forward-looking movements is inestimable. Not the least of the reasons for his success comes from the devotion he inspires in "the younger generation." Whether in the United States, on an Atlantic crossing, or in Europe, one is forever encountering those, particularly students, to whom Henry E. Sigerist's name is a living influence prompting them, in turn, to creative action.

HIKING FOR HEALTH AND RECREATION

The joys of the open road are not only for rural dwellers. Nature also offers much within easy distance of the larger cities.

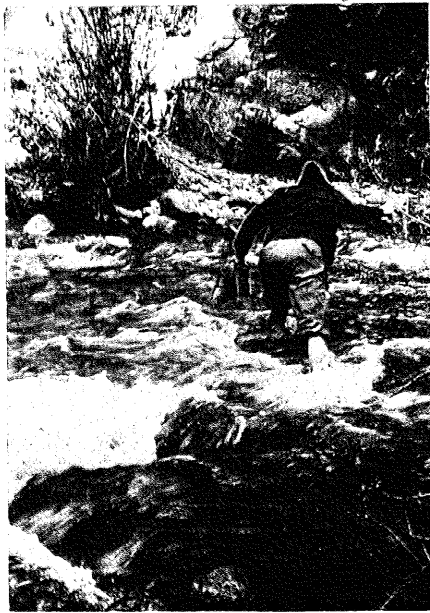
FREEDOM of the open air! The contrast between this freedom and the confinement that is the lot of the city dwelling worker sometimes makes it hard to visualize the pleasures of fresh air and sunshine that may, nevertheless, be enjoyed by such workers without going very far from the city itself. Work too often means long hours spent indoors with poor ventilation, in drab and squalid surroundings, and exposed to the hazards of dust, chemical fumes, and other unhealthful factors. And too often the hours after work mean equally confining meetings, moving pictures, dances, and visits at homes, with exposure to smoke and noise.

Health for Workers! Communion with Nature! These were the slogans of a workers' organization founded in Austria and Germany over forty years ago under the name of the *Nature Friends*. Of course, since the Nazis have come to power in these countries such an organization has become illegal, but in other countries, including the United States, the Nature Friends are carrying on.

Health, good health, means so much to workers. The purpose of the Nature Friends is to bring to workers the pleasures and joys of nature, as well as the physical and mental benefits that are to be obtained through outdoor activity, hiking, and camping.

To most city dwellers the term "hiking" has an unfamiliar ring. Yet an introduction to this readily available sport promises unparal-

Casting for trout in a mountain stream.



leled enjoyment at little expense. It is in all truth the sport of workers as well as kings. Hiking is a universal activity—for all nations, all people, all ages. It can be lazy, relaxing, recreational, or it can be vigorous, exciting, and competitive—a battle against the weather, distance, altitude, or time.

The Nature Friends have been active in promoting this sport in many nations of the world. The parent organizations in Germany and Austria, as stated above, have come under the Nazi pall but France, Switzerland, Holland, Belgium, Palestine, Czechoslovakia, the United States, and several other countries have their national groups today.

ROCKIES TO THE RAMAPOS

The growing popularity of hiking and camping in the United States is due in no small measure to the work of the Nature Friends of America. This organization, with its central office in New York City is represented in sixteen cities of the United States, from California to New York, and even has a branch in Alaska. Its sixteen camps dot the continent from the Sierra Madre in the Rockies to the Catskills and Ramapos in the Appalachian chain. (On the next page see the list of cities where there are branches of the organization.)

In all these places stress is placed upon the opportunities that hiking and camping offer in offsetting the unhealthful and monotonous confinement of work, and in getting the hiker out into the healthful sunshine and unadulterated air. The members are shown how to make full use of the opportunities for hiking that exist in the particular locality. Hikes are arranged regularly for weekends or longer periods—short ones

Nature Friends Branches*

New York City, N. Y.
 Rochester, N. Y.
 Syracuse, N. Y.
 Bridgeport, Conn.
 Stamford, Conn.
 Jersey City, N. J.
 Newark, N. J.
 Passaic, N. J.
 Paterson, N. J.
 Allentown, Pa.
 Philadelphia, Pa.
 Chicago, Ill.
 Milwaukee, Wisc.
 Los Angeles, Calif.
 Oakland, Calif.
 San Francisco, Calif.
 Salt Lake City, Utah

* For further information write to the Nature Friends, 11 West 18th Street, New York City.

for the beginners or those who cannot afford the expense of longer trips, and more difficult or extended ones for the veterans and those whose circumstances permit them to wander farther afield.

To take only one example, let us examine very briefly some of the wholesome and varied hiking facilities that New York City has to offer, facilities that the Nature Friends will be glad to show you, practically at your door step for a few cents in car fare. Special equipment is not needed; ordinary clothes with stout, low-heeled shoes will suffice in most cases.

A ferry ride to Staten Island brings woodland trails and forest views as beautiful as those in the depths of the hinterlands. From St. George, where the ferry lands, you go along Victory Boulevard, past Silver Lake reservoir, through Clove Lake Park, and back is a route



Ready to go places.

that is full of the beauties of nature. Along this trail the hiker will see rocky grottos, wild and luxurious plant and tree life, and lakes and ponds—all within easy distance of New York City.

The Palisades, that stately wall of cliffs rising along the west bank of the Hudson, are familiar to many by name but they are really exciting when explored. They offer delightful shore paths, wooded walks, ravines and chasms, a multitude of types of trees and a variety of birds overhead in the sky and in the branches of the trees. The walk from the Jersey landing of the Dyckman Street ferry, six miles north to Alpine is a good day's workout. From Alpine north to Forest View is also an interesting hike.

There are many more excellent hiking tours in the immediate vicinity of New York. Pelham Bay with its shore life, rich marshes, beautiful islands, and secluded paths is one of the most interesting locales,

combining as it does the beauties of land and water. Forest Park in Queens, with its cool woodland depths is an inviting spot. Van Cortlandt Park with its dense wooded land, abundant wild life—there are even wild foxes—will be a surprise to many New Yorkers who think of it as part of the city. Near Van Cortlandt Park is Tibbets Brook Park with its large swimming pool. There is also Nepera Park, a trolley ride's distance from Van Cortlandt Park. Almost as near is Woodlands Park. In both of these there are beautiful ponds which are located in the midst of wooded fields and hills.

Other cities, too, offer characteristic hiking opportunities of their own. These shorter hikes train one to venture forth on longer and more difficult ones, and for those who want to go into the sport more seriously the Nature Friends offer a variety of well-planned week-ends throughout the year. The weekly schedules of the activities of all the Nature Friends local organizations in the sixteen cities of the United States where they are represented can be found

in the monthly magazine entitled *The Nature Friend*. This magazine also contains articles on hiking, sports, science, nature, and working-class culture.

Sports are an integral part of the hike. After the luncheon there is a rest period, usually followed by songs and discussion; then sports according to the season: swimming, wading, or boating in the summer; ice-skating or skiing in the winter. (Continued on page 31)

Health Devices and Gadgets

An Official Government Expose, IV

THOUSANDS of people die annually through temporizing with fake devices alleged to produce miraculous cures. Symptoms of early cancer and of other serious diseases often resemble closely those of simple ailments, but the only hope lies in early diagnosis and proper treatment. Mistaken reliance on worthless gadgets merely lets the disease progress to incurable stages.

Troubles of the prostate, rectum, and uterus are frequently due to cancer and other tumors, or to venereal disease. Many supporters, pessaries, dilators, and massagers are sold for supposed preventive and curative effects in these conditions. The health of the patient may not alone be at stake; that of other members of society, including the unborn, may be endangered by ineffective treatment.

Not all fake devices are dangerous. Some are sheer frauds, like most of those guaranteed to make the human form divine by refashioning the ill-shaped nose, lips, face, neck, arms, chest, breasts, abdomen, hips, legs, ankles, feet. These devices are usually equipped with rollers, wheels, or suction cups, alleged to remove excess fat and muscle where unwanted and build up these same tissues in scrawny places. Some are sold to straighten bowlegs and knock-knees; others to increase the height of adults by from three to five inches; still others to cure baldness.

Gadgets advertised to cure rupture and thus permit the user to throw away his truss may be just another but less efficient form of truss—one that may cause strangulation.

Several devices worn externally are honestly

sold as aids to hearing. But deafness "cures" are sometimes merely rubber or metal trinkets to be worn in the outer canal of the ear, usually as artificial ear drums. They seriously increase the danger of ear infections. Incidentally, they are claimed to cure deafness and at the same time to diminish the volume of sound heard by those working in boiler shops.

Radium devices, including water jars, have been extensively sold. If they are radio-active, they are extremely dangerous; if they are not radio-active they are simply junk. Some radium devices are alleged to make the old young and to cure all diseases, including cancer. Electric belts, pads, plates and machines, sold under similar claims, are common. Necklaces of glass beads strung on wire have been advertised to cure all afflictions by selecting health-giving and germ-killing radio waves from the air. Other necklaces with alternate discs of copper and zinc between the beads were supposed to generate enough electricity to cure goiter.

And so on. For almost every disease and deformity known to man or beast, there is sold a fake device, appliance, contraption, or machine. The present food and drug law has no jurisdiction over them. An adequate law would bring them under legal control and require that their labeling and advertising claims be confined to truth.

The fifth instalment in this series of articles, which has been prepared by the Food and Drug Administration of the United States Department of Agriculture, will appear in the September issue.

A troublesome and disfiguring ailment that is caused chiefly by long hours of standing.

Curing Varicose Veins

A COMMON ailment in persons who are not what we would ordinarily call ill, is varicose veins. In order to describe this malady adequately it is first necessary to describe the normal vein, especially in the lower extremities, the thighs and legs, where varicose veins are most frequently found. In the lower extremities there are two sets of veins, the superficial veins and the deep ones. The superficial veins of the legs and thighs, under ordinary circumstances, are barely visible in their entire length. Beginning near the ankle, there is a large vein that runs up the inner side of the leg and thigh. This is called the saphenous vein. Through its branches it drains most of the leg and thigh, and it is the vein that most frequently becomes varicose.

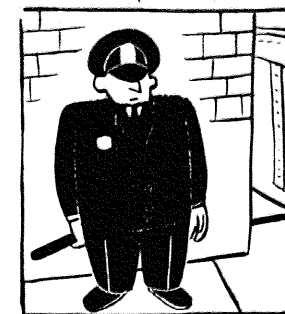
HOW VEINS BECOME VARICOSE

The blood in the veins of the legs travels upward towards the heart and against the force of gravity. The force that propels the blood upward in these veins comes from the contraction of the muscles of the leg and thigh and from the suction in the large veins within the abdomen. Moreover, the saphenous vein (the one that most frequently becomes varicose) is provided with four or five valves between the ankle and the point at the groin where it joins the deep veins. These valves divide the long column of blood into four or five columns, thus preventing the blood from flowing down the leg in the wrong direction. When these valves, however, become inadequate to support the columns of blood above them, the blood trickles back down the leg and thigh and dilates the veins. When this continues over a sufficient period of time the veins have to increase in cubic capacity in order to accommodate the increased amount of blood in them. Since they cannot increase in length they become swollen and twisted in knot-like masses. When in this state they are called varicose veins.

What are the causes of varicose veins? By far the most common cause is long-continued increase in the blood pressure due to standing for long periods of time. There is little doubt,

however, that there is also in some persons an inherited or familial tendency towards the development of varicose veins. In such persons we may assume that the walls of the veins age more rapidly than in normal persons and therefore cannot sustain even the ordinary pressure of every day life for a full lifetime. In persons with such an inherited predisposition varicose veins may develop in the early twenties, although generally they do not occur before early middle age.

Pregnancy is often a factor in producing varicose veins in women because the increasing pressure within the abdomen due to the development of the baby causes a rise in pressure within all the veins of the abdomen and lower extremities. However, those women who develop varicose veins during their first pregnancy, when they are still quite young, probably fall within the group that has an inherited predisposition. On the other hand a perfectly normal woman who is subjected to repeated pregnancies and the long hours of standing which are required in the work of bringing up a large family on a small income,



Charles Martin

will probably develop varicose veins without any predisposition.

Varicose veins are a common ailment in many of the trades that require long hours of standing; mail carriers, policemen, department store sales people, waiters, and workers in the heavy machine industries where there is little or no opportunity for rest, are often victims. Clinics and dispensaries are crowded with thousands of the underprivileged who suffer from varicose veins and their consequences. On the other hand, physicians whose practice is largely among the upper middle class see a much smaller proportion of patients with this ailment.

What are the symptoms and what are the consequences of varicose veins? **Varicose veins**

may cause only slight symptoms or none at all when they are few in number and not very large. This type of varicose veins comes to the doctor's attention only because the patient is aware of their ugliness and seeks treatment for cosmetic reasons. Sooner or later, however, the varicose condition of these veins increases, especially when the causative factor is not removed. The symptoms which ensue consist of a dragging sensation and aching pains in the legs, especially towards the end of a day's work. But this pain, although disturbing, is not as serious as the lack of nourishment suffered by the skin of the legs when the varicose condition becomes advanced. This



Charles Martin

undernourishment is indicated by a discoloration of the skin, which first becomes slightly bluish and later brown. The varicose veins themselves are easily injured and alarming hemorrhages from them may occur as a result of even a very minor blow. As a result of the poor nutrition of the skin the wound that occurs when one of these veins rupture frequently does not heal, and an ulcer forms. Such ulcers are very resistant to treatment, are extremely painful, and discharge a foul-smelling pus. Every hospital dispensary has its too familiar array of these pitiful ulcer cases with their bandaged legs and stories of sleepless nights. In addition to the consequences mentioned above patients with varicose veins are subject to phlebitis (inflammation of the veins) which may even be fatal but which in any case confines the patient to bed.

THE INJECTION TREATMENT

Until recent years the only treatment for varicose veins consisted of removing them by surgical operation. This procedure often involved long incisions, and, unfortunately, even with a perfectly adequate removal of the vein, other veins would become dilated and varicose because the operation did not remove the cause

of the trouble. Within the last twenty years the surgical removal of varicose veins has become a relatively infrequent procedure and has been replaced largely by the injection treatment. The injection treatment depends upon the fact that when an irritating chemical substance is injected into a vein it causes an inflammation of the inner lining of the vein. A blood clot forms at the point of inflammation and extends a short distance up and down the vein from the point of injection. This clotting or thrombosis, as it is called, blocks the vein and prevents the blood from flowing into it. After a while the blood clot is replaced by scar tissue, and the vein collapses and becomes invisible through the skin. Varicose veins are especially susceptible to clotting or thrombosis when certain chemical reagents are injected into them and it is this susceptibility that is made use of in the injection treatment of varicose veins.

When a vein is thus closed off the blood circulation in the affected part is taken care of by other veins which are not visible. It is obvious, however, that even if all the varicose veins are closed off by thrombosis, these healthy veins will also become varicose if the patient is still required to spend long hours standing. In other words, recurrences may follow the injection treatment, just as they follow the surgical removal of varicose veins, if the cause is not removed.

CAREFUL SELECTION NECESSARY

While the injection treatment itself is a comparatively simple one, it should be done only by doctors who have had experience in recognizing the type of cases to which it is or is not suited. Not all cases can be safely treated by this method, and serious harm can be done if an improper type of case is selected for injection treatment. For example, some women during and immediately following pregnancy develop what is called a "milk leg." In this condition the leg becomes large and swollen and the skin white and tense due to a phlebitis or inflammation of the deep veins of the leg. In some women the deep vein may be completely blocked by thrombosis following the inflammation, and the superficial veins may become varicose because of the added pressure in them due to the fact that they have to carry all the blood from the extremi-

ties. Obviously, treating these varicose veins by injection method would be a dangerous procedure because circulation would be entirely impeded.

Nor is the injection method always necessary even when it can be performed. In some cases the varicose veins are very small, and form what are called spiders or tiny branches from a larger central vein. In this type of case the patient may need only an elastic support such as a rubber stocking or an elastic bandage, and, what is more important, a rest from the accustomed long hours of standing. When a patient has already developed ulcers due to varicose veins the treatment consists both of injection of the varicose vein leading to the ulcer and of treatment of the ulcer itself by dressings, warmth, and elevation of the leg.

The solution of the problem of varicose veins and their consequences depends upon two factors. First, the causative factor must be reduced, not only in industry but in the home for the housewife as well. No worker, whether in home or industry should be required to stand

at work for long uninterrupted periods. Frequent rests periods should be provided. This is perhaps more easily done in industry than for women in the home. Here, the problem is the general one of raising the standard of living so that housewives will not be forced to work to the point of exhaustion in the home, and then, not infrequently, seek employment in industry as well in order to augment the meager family income. Secondly, all patients who have any form of varicosities should be able to get competent medical care before rather than after ulcers form, regardless of their ability to pay for such care. Every hospital ought to have a special clinic for the treatment of varicose veins, and hospital beds should be made available for those patients who need hospitalization. Too often the doctors in the dispensary tell the patient to go home and stay off his feet when both the doctor and patient know that this is impossible. It is this type of case, where an essential part of the treatment is rest in bed and elevation of the legs, that makes hospitalization imperative

Consumers' Co-op Forms to Combat Milk Trust

LOWEST prevailing market price to consumer!—Highest prevailing market price to the farmer!—Profits to be divided—two-thirds to the consumer; one-third to the farmer." This is the program of the newly formed Consumer-Farmer Milk Cooperative which will answer the question: "Is there a Milk Monopoly?" Here at last is a truly practical yardstick.

The Cooperative grew out of the demands of both consumers and farmers, who were tired of seeing the milk trust underpay farmers, overcharge consumers, and salt away the difference in gigantic profits. Consumers throughout the country are eagerly watching the New York plan.

The Cooperative is supported by dozens of labor and civic groups. Every worker should support the Cooperative by joining.

This is how the Cooperative will work: Consumers join by signing a membership application form. No money need be paid when this is done. When service is available in a locality, the applicants for membership in that locality will be notified. At that time they can either pay 25 cents, which is the full membership fee (there are no dues nor further charges) or they may permit dividends to accumulate to pay this fee. Members must buy at least \$5 worth of milk a year.

As in all cooperatives, there is democratic control, with each member having one vote. All the work done by the Cooperative is done by union labor.

Farmer members of the New York Dairy Farmers Union will supply the milk. They have built a modern \$60,000 plant upstate. The milk will be brought to the pasteurization plant which the Co-op has under contract in Brooklyn. Complete up-to-date equipment of this plant provides the most efficient handling of the milk. It goes into one end of the machine, is pasteurized, cooled, put into containers and sealed, and comes out at the other end all ready for your ice-box.

On each milk container there will be a coupon which the consumer removes and saves. When returned to the Co-op, these coupons determine the consumer's share in the profits of the Cooperative. Profits will be divided, two-thirds for consumers and one-third for farmers.

There is one proved way of handling the trust question. That is for farmers and city people to combine their buying power through their own cooperative. The Consumer-Farmer Milk Cooperative, which has its offices at 215 Fourth Avenue, New York City, is the medium through which this end can be accomplished.

Doubt sometimes arises as to the sex of an individual. The why and how of hermaphroditism.

Inter-Sex

WHAT determines whether the coming child will be a boy or a girl? In most cases the answer to this question is fairly clear. Studies on various animals, including man, show that the sex of the child is usually determined during fertilization, that is, when the sperm unites with the egg. Each month an egg or ovum is ripened in the ovaries of the woman. This egg leaves the ovary sometime between the beginning of one menstrual flow and the beginning of the next, usually from ten to seventeen days after the beginning of each menstrual flow. After leaving the ovary the egg lives a day or two and then, unless fertilized by a sperm, it dies and disintegrates. Each egg that a woman ripens is like every other egg in that it can develop either into a male or female. As far as we know the sex of the child is not influenced by the fact that one egg or another is the one that is fertilized.

BOY OR GIRL?

The situation is different with the spermatozoa or male seed. Of the 200,000,000 sperm that are emitted during a single sex act, about half would lead to the development of a female when and if any one of them fertilized the egg, whereas the fertilization of the egg by any one of the other 100,000,000 sperm would lead to the development of a male. In other words any single sperm is either male-producing or female-producing, and the sex of the child depends primarily on whether one kind of sperm or the other happens to fertilize the egg. The sperm gives the fertilized egg a push in the direction of maleness or femaleness and later developments in the fertilized egg continue to lead the development in the direction of one sex or the other.

In the young embryo which develops from the fertilized egg there are certain tissues which later become the internal sex glands and the external sex organs. In the beginning, examination of these tissues does not reveal whether they will become male organs or female organs; they have not yet become sexually differentiated. Later some of these tissues definitely

become male or female. Others remain in undeveloped form.

In an embryo that is developing into a female, certain tissues become differentiated into ovaries. In an embryo that is developing into a male the corresponding tissues become testicles. Thus the ovaries and testicles are corresponding organs which develop from similar tissues. This differentiation into testicle or ovary is never entirely complete. Thus certain tissues in the ovary, the *rete ovarii*, retain some testicular characteristics. In the same way those embryonic tissues which in the male become the penis, become the clitoris in the female. The clitoris is a little organ which protrudes from the tissues just above the urethra or urinary outlet near the entrance to the vagina. It has been called the female penis. The womb or uterus in women also has its counterpart in the man in a small undeveloped organ called the *uterus masculinus*, or male uterus. Even more striking is the fact that in addition to the female sex hormone which is found in considerable amount in the urine of women, such urine also commonly contains some male sex hormone. Similarly, the urine of a man often contains some female sex hormone as well as male hormone.

THE EFFECT OF HORMONES

Thus it is clear that the push in the direction of maleness or femaleness given to the fertilized egg by the sperm is never a complete one. Every woman has in her body the female forms of the corresponding male organs. Every man has in his body the male forms of the corresponding female organs. Sometimes the analagous organ may be a poorly developed miniature of the corresponding organ of the opposite sex, as for instance, in the case of the clitoris which may be called a poorly developed penis, or the *uterus masculinus* which may be called a poorly developed uterus. On the other hand, the analagous organ may have developed in a different direction as in the case of the testicles or the ovaries.

We said that the sperm gives the *initial* push

in the direction of one sex or the other. It is the endocrine glands that determine the later development. Usually the endocrine glands continue the development in the same direction as started by the sperm. Sometimes, however, they work in the opposite direction, causing a development towards maleness instead of the original femaleness, or vice versa. In some cases various degrees of intersexuality will develop. The degree of intersexuality will depend upon the stage in the development of the embryo at which the glands secrete the substance responsible for pushing the development in the opposite direction. The earlier the glands secrete these substances the more completely will they be able to reverse the original direction given by the sperm.

Studies of animals have shown how the sex hormones can overcome or partly overcome the original direction given to the embryo by the sperm. F. R. Lillie has described this most clearly in the case of cattle. When cattle have twins of which one is a male and the other a female, the female twin often shows strikingly male characteristics at birth. Such an intersexual female calf is called a freemartin. Lillie shows that during the early stages of development the blood of the twins mixes freely. This causes the female embryo to be subjected to the influence of the male sex hormone early in her development. This affects the development of her sex glands and sex organs in a male direction, and a female intersex is produced.

A CASE HISTORY

Though they are quite rare, a number of human intersexes have been reported in medical literature. In a recent number of *The Journal of the American Medical Association* Drs. Rubovits and Saphir report an interesting case. The patient was a woman of thirty-nine who came to the hospital complaining of sexual desire so annoying that it interfered with her ability to work or sleep. She was a well-built woman with masculine features. She had a dark complexion and had considerable hair on both cheeks, some of which had been removed by hair removers and electrolysis. Her voice was harsh but not definitely masculine or feminine. She had a distinctly feminine manner.

She was the oldest of five children. Her father had been a bee farmer. Both parents were kind but hadn't paid much attention to the

children. She had been a quiet, obedient child, had played with other little girls, and liked dolls just as other girls did. At the age of thirteen she fell in love with a handsome boy in her class. He bought her cakes and candy and carried her books for her.

She told the doctor that she had not known that she was in any way different from other girls until she was seventeen. At that time she had gone swimming with some other girls and while undressing she had seen the others and realized that she was different from them. It was a great shock to her, as might be expected. She became very angry at her mother for having been born in this way, and as a result she ran away from home. Under an assumed name she took up her residence in the city. She never got in touch with her parents again and they later died without seeing her. Shortly after coming to the city she went to a doctor. He was puzzled and advised her to wait a few years until it became clearer whether she was a man or a woman. She "menstruated" twice, for about two hours, at the ages of seventeen and twenty.

HOW PROBLEM WAS SOLVED

During the war she worked in a hospital and had many flirtations with the soldiers. She grew up to be a popular woman and had many dates. She went out a good deal and often went to dances. She often became sexually excited and went in for heavy petting, but she never had intercourse because she did not want her condition to be discovered. Finally she became engaged to a man who wanted to marry her as soon as possible. Although she did not care to have any children she did want a normal sex life. Most of all she hoped that when she was married normal sexual relations would relieve her of the unbearable sexual tension. She told the doctor that she wanted to be operated upon so that she could lead a normal sex life.

Physical examination showed evidence of a masculine distribution of hair on the body. The breasts were perfectly flat and definitely masculine. The sex organs were of a curious nature. There was a small penis with a urethra at the base, and it was in the region of this urethra that she said she felt the greatest sexual tension. On the right side there was a normal sized testicle and on the left there was a smaller testicle. Between the two was a small vagina.

Examination did not reveal the presence of ovaries.

The doctors removed the penis and testicles and enlarged the existing vagina. Following the operation the patient's breasts became a little enlarged but there was no other change in her masculine features. The symptom which brought her to the hospital was relieved; the annoying sexual tension was diminished and the patient was again able to work and sleep.

How is this case to be interpreted? Drs. Rubovits and Saphir made a diagnosis of *pseudohermaphroditism masculinus*. Hermaphroditism means a condition of bisexuality in which the individual produces both sperm and eggs. It is a condition that has never been found in human beings, although it is found in lower animals. *Pseudohermaphroditism* is false hermaphroditism, that is, a condition simulating hermaphroditism, and *masculinus* means masculine. Drs. Rubovits and Saphir believed that the patient was a man because she (we will continue to use the feminine pronoun) had testicles and no ovaries. They felt that the physical abnormality consisted of the fact that the patient had a very small penis with *hypospadias*, that is, a condition in which the urinary outlet is at the base of the penis instead of at the tip. They believed that the small vagina was an additional abnormality. The complete absence of even rudimentary or small undeveloped ovaries was not proven but urinary examinations did not point to their presence.

DIFFERENT INTERPRETATION POSSIBLE

In spite of their opinion that the patient was a male intersex they felt justified in performing the operation in the manner described. The patient regarded herself as a woman, wanted to be a woman, and was eager to get rid of her male organs. It would have been a tremendous shock to her to be told that she was a man. Moreover, she could never function sexually as a man because of physical as well as psychological reasons.

This case could, however, be interpreted otherwise. The first question that arises is the patient's probable genetic make-up. Was the sperm that fertilized the egg from which she developed a sperm leading to maleness or to femaleness? From the facts given, other authorities would have interpreted the case as that of a woman who had developed male character-

istics. They would have felt that the original direction given the egg by the sperm was towards femaleness. Later glandular disturbances during embryological development tended partially and almost completely to reverse this development in a male direction, so that this woman developed some masculine structures and characteristics.

ANOTHER EXAMPLE

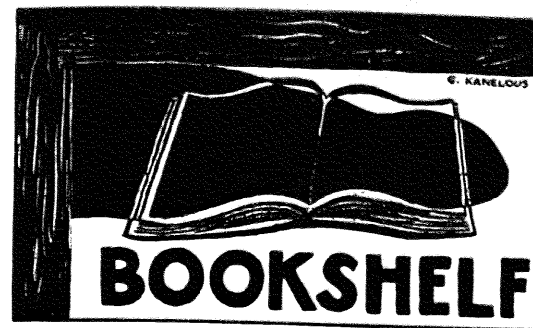
Dr. Emil Novak is an authority who has interpreted cases of this type in this way. A few years ago he reported a somewhat similar case with the latter interpretation.

The patient was a girl of nineteen who had two normally developed brothers. She had always been in good health and her childhood was like that of any normal girl. She played with girls and was regarded as one of them. She liked to go out with boys just as other girls did, and she hoped to get married some day and to have children. The first time she or her parents suspected that anything was wrong was when she failed to menstruate. As she passed adolescence other male characteristics also seemed to develop.

She was over six feet tall and weighed 147 pounds. She was broad shouldered and well developed. There was a tendency towards masculine distribution of hair. Her voice was deep. The breasts were flat and undeveloped. The clitoris was about three inches long but was almost entirely covered by a well developed fold of tissue, resembling a prepuce or foreskin. Dr. Novak felt certain it was not a hypospadias penis because the normal feminine urinary outlet was located about an inch below the clitoris. The vagina was small and was covered by a hymen or maidenhead. Examination revealed no evidence of a womb or uterus.

An operation to find other evidence of abnormality was decided upon. The operation confirmed the absence of a uterus. Two glands were found in the abdomen and microscopic examination showed them to be testicles. These were removed as was the enlarged clitoris. Dr. Novak felt that the patient was definitely a girl. The original genetic feminine direction which she had acquired at the time of fertilization was later changed in a male direction by glandular abnormalities during her embryonic life. This led to the development of testicles rather than

(Continued on page 29)



THE FIGHT FOR LIFE. By Paul de Kruif. 342 pp., Harcourt, Brace and Co., New York, \$3.

More and more of our medical scientists—our death fighters, as Paul de Kruif calls them—are coming to the realization that their discoveries, their victories over death, are only paper victories as long as poverty, that most formidable of all the enemies of life and health, is left to dominate the field.

Paul de Kruif is in the forefront of the death fighters who realize this fundamental fact, and his latest book is a stirring and impassioned indictment against a system in which life and health are dealt with as commodities to be given to those who can pay for them and denied to those who cannot. *The Fight for Life* tells the moving and truly heroic stories of man's conquest over the perils of childbirth, infantile paralysis, tuberculosis, and syphilis; of how in each instance science has found ways to reduce these perils materially and even to give promise of eradicating them almost completely; and of how grim social and economic factors always stand in the way of the broad application of this life-saving knowledge and scientific skill.

In his previous book *Why Keep Them Alive?* de Kruif showed that it was wasteful in dollar-and-cents terms for us thus to allow people to sicken and die needlessly. He pointed out that by spending *some* money now we could save a great deal *more* money in the future, and he seemed to entertain some hope that those who hold the purse strings of society could be made to view the problem in this light. In the present volume, however, there are strong indications that de Kruif no longer hopes for too much sympathy or understanding from this quarter. He has seen the Chicago Maternity Center reduce the chances of death from childbirth by five-sixths among the poor mothers of Chicago, and then be faced with the possibility of having to close its doors for lack of funds. He has seen the Detroit tuberculosis eradication campaign which he helped sponsor and which has already done much for Detroit denied to the rest of the State of Michigan for lack of funds. He has seen the anti-syphilis campaign initiated in Chicago flare up to

a brilliant start and then slow down for lack of funds.

And so he says: "Influential citizens agree with you that syphilis is bad business and that you are economically sound if you spend some money *now* to save much more money in the not far distant future. They say yes, yes; and then they don't spend the money."

And he adds: "But who ever accused the generality of our rulers, comptrollers, budget-balancers, economy-howlers, of believing or even understanding the black and red of their own bookkeeping?"

It is for this reason that de Kruif realizes that the fight for life will not be won until it becomes a fight of *the whole people* against the forces that are now keeping the advances of science from being applied as they should and could be. "Will the people wait," he asks, "will they be patient when they know there is not even a rotten economic reason why their dear ones should drown in the blood of consumptive death, perish with childbed fever, go blind, become heart-wrecked, and go mad with syphilis?"

"The people are beginning to know that life is no longer a question of do *I* live or do *I* die. No, in their onward march of life it now becomes do *we* live or do *we* die."

It is this faith in the decisiveness of the role which the people will play in the struggle that causes de Kruif to predict that "today's denial of life is not a permanent one. It is a symptom of the mortal sickness of an economic order now dying. Some day—the date not here predicted—a new order will arise. In it human life will be the one wealth sought for. Then mankind will begin marching, singing the democratic marching song of poet Schiller's 'Ode to Joy' to the stirring music of the Ninth Symphony of democratic Beethoven."

There are indeed numerous indications that the people of this country are awakening to the necessity of taking an active part in the struggle. A book like *The Fight for Life* is certain to play a large part in further stimulating this awakening. The people are fortunate in having so able and fearless a champion as Paul de Kruif wholeheartedly with them in the struggle.

CARL MALMBERG

MAN AGAINST HIMSELF. By Karl A. Menninger, M.D., 471 pp., Harcourt, Brace & Co., N. Y., \$3.75.

DOCTOR MENNINGER is a distinguished psychiatrist who has an unusual gift of presenting rather technical material in interesting and readable form. The reader with some sociological or psychiatric background will find in this book much that is

stimulating and instructive. Those without such training will probably have difficulty in grasping the psychiatric dynamics and principles involved, though the book will still contain much of great interest.

His extensive experience has taught Doctor Menninger that tendencies towards destructive aggression constitute one of the more important emotional problems with which the individual must cope. We all have an instinct for life but also a drive, an instinct, towards death. So also we have not only an instinct to love but also a capacity for powerful hate. It is the use we make of these forces that determines to a large extent the nature of our adjustment, the fruitfulness or barrenness of our lives, the pleasures or sorrows we experience.

It is a common error to look on hatred as essentially and exclusively a destructive force. This is by no means true; where the energy of hatred is directed against proper targets, where it is kept from being turned against the self or against friendly agencies or people, it can lead to socially useful and constructive results. To give a very simple example: a hatred of disease can lead an individual to the study of germs, with the result that he may make discoveries which result in the saving of millions of lives.

Doctor Menninger discusses the problem of man turning his hatred inward against himself. He points out the numerous natural and accidental forces which seem bent on destroying man: disease, floods, fires, droughts, and earthquakes. To these forces, as though he is uncertain that they will succeed, man adds vengeful jealousies, wars, hatred of his fellow-man and of himself.

The suicidal tendencies may be only partially carried out: man may slowly kill himself by protracted severe alcoholism, by the use of drugs, and in numerous other more subtle ways. He may punish himself by asceticism or martyrdom. Careful study has revealed that those who actually commit suicide—one person every twenty-four minutes in the United States—have often experienced a long series of defeats and frustrations throughout the years preceding the final "solution" to their problems. These problems begin, in most instances, not in adult life but in the unwholesome attitudes built up in early childhood. These attitudes result from a number of factors: emotionally maladjusted parents, tension and friction in the home, the hypocrisies and deceptions in most sexual education, the teaching of a set of moral values which find no counterpart in a world full of cut-throat competition, the early awareness of the necessity of an incessant struggle for existence, and many others. Unfortunately, Menninger refers only indirectly to some of these factors and omits any reference to others.

The problem is, therefore, not to be solved by locking up such patients until a transient phase of emotional depression has receded. We can—and must—treat people who are ill in this way. But what of the larger problem of prevention?

Dr. Menninger speaks correctly of war as a form of mass self-destruction. But he errs when, in describing the imminence of another world war, he writes of "the almost joyous preparation for mass suicide." If the prospect of a gory death were so intriguing to large numbers of people, conscription would be unnecessary, as would be the many skilful and devious propaganda devices for whipping up the "proper" attitude in people.

Doctor Menninger warns that we cannot consider the patient without considering also his environment, the society in which he lives. This is so obvious as to require no stress. Unfortunately, the author fails to indicate clearly that a form of society which defeats, for millions of people, every natural desire for peace, security, jobs, and health cannot hope to produce a people who are not troubled to a great extent by the mental traits and symptoms—call them aberrations if you will—of which he writes.

THE ROYAL TABLE: AN OUTLINE OF THE DIETARY LAWS OF ISRAEL. By Rabbi Jacob Cohen, 142 pages, Bloch Publishing Co., New York, \$1.25.

This book is a compendium of the dietary regulations and restrictions of orthodox Jews. The title refers to the old Jewish belief that Jews were a "chosen people," close to God himself. The book, despite its small size, contains a wealth of information.

The reader is amazed at the number and complexity of the regulations, and at the great amount of intellectual effort expended by Talmudists and teachers in their elaboration and explanation of the dietary formulas. For anyone who is interested in the subject the book should be very useful. The author is profuse in his citation of authorities, but unfortunately most of his quotations are left untranslated.

A COPY OF
THE FIGHT FOR LIFE
by PAUL de KRUIF
Free with 5 yearly subscriptions to
Health and Hygiene

JULY-AUGUST, 1938

Questions and Answers

If you wish to have any health problem discussed write to HEALTH AND HYGIENE. Your letter will be referred to one of our doctors for reply. However, diagnosis of individual cases and prescription will not be undertaken. No letter will receive attention unless it is signed and accompanied by a stamped, self-addressed envelope.

High Blood Pressure

New Orleans, Louisiana.

DEAR DOCTORS:

Does the eating of red meat aggravate a condition of high blood pressure? What general care is recommended in this condition?—S.T.O.

Answer—High blood pressure means an excess of pressure exerted by the blood on the blood vessels through which it flows. A person's blood pressure is maintained at certain levels by variations in the heart beat, the tension and caliber of the blood vessels, and other factors, often obscure in nature. Disturbances of any one or more of these factors may produce high blood pressure or hypertension as it is termed medically.

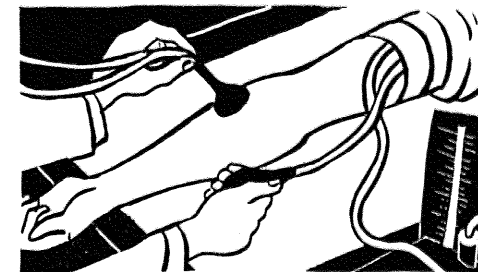
Many types of high blood pressure exist. Some types, even though quite high, are apparently harmless. The patient may have some types of high blood pressure for many years and still live an active, useful life. Other types are more serious and grow progressively worse. Some types show great variations of pressure from day to day and from hour to hour, while others remain at steady levels. Therefore, determination of the type of hypertension that a patient has is more important than the degree of the pressure.

Age is an important factor in high blood pressure, most cases occurring between the ages of forty and sixty. Diet plays some role, since obesity seems to make one prone to high blood pressure. The hurry and bustle, the physical exertion, the mental strain and worry, the irregular hours and habits, the indulgence and deprivations of present-day life no doubt play important roles in the production of hypertension. The average blood pressure readings of the general population today are much higher than they used to be, and millions of hearts throughout the world are constantly working under excess strain.

High blood pressure cannot be reduced but with proper treatment it may be regulated to a certain

extent, or at least its effects may be reduced to a minimum. The following paragraph suggests treatment to relieve the high blood pressure itself, though not the heart or kidney or other disease which may accompany it.

Rest, mental and physical, is essential. During sleep the blood pressure is reduced, and therefore long hours of unbroken sleep and frequent daytime naps are important. Diet in hypertension should be designed to prevent overweight. Red meat and other proteins do not raise the blood pressure. The person who eats an insufficient amount of red meat and other proteins may eat an excess of fats and carbohydrates which tend to produce hardening of the arteries in patients with high blood pressure. The restriction of salts is another practice that is no longer followed today; it is practiced now only under special circumstances. At least one or two quarts of fluids should be taken daily to insure proper elimination. Coffee and tea, if they do not cause nervousness, may be drunk, and a moderate amount of alcohol is permissible. Occasional mod-



Charles Martin

erate exercise may be taken if it does not cause fatigue and shortness of breath. Although constipation does not cause high blood pressure the bowels should be sensibly regulated. Many drugs have been tried in the treatment of hypertension but practically none have proved of value. Patent medicines and self-medication of all kinds should be avoided.

Kidney Stones

Roselle Park, N. J.

DEAR DOCTORS:

What is the cause of kidney stones? How can they be prevented?—S. T.

Answer—Unfortunately the exact cause of kidney stones is unknown. However, there are several factors of importance in preventing their recurrence: 1. Infections both inside and outside the urinary tract must be eradicated; diseased teeth, tonsils, and sinuses must be detected and remedied. 2. Any stone that is passed should be analyzed chemically in order to determine the proper diet for the patient to follow. 3. Vitamin A should be administered in adequate amounts. 4. At least

six glasses of water should be drunk daily. 5. If obstructive conditions are found in the urinary passages they should be remedied by appropriate urological measures.

The urinary tract should be x-rayed every six months so that any recurrence may be treated promptly.

Protection from Moths

Winthrop, Massachusetts.

DEAR DOCTORS:

Can you tell me the cheapest satisfactory method of protecting clothing from moths?—F. P.

Answer—Naphthalene flakes or balls (moth balls) are the cheapest materials with which to protect clothing from moths. The clothing should be thoroughly cleaned and the flakes or balls thoroughly distributed among the clothes. At least a pound of balls or flakes should be used for each 100 cubic feet of space in the chest or closet in which the clothes are to be kept. Be sure the closet or chest is tightly closed.

Bee Venom Therapy

Spokane, Washington.

DEAR DOCTORS:

What is your opinion of the bee venom treatment for arthritis?—M. L.

Answer—Physicians of ancient Greece were aware of the value of bee venom in many conditions. In later ages sufferers from various diseases allowed themselves to be stung by bees in order to get relief or cure. This may be termed one of the early forms of injection treatment.

Most of the modern work on bee venom therapy has been done abroad. For many reasons the authorities on rheumatism in this country suspected that the growing reports of the efficacy of the



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treatment were not wholly reliable. Lately, however, many clinics in this country have begun using this form of therapy. It is too early to state definitely what the results are.

However, certain conclusions can be drawn. This form of treatment seems to be related to the foreign protein type of injections which are used in arthritis. This type of injection causes an in-

crease in the rate of metabolism or general activity of the body. Thus, the theory is that toxic substances are gotten rid of faster, the defensive mechanism of the body is keyed up to a greater pitch, and the various organs and glands of the body function more effectively. This theory, however, still has to be verified, keeping in mind that most cases of rheumatism show spontaneous periods of improvement which cannot be ascribed to any therapeutic agent.

In the hands of a sincere, serious, and honest medical man who is acquainted with the whole picture of rheumatism, a patient who has failed to respond to any other form of treatment may safely allow the trial of bee venom.

Bleeding Piles

Oakland, California.

DEAR DOCTORS:

What can be done to relieve piles that have become infected? I am told that they cannot be operated on while in an infected condition.—P. B.

Answer—The proper treatment of infected bleeding hemorrhoids or piles is rest in bed and applications of cold wet towels for a day or two, then the application of heat. Gauze soaked in 25 per cent boroglycerine (inexpensive) may be applied directly and a hot water bag on top of this. Ointment or suppositories for relief of pain are unfortunately fairly expensive. The bowels must be kept loose.

After the inflammation has subsided it is possible to bring about a permanent cure either by injection treatment or operation. The type of treatment to be recommended depends on the exact condition and nature of the piles and it is impossible to recommend one or the other without examination. Operation offers an excellent chance of permanent cure, is not serious, and only requires a stay in a hospital of from four to seven days with little after-treatment. It is applicable to both external and internal hemorrhoids, while the injection treatment is used only for internal piles.

Pneumothorax Treatment

Guelph, Ontario

DEAR DOCTORS:

I developed tuberculosis in 1934 and have been undergoing pneumothorax treatment for the past three years. I have been home from the sanatorium for the past fifteen months and have been told that I am cured. How much longer should I continue taking the pneumothorax treatment? Also, would it be safe for me to have a child?—R. B..

Answer—Whether to continue pneumothorax (collapse of the lung by the injection of air into

the chest cavity) or to stop it and allow the lung to re-expand is a very difficult matter to decide. Certainly the decision is not to be made by mail at a distance from the patient. The one who must decide is the doctor in charge of the case.

The tendency nowadays is to prolong pneumothorax treatment for several years. Formerly, one or two years was thought to be sufficient. But cases turned up in which the tuberculosis became re-active months after the pneumothorax had been stopped. This re-activity occurred even though the sputum had been negative and the x-ray had indicated healing. Experience has shown that the longer pneumothorax is continued, the greater is the chance of cure. Some doctors even believe that pneumothorax should be kept up throughout life.

There is, however, a danger in prolonged pneumothorax. If pneumothorax is continued too long it is possible that the lung will fail to re-expand after the treatment is discontinued. There is, also, an increased chance for other complications of pneumothorax to develop. While it is true that there are measures to cope with such complications, it is better if they do not occur. Thus, it becomes a matter for fine judgment to decide when and if pneumothorax is to be discontinued. Each case has to be judged on its own merits and by the doctor in charge.

Most patients receiving pneumothorax manage to lead fairly normal lives and even to work. Pneumothorax treatment should be no bar to marriage or even childbearing, provided that the sputum is proven negative by exhaustive tests and that there are no indications of active tuberculosis. In other words, the disease must be arrested. But this again is a matter for the doctor in charge of the case to decide.

* * *

Twins—Accidental and Hereditary

Newport News, Va.

DEAR DOCTORS:

My father-in-law's father married twice and had twins by each wife. Would this mean if I had children I would have twins?—M. C. S.

Answer—There are two types of twins. In one type, the twins look alike and are of the same sex. They are known as identical twins and are derived from a single female ovum or egg. This type of twinning is not hereditary but is simply a biological accident. In the other type, the twins may be of the opposite or of the same sex, yet do not look exactly alike. The twins in this instance are derived from two separate eggs. This type of twinning is hereditary and the twins are called fraternal twins. In your father-in-law's case, it would be necessary to investigate the type of twins each wife had. If they were of the hereditary

kind, that is, fraternal twins, then it is possible that you also would bear twins. However, even when the twinning tendency is inherited, every pregnancy does not end in a multiple birth.

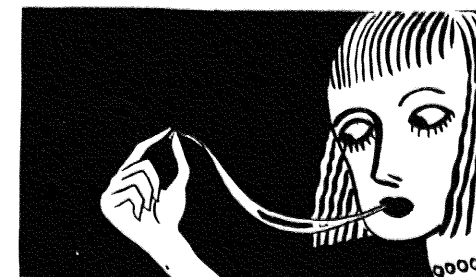
Chewing Gum

Newark, N. J.

DEAR DOCTORS:

I have seen *Dentyne* chewing gum advertised as an aid in cleansing teeth, strengthening the tooth sockets, strengthening the gums and other mouth tissues. Are these claims justified?—S. P.

Answer—Eating is often a hurried affair today and the kind of food eaten does not always give



Charles Martin

the jaws and teeth the required exercise. Gum chewing supplies a certain amount of exercise and thus may be beneficial in a degree.

Gum chewing may also be resorted to as a substitute for other habits such as nail-biting, cheek-sucking, and so forth.

With the world in the troubled state it is in today, the average individual is under considerable tension. Fears and conflicts are constantly arising and naturally many people look for something to relieve their nervousness. Some seek relaxation by going to the movies, some by smoking, some by chewing gum.

The amount of actual benefit to the teeth from gum chewing is probably so slight that any health claims in gum advertising are apt to be unwarranted. However, esthetic objections aside, there is nothing that can be said against the habit.

Inter-Sex

(Continued from page 24)

ovaries and to the overgrowth of the clitoris.

Following operation the patient felt happier. She was given female sex hormone and there was a slight development of the breasts. Her great regret was the knowledge that she would never be able to have children.

No surgical operation can alter the sex of a person with normal sex organs. The cases described are not ones in which sex has been

changed but merely ones in which abnormal sex organs which were really deformities were removed. Such cases are extremely rare.

One of the conclusions that can be drawn from the study of such cases is that the attitude of an individual towards his or her own sexuality and towards the opposite sex depends on training and environmental factors rather than on the kind of sex glands he or she possesses. Both of the patients cited above had testicles and no ovaries, yet both regarded themselves as women and had a feminine attitude towards men. There are a considerable number of people who feel dissatisfied with their sex and who wish they were of the opposite sex. In such cases the dissatisfaction is not due to their glands but to psychological factors. Special forms of early unhappiness and disappointments in childhood can bring about such a dissatisfaction with one's

sexual role. In such cases the necessary treatment is not surgery but psychotherapy, that is treatment by a psychiatrist. The psychiatrist will try to uncover the reasons for the sexual dissatisfaction and to help the patient alter the attitude and live a happier life.

Goldberger—G-Man of Disease

(Continued from page 11)

several years later, back in Washington, when he was working experimentally on the disease with dogs. He discovered that two cents' worth of brewer's yeast a day would do the trick.

But in spite of Goldberger's brilliant work, pellagra has by no means disappeared. It is not Goldberger's fault that the precious discoveries he made have not been used to the greatest advantage. It is not his fault that in 1935, twenty years after the experiment at Rankin Prison Farm and six years after his death, pellagra was still taking a toll of more than 3,500 lives a year in the United States. For what is the use of curing people of pellagra with cheap brewer's yeast and then sending them home to live again on the starvation diet that will surely mean pellagra again. It is an appalling fact that those people among whom pellagra is most common, the southern tenant farmers, are, many of them, so poor that they cannot afford even the cheap pellagra-preventing yeast. And the necessity of planting every available foot of land with cotton in order to pay the landlord for rent and the landlord's store for fat-back, hominy grits, and molasses, makes it impossible for them to raise the fresh garden truck that would help keep pellagra away.

There has, indeed, been some drop in the number of deaths from pellagra in recent years—due to the knowledge that Goldberger gave us as well as to the fact that the slackening in the market for cotton has made it possible for some southern farmers to raise a little green garden truck. But Goldberger showed us that pellagra can be wiped out entirely, and we are still a long, long way from having done that.

One wonders what would be the thoughts in the mind of old Samuel Goldberger if he could see this waste of his son's brilliant life work. "A strange country," he would probably say. "They have so much of everything that they can't afford to use it: machines, men—and knowledge."

Hiking for Health and Sport

(Continued from page 18)

The recreation offered by hiking is more than mere physical exercise. Both individual independence and group cooperation is fostered. There is also a unique opportunity for the enjoyment of that fraternity and fellowship that binds workers together in democracies. Hiking cultivates the habit of inquiry into the surrounding world, natural, political, and cultural. These inquiries are continued by the Nature Friends in their group activities during the week in the city. These activities consist of dancing, dramatics, photography, and various discussions and lectures. Certain members are experts in botany, bird lore, astronomy, and other subjects, and they impart their special knowledge to others who are interested.

Supplementing its hiking tours, the Nature Friends have a number of permanent camps. Near New York City there are four such camps, three in the Catskills and one in the Ramapos in New Jersey. The nearest and most popular is the latter at Midvale, New Jersey, forty miles from New York. It is ideally located in a valley nestled between wooded hills. There will be found forest trails to the full satisfaction of any hiker. The camp has a large swimming pool, tennis courts, and facilities for soccer, baseball, volley ball, and fist ball. A dormitory houses over 240 people and there are many separate bungalows. The entire camp, as is the case of all Nature Friend camps, was built by the cooperative labor of its own members. Week-ends and summer vacations in camp are inexpensive. Indeed, it is a true workers' country club!

One of the Catskill camps is used as a skiing camp in the winter. The rolling hills and slopes present skiing facilities which compare favorably with any in the East.

The entire organization of the Nature Friends of America offers itself to the workers of America as a rallying point around which to build a progressive program of workers' health and recreation. The many Americans of all creeds and races who are now swelling the ranks of the Nature Friends are proud to carry forward the democratic ideals of its founders and to make the benefits of outdoor activities available to a larger percentage of the American working people.

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