WOMEN IN WHITE

HEALTH AND HYGIENE

MAY, 1938 15 Cents

LULLABY PILLS
Advice to Insomnia Sufferers

•

A Surgeon at the Front Lines

•

Spring Hay Fever

•

Proofs of Pregnancy

Exterminating Roaches
Beaumont-Backwoods Scientist
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II. HOW TO PREVENT SYPHILIS AND GONORRHEA
- Prostitution and Disease
- Prevention Is Possible
- Condoms—Good and Bad
- Calomel for Syphilis
- For Complete Protection
- Advice to Women

III. MAKING TREATMENT POSSIBLE

IV. SYPHILIS IN INDUSTRY
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In This Issue

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CARL MALMBERG, *Editor*
SADIE FRANKLIN, *Business Manager*

HEALTH AND HYGIENE

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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.*

Expectant Mother

Albert Lea, Minnesota

DEAR DOCTORS:

What should the expectant mother eat in order to insure an adequate supply of breast milk? Also, will you give me the name of a good book of instructions for expectant mothers?—L. S.

Answer—To insure an adequate supply of breast milk, an ample mixed diet should be eaten. Plenty of fresh fruit, milk and other dairy products, and green vegetables are required. Cooked cereals, such as oatmeal and cornmeal, are good. Eggs and lean meats should be eaten once a day.

Write to the Children's Bureau of the United States Department of Labor, Washington, D. C., for the books entitled *Prenatal Care* and *Infant Care*, single copies of which will be sent free on request. You will also find Dr. Claude E. Heaton's *Modern Motherhood* and Dr. Frederic H. Bartlett's *Infants and Children, Their Feeding and Growth* good investments.

Chemical Fumes

St. Louis, Missouri

DEAR DOCTORS:

I work in a chemical plant and am constantly exposed to gases of whose effect I am not certain. I am exposed to the vapors of the following volatile solvents: normal butyl alcohol, secondary butyl alcohol, and tertiary butyl alcohol. I am exposed to the following gases: butene-1, butene-2, and isobutene. As far as I can perceive, these do not have any visible effects because I do not get a headache, nausea, or other symptoms. What I, and the other workers here, would like to know is whether prolonged inhalation of these vapors has any permanent harmful physiological effect.—R.S.

Answer—As far as we know at the present time there is no harmful physiological effect from prolonged inhalation of small amounts of any of the butyl alcohols. Dangerous quantities would be indicated by tiredness, loss of appetite, "dopeyness," headache, dizziness, or similar symptoms.

Butene gases are not known to have any harmful effects in small amounts. In large amounts they will cause anaesthesia. Similar gases are sometimes used by surgeons instead of ether.

Buerger's Disease

Elkhart, Indiana

DEAR DOCTORS:

Will you please tell me what methods are used in the treatment of Buerger's disease?—F. S.

Answer—There is no single form of treatment for Buerger's disease (thrombo-angiitis obliterans). All physicians acquainted with this disease insist that the patient first stop the use of tobacco entirely. In early cases, simply cutting out permanently the use of tobacco is sufficient to bring about a cure. The nicotine in tobacco—and there are no cigarettes or cigars that contain no nicotine—acts upon certain nerve centers. These nerves in turn control the flow of blood to the extremities. When the nerves are stimulated by nicotine they constrict the blood vessels, making them smaller and diminishing the flow of blood. Experiments show that the temperature of the extremities (hands and feet) can be lowered many degrees when circulation is impeded.

The next step is hygiene of the feet. They must be kept very clean by frequent foot baths,

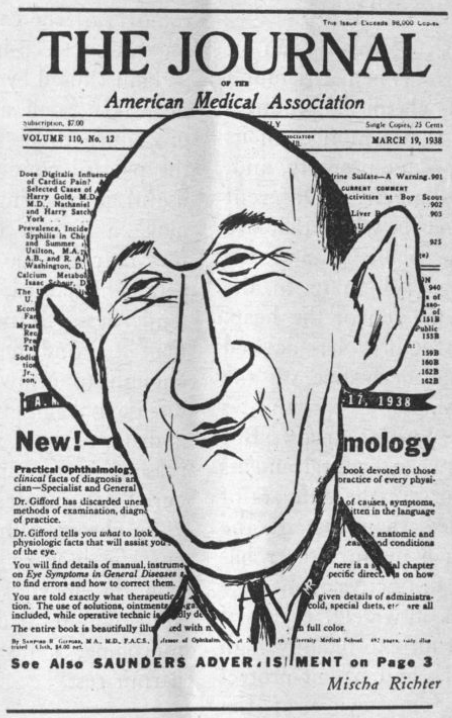
once or twice a day, using ordinary soap and water. Afterwards the feet should be dried thoroughly and rubbed with hydrous lanolin (wool fat) as often as necessary to keep the skin soft and free from scales. It is very important to protect the feet from all scratches, cuts, or injuries of any kind. The foot baths will serve to soften the nails and thus minimize the danger of scratches. The nails can be cleaned with an orange-wood stick after lanolin has been applied around and under the nail. The nails should be cut straight across and not too short, to prevent injuries to the toes. Corns should not be cut but should be

(*Continued on page* 155)

Many drugs will put you to sleep, but is it the proper way to combat insomnia?

Lullaby Pills

DO YOU pine for one night's uninterrupted sleep? Are you afraid that another sleepless night, spent tossing about in bed, will drive you mad? Have you tried counting sheep? One thousand sheep may not be enough. Try counting ten thousand tonight. Have you tried a cold shower followed by a glass of warm milk just before retiring? Did you sleep? No? Have you tried veronal, luminal, sedormid, bromural, bromides, alcohol, sodium amytal, ortal, nembutal, barbital, ipral, dial, allonal, sodium alurate, neonal, nostal, phanodorn, medinal, evipal, laudenum, chloroform, chloral hydrate, trional, sulphonal, paraldehyde, ether, opium, morphine, carbromal, brometone? Don't be surprised if some "kind" friend offers you one of these drugs some day, because they almost always work. Today the sandman's bag is loaded with pills.



DR. MORRIS FISHBEIN
(*See editorial on page* 143)

Just as there is a cathartic that will almost certainly produce a bowel movement in any case of constipation, irrespective of the need, cause, or consequence, so there is a pill that will produce sleep when sleep is wanted. But . . . will the pill cure sleeplessness? Or don't you care? Is it habit forming? Will it cease to be effective in a few weeks or months, and will you need larger doses or another drug then? What are the dangers? These are important questions and they should be answered before you decide to avail yourself of sleep induced by a lullaby pill.

There is a certain amount of regulation of the sale of sleep-inducing drugs, and in most communities their sale is forbidden except on the prescription of a physician. But this restriction is usually easily overcome. The control of the sale of such drugs is not so rigid as that of the narcotics, so that the druggist does not have to account for all the drugs of this type which he dispenses. Therefore, druggists will frequently —with a little persuasion and at a slightly increased price—sell these drugs to the layman without a doctor's order. Sometimes a physician will leave a prescription for one of these drugs for a person who is ill and who needs it temporarily. Such a prescription can, and often is, refilled long after the condition for which it was written has ceased to exist. At any rate, by fair means or foul, the layman has fairly ready access to the group of drugs that induce sleep.

And such drugs are bought in large quantities. Few physical reactions are as easy to induce with drugs as sleep. There are literally hundreds of drugs, many of them closely related, which will produce sleep. All stages and all depths of sleep can be induced. There is a drug which, in the proper dosage, will produce just a slight touch of drowsiness. Many, in the correct dose, will put you out like a light. One drug will produce profound sleep and unconsciousness for just a few minutes, after which you will awaken completely. Another will put you to sleep for a day (twenty-four hours) or more. Name the state of narcosis you desire, and there is a drug and a dose which will give you sleep that exactly fits your requirements, from sleep so light that you will awaken when a pin drops, to sleep so deep that you will slumber peacefully and enjoy sweet dreams while you are being halved

and quartered by the keen knife of the surgeon.

Only a few of the many drugs which induce sleep, or the sleepy state, were mentioned in the list in the first paragraph of this article. There are many others. A few of those mentioned are used only to induce narcosis or surgical anesthesia, a stage of sleep so deep that operations can be performed under its influence. A few drugs, especially those belonging to the morphine group of narcotics, produce sleep in the face of severe pain and painful chronic illness. Both these groups are not especially important from the point of view of our present problem. We are considering here those drugs used to produce sleep in insomnia or plain, ordinary chronic sleeplessness.

WHAT CAUSES INSOMNIA?

Drugs which produce sleep usually run in chemical families or groups. When it is found that a newly discovered chemical produces sleep, it is soon discovered that a number of its first cousins also possess the same property, and, incidentally, the same dangers. Different groups of drugs enjoy periods in which they are fashionable with both the physician and the layman. Today the drugs belonging to the barbiturate group are on the top of the heap. Almost every drug manufacturer has devised and patented at least one derivative of the mother substance, barbital. The barbiturates are convenient and justly popular drugs. But the essential difference between barbital and its derivatives is not great, nor are the dangers of the patented derivatives less than that of the mother substance. But each manufacturer has his pet article, gives it a distinctive name like amytal or ipral, advertises it widely, praises it to the skies, and sells it at an exorbitantly high price, while the trade mark and patent protect him from competition. Some drugs of this group on which the patent has expired, as, for instance, phenobarbital, and barbital itself, are sold under trade-marked names such as luminal and veronal at much higher prices than under the pharmacopeial name. For example, the cost of luminal is $6.90 an ounce, whereas the cost of phenobarbital, which is the same thing, is only sixty-one cents an ounce. Irrespective of any claim for superiority made by manufacturer or salesman, the distinctive features of the derivatives of barbital are such that they can be recognized only by a physician. And he can determine when one is superior to another only after careful study.

Sleep, in a general way, is a complete relaxation and inhibition of both mental and physical activity. Normally this state is self-induced. Sleeplessness results when interfering factors make the self induction of sleep impossible. Hypnotic drugs induce sleep by their action on the nervous system but not by removing the cause of sleeplessness. When the cause of sleeplessness is transient natural sleep may be possible after a night or a few nights of dependence upon a drug. But when the causative factor is relatively permanent the use of a drug to induce sleep is never followed by natural sleep. The treatment of insomnia requires an investigation into the cause of sleeplessness, and the removal of the cause whenever possible, before soporifics (sleep-inducing drugs) are used.

Pain caused by disease or injury may prevent sleep. In such an instance it is a reasonable procedure to use a drug to induce sleep until the painful condition is cured. Rest is always useful in treating diseases. Disease may also make a patient uncomfortable. The discomfort may be due to difficulty in breathing, to persistent nausea, to dizziness, or to generalized tenderness. It may be impossible for the patient to find a position in bed comfortable enough to allow sleep. Here too, while the disease is being treated, it is permissible to use a drug to help to induce sleep, because it is reasonable to suppose that after the disease is cured natural sleep will again be possible.

In chronic ailments, in diseases which are not curable, in very painful diseases of long duration, in hopeless cases of cancer, the use of very potent drugs, in some instances even morphine, is justified to help induce sleep and permit rest.

AFFECTS YOUNG AND OLD

A great deal of insomnia occurs in old age for reasons which are not clear. Elderly persons often find that after a few hours of sleep they awaken completely in the early hours of the morning. If their awakening is complete they can get good rest by lying quietly in bed, and reading if they wish. When they awaken incompletely rested or even tired the use of a drug may be desirable.

But the type of insomnia which occurs in the absence of disease in young people forms the

most serious problem for treatment. There are a great many persons who appear otherwise healthy but who suffer from persistent inability to get sufficient sleep. Occasionally this is a transient state but frequently it persists for long periods of time and results in exhaustion of the sufferer. In most, if not all, instances the cause is psychic. Some psychic factor, excitement, worry, anxiety, or more frequently some cause much less apparent than any of these, prevents the complete inhibition of mental activity necessary for restful sleep. When insomnia of this type is persistent a liberal use of drugs may produce a dependence on the drug and thus result in a habit formation. This not infrequently occurs in cases that would have been better treated without any medication whatever. Where no disease is present psychiatric study affords the best means of discovering the cause and treatment of insomnia.

A. A. Van Sant

Four o'clock in the morning—still tossing restlessly.

HABIT FORMATION

There are two types of insomnia. In one the difficulty lies in falling asleep; in the other the difficulty lies in remaining asleep. In the latter type the sufferer falls asleep easily enough but awakens early, tosses in bed, struggles with the bed clothes for many hours, and arises in the morning more fatigued than when he went to bed. In the other type the difficulty is in falling asleep. Once that is achieved the sleep is restful but the alarm clock may awaken the insomniac before he has had sufficient rest. Each type requires a different drug, and what helps your friend may not help you. Some drugs work rapidly and are especially useful for those who have difficulty in falling asleep. On the other hand, there are drugs which do not act for several hours and which would be of no avail to the insomniac who cannot fall asleep. If such an insomniac took a drug of the delayed action type it would keep him drowsy all the following day when he should be awake. Delayed action drugs are especially useful for the early morning type of insomnia. The wrong drug may not only not help in insomnia but it may make the condition much worse. The selection of the proper drug can only be made by a physician.

The use of drugs to induce sleep presents the distinct hazard of habit formation. Some drugs such as laudenum and opium (which contain morphine) and morphine itself induce narcotic addiction very quickly. We need not go into the horrors of morphine addiction here, except to remind you that the sudden withdrawal of morphine, after the habit is developed, may result in very serious and frightening symptoms. But most of the drugs used to induce sleep in insomnia are not narcotics, and do not cause addiction in that sense. The habit formation is rather one of dependence. Sleep becomes utterly impossible without the aid of a drug. In the absence of the pill such anxiety and fear of sleeplessness develops that there is excitement rather than depression and inhibition of mental activity. It is also true that in many instances a tolerance to the drug develops, so that in time the dose of the drug required becomes progressively larger. Finally the drug may lose its effectiveness entirely and it will be necessary to resort to a new drug.

Generally speaking, the dangers from these drugs are not great, but accidents do occur. However, regardless of how small the danger is, there is still danger in the use of these drugs.

No drug is an unmixed blessing. Each has its values and dangers. Today we have a host of drugs that are convenient to take and that induce the most restful kind of sleep, but they are not entirely innocuous. Each drug should be considered and weighed in terms not only of its usefulness but also of its possible dangers.

In some persons unexpected reactions will occur. In some a dose that will put most people to sleep will produce violent excitement. Sometimes a drug which ordinarily begins to work immediately does not begin to produce its effect until the next day when the insomniac may be engaged in a hazardous occupation that requires him to be wide awake. In some sensitive individuals the drugs produce extensive skin rashes, which in some cases leave permanent blemishes. Some of the drugs used may produce serious changes in the character and number of the blood cells. Some, like chloral, may produce serious and even fatal liver damage when taken in large doses. There are so many drugs available to produce sleep that it is not possible to begin to describe the variety of effects, other than sleep, that have followed their use in ordinary doses. These drugs are used so extensively today that one might reasonably expect almost every type of reaction to occur.

DRUGS MAY HINDER TREATMENT

All sleep-inducing drugs are capable of inducing stupor and narcosis when taken in large doses, and if the dose is sufficient serious and fatal poisoning may result. An overdose, if not fatal, may produce coma lasting for many days. A few tablets swallowed by an unsuspecting infant or an adult under the impression that it is aspirin, has frequently caused serious accidents and death. Some sleep-inducing and pain-relieving pills contain aminopyrine as well as a sleep-producing drug. (See the article *Pyramidon Destroys Blood* in the January, 1937, issue of HEALTH AND HYGIENE.) Such pills (allonal, peralga, and Midol in those localities where the sale of aminopyrine without a prescription is not barred) present the grave dangers of aminopyrine as well as those of the sleep-producing drugs.

All the drugs used for the purpose of inducing sleep have been used by persons with homicidal or suicidal intent. They are excellent things not to have around the house in large quantities, or where baby can get at them. Poisoning by these drugs is exceedingly difficult to treat.

The use of pills as an aid in the induction of sleep should always be limited to the direction of the physician. They should be used only when in the course of disease rest is necessary and impossible without the aid of a drug. The elimination of the cause of sleeplessness should always be attempted before drugs are resorted to, and this often requires psychiatric examination and care. Only when the cause of sleeplessness is known should soporifics be used, and the particular drug used will depend on the nature of the cause.

Remember, that although it is easy to find a pill which will induce sleep, pills may do grave harm, that they may make you utterly dependent on them, and that the ease with which the pill works at first may prevent you from attempting to discover the cause of your trouble.

Storing Meat in the Home

IMPROPER refrigeration is responsible for much spoilage of both fresh and left-over meat in the home. Such spoilage is not only uneconomical, but it is dangerous from a health point of view. As soon as meat leaves the store refrigerator, the bacteria in it begin to multiply, and unless this process is kept in check by proper methods of storage, food poisoning may result.

Uncooked meat kept in the home more than a day should be stored in a refrigerator where the temperature is less than 50 degrees Fahrenheit. The wrapper should be removed as soon as the meat is placed in the refrigerator and the meat placed on a clean dish or platter. If the meat is covered at all, a piece of waxed or oiled paper should be placed loosely over it. Meat spoils less rapidly if its surface is a little dry, and therefore any wrapping hastens spoilage.

There are fewer bacteria in cook d meat, and therefore left-overs may be loosely covered with wax paper to prevent drying. Cooked meat is best preserved by placing it in the coldest part of the refrigerator, that is, the lowest part, beneath the ice chamber. If both cooked and fresh meat are in the refrigerator at once, the coldest space should be given to the cooked meat.

Ground cooked meat should be used immediately after it is ground, as it spoils very rapidly. Left-overs of ground meat such as croquettes are seldom reheated sufficiently to destroy the bacteria that have formed.

Warm weather brings misery to millions. The cause and cure of a common ailment.

Spring Hay Fever

IT WAS a lovely warm day in early spring, but Reginald P. Wupperbaugh, of the New York and Tuxedo Park Wupperbaughs, quit his golf game at the end of the eleventh hole and trudged back to the clubhouse, cursing his luck and stopping every now and then to sneeze. His eyes burned, his nose itched and ran, and his head felt like a football that had been kicked around in a sand lots game.

He knew that it was the season's first attack of spring "hay fever." So the next day he was aboard a steamer bound for Honolulu, via the Canal.

On that same warm day in early spring Jim Jones who drove a taxicab lost a fare because he was busy sneezing as he stood at his hackstand near Penn Station. His eyes burned, his nose itched and ran, and his head felt as if someone had bounced a jack handle off it. He wanted to knock off work and go home to lie down but he knew he'd never make the month's rent that way. So he stayed on the job and sneezed.

Both Wupperbaugh and Jones had what is commonly known as spring "hay fever," but only one of them could afford to get away from it. Each year several million people—no one knows exactly how many—are afflicted with the discouraging and discomforting ailment which is not a fever and which has little to do with hay. The symptoms of hay fever are those of a severe head cold greatly exaggerated. However, while a cold usually lasts for from three to ten days hay fever generally continues for from six to ten weeks.

SENSITIVE INDIVIDUALS

Hay fever is what is known as an allergic reaction, that is, an unfavorable physicial reaction to some substance in the environment that has no effect upon a normal person. The various substances to which particular individuals are "allergic" or abnormally sensitive are almost innumerable. Hay fever is a form of allergy caused by tiny particles of certain substances which are carried in the air and which thus affect the nasal mucous membranes of those individuals who are sensitive, transforming them, as one observer has put it, into "bedraggled, weeping, sneezing, nose-blowing bundles of misery." In about 30 per cent of untreated cases asthma is a complicating factor.

Inheritance apparently plays an important role in this disease. Not only is the disease inherited but the time of life when the symptoms become manifest is determined by the inheritance factor. If there is a history of hay fever on both the paternal and maternal sides of the family, an individual is apt to develop hay fever before the tenth year.

KINDS OF HAY FEVER

Hay fever may be either perennial or seasonal. The perennial type is caused by a great many substances such as fur, feathers, face powders, flour and other foods, and it may occur at any time of the year when the sensitive individual comes in contact with the offending substance. Seasonal hay fever, on the other hand, is caused by the air-borne pollen of certain trees and plants, and therefore occurs only during the seasons when the particular pollens are present in the air. Thus, spring hay fever sufferers, who owe their misery to the pollens of certain trees, undergo their ordeal from the end of March or the beginning of April until as late as the end of May, when the tree pollens are in the air.

So-called "rose colds," "summer colds," and "rose fever" are generally grass-pollen allergic reactions and not colds, nor do they have anything to do with roses, which, since they bloom at this time of the year, have given their name to the ailment. These allergic reactions or summer hay fever are caused by the pollens of grasses such as timothy, plantain, red top, June grass, and orchard grass. They begin to affect sensitive persons about the end of May and continue until the middle of July.

Fall hay fever, the most common type of all, is caused chiefly by the pollen of ragweed and less frequently by those of pigweed, giant ragweed, wormwood, cockleburr, sagebrush, marsh elder, and Russian thistle, depending on

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Fall hay fever, the most common type of all, is caused chiefly by the pollen of ragweed and less frequently by those of pigweed, giant ragweed, wormwood, cockleburr, sagebrush, marsh elder, and Russian thistle, depending on

which of these weeds are present in any particular section. Contrary to popular belief goldenrod is not a common cause of fall hay fever. This most common of all allergic reaction of this kind occurs from about the fifteenth of August to the first frost.

We note that the types of plants which produce the pollens responsible for hay fever are

A. A. Van Sant

Hay fever turns the sufferer into a "weeping, sneezing, nose-blowing bundle of misery."

the weeds and grasses that have the most insignificant flowers in respect to size, color, and odor. This type of plant is dependent upon the wind for cross fertilization and therefore the pollen must be light enough to be easily carried through the atmosphere. It must also be produced in tremendous quantities to insure a suitable number of contacts. On the other hand, the pollen of the attractive flower is carried from plant to plant by insects, and such pollen is always heavy and of a sticky consistency in order to assure adherence to the insect. It is obvious that such a pollen will never be present in the atmosphere in sufficient quantities to cause trouble.

Obviously the best way to deal with hay fever is to follow Mr. Wupperbaugh's example and remove oneself from contact with the offending substance. Most of us, however, are unfortunately in a position similar to that of Jim Jones, and can't go flitting about the world in order to escape the particular forms of allergy that afflict us. For those of us who must stay at home and take it, the best way of dealing with the situation lies in the injection treatment.

However, before this treatment can be started tests must be made to determine what substance is responsible for the allergy. This is often a rather lengthy process. Purified extracts of pollens and other suspected substances are applied to scratches on the skin or injected into the skin, and the reaction is observed by the physician.

THE CORRECT TREATMENT

Once the identification of the offending substance is complete, treatment may be begun. First, every effort is made to eliminate the offending substance from the environment. However, since this cannot often be done, especially in the case of the air-borne pollens which may be carried many miles from their sources, an attempt is made to desensitize the patient by injecting pollen extracts into the skin. Very small amounts are given at first and are gradually increased at weekly intervals until the patient's tolerance is reached.

This treatment is usually begun about three months before the time when the attacks usually begin, and is continued until the season is over. More recently, however, better results have been reported as a result of giving the injections throughout the entire year, at intervals of one month after the initial course has been completed. Those doctors who have had the most experience with the injection treatment report relief or cure in as high as 80 per cent of the cases treated.

It will readily be seen that the injection treatment is a fairly expensive procedure, involving as it does a long series of visits to the physician's office or to a clinic. It is true that some clinics in larger cities provide this treatment at a nominal cost *per visit*, but even then the cost of an entire course of treatment will usually be anywhere from fifteen to thirty dollars. Clinics should be able to give this treatment at a lower cost, since the private practitioner who buys his materials judiciously can

often provide the same treatment for very little more.

Those who cannot afford proper treatment should not waste their money on patent medicines. None of these can cure the condition. Some relief may be obtained by using a watery solution of ephedrine sulphate (3 per cent) or neo-synephrine (1 per cent). Five drops in each nostril will relieve congestion. Ten to fifteen drops, in water, taken three times a day by mouth, will aid in relieving the symptoms. A few drops of watery solution of nupercaine (½ of 1 per cent) in the nose and eyes will relieve itching.

The hay fever sufferer experiences relief in air-conditioned and air-filtered rooms. However, air conditioning is a refinement of housing that has made but little headway in America, and one cannot spend all of one's time in an air-conditioned moving picture auditorium. A disadvantage of air filters that are installed in windows is that they tend to make the room stuffy and disagreeable, since windows and other openings must be kept tightly closed.

In some places there are hay fever clubs whose members conduct weed cutting campaigns. However, these usually do little good because they are restricted to local communities, and, as we have pointed out, pollens are carried long distances by the wind. If a national or regional weed eradication campaign could be carried out under government auspices, it is not unlikely that much good could be achieved. Such eradication would diminish the amount of pollen in the air, and laboratory tests have shown that as the pollen count diminishes the symptoms become less severe. If the pollen count could be reduced sufficiently, many persons who suffer today would have relative or complete relief.

Who's Who on Our Advisory Board

Arthur Kallet

ARTHUR KALLET, director of Consumers Union of the United States, Inc., was born in Syracuse, New York, in 1902. He studied engineering and took a Bachelor of Science degree at the Massachusetts Institute of Technology.

After leaving school, he did editorial work for some years. For several years he was on the staff of the American Standards Association where he edited the magazine *Industrial Standardization*. In 1932, he and F. J. Schlink wrote *100,000,000 Guinea Pigs*, the book which resulted in the introduction of new food, drug, and cosmetic legislation in Congress. In 1935 he wrote another consumer book, *Counterfeit*. For many years he has been active in the fight for stronger consumer protective legislation.

ARTHUR KALLET

After the strike of employees of Consumers Research in 1935 the demand from progressive groups for a democratically controlled, pro-labor consumer organization resulted in the formation of Consumers Union. Kallet had a leading role in setting up Consumers Union and he has been the director of the organization from its beginning.

C. U. is a membership organization which analyzes goods and reports on their respective merits to its members. The Union's staff of chemists, engineers, physicists, and other technicians conducts many of the tests upon which the ratings of products given in the monthly *Reports* are based. Major research projects are carried out by Consumers Union's group of consultants in university, government, and private laboratories.

In the monthly magazine, *Consumers Union Reports*, goods are reported on by brand names in terms of "Best Buys," "Also Acceptable," and "Not Acceptable." In addition, C.U. includes in the *Reports* each month an article on the labor conditions in the manufacture of some of the products reported upon. The organization urges the purchase of union-made goods. Under Arthur Kallet's leadership, Consumers Union's enrollment bounded upward until today it has passed the sixty thousand mark.

(*Next month: Dr. John A. Kingsbury*)

Health on the Job

A Deadly Gas

CARBON MONOXIDE IS a *colorless, odorless, and deadly gas.* It is especially dangerous because it cannot be detected without special apparatus. It is always present in the exhaust from gasoline engines and it makes up about 30 per cent of ordinary illuminating gas. It is therefore a special hazard to garage employees and workers in industries where there are many gas connections. Automobile engines should not be allowed to run for more than thirty seconds in any garage that does not have special ventilating facilities. In shops where gas is used all gas appliances should be installed by competent persons, second hand and worn out appliances should be avoided, and all equipment should be inspected frequently.

Oil Pimples

WORKERS WHO OPERATE high-speed metal cutting machines are often troubled by pimples on the backs of the hands and on the forearm. These pimples are caused by contact of the dry skin with the oils that are used to minimize the friction and heat caused by the cutting tool biting into the metal. Such pimples may be avoided if before beginning to work the machine operator will wash his hands and arms thoroughly with soap and warm water—a mixture of liquid soap and sawdust is recommended where the work is very dirty—dry himself with a clean towel, and rub some clean bland oil such as castor oil well into the pores of the skin. This will prevent the skin from absorbing the dirty cutting oil which causes the pimples.

House Painters and Lead

MANY STATES HAVE LAWS to protect the workers in factories where lead is present as a health hazard. However, the house painter who is exposed to the lead hazard constantly is not protected. A great deal of his work is done in unfinished or vacated buildings where there are no facilities for washing, locking up his street clothes, or eating lunch in uncontaminated surroundings. House painters should nevertheless wash their hands thoroughly after working and before eating, even if it is necessary to leave the working premises in order to do so. They should eat their lunches in a place that is free from lead, and should wear clean work clothes, including a cap to prevent their hair from picking up lead from the atmosphere.

Many painters believe that lead poisoning is contracted chiefly or only by eating lead with one's food. This is not true. By far the greatest hazard as far as lead is concerned is breathing it into the lungs with contaminated air. Lead that is taken into the lungs is absorbed directly into the blood stream. Therefore, everything possible should be done to keep the working quarters free from dust. The painter should never chew tobacco or smoke on the job. Whenever paint containing lead is sandpapered or burned off old painted surfaces, respirators should be worn.

The Six-Hour Day

AN EXPERIMENT CONDUCTED over a period of three years to determine the relative efficiency of typesetters on an eight and six-hour day schedule showed that the shorter working day resulted in increased efficiency of from 15 to 30 per cent, although this increase was not manifested until after the six-hour schedule had been in effect some time. As a result of the decrease in hours the workers made more money and the company made higher dividends.

Stonecutters' Hands

STONECUTTERS WHO USE an air hammer in their work are subject to circulatory disturbances in the hands. These disturbances are aggravated by too continuous use of the hammer, by grasping the hammer too tightly, by using an air hammer that is worn and loose, and by working in a cold place. Frequent rest periods, good equipment, and the regulation of the temperature in the working environment will help counteract ill effects.

Welding and Cutting

ULTRA-VIOLET AND INFRA-RED rays are common hazards in welding. Ultra-violet rays cause intense irritation of the eyes and burns of the skin similar to sunburn. Infra-red rays act upon the eyes simply as heat, but they can cause permanent damage. Goggles, helmets, shields, and masks, equipped with colored lenses especially designed to exclude the type of rays encountered, should be part of the equipment of every welder. Booths should be provided to protect others who are working nearby. The skin may be protected by wearing clothing over the entire body.

We invite workers and trade unions to contribute to this department.

The story of an American medical pioneer and his experiments on a human guinea pig.

Beaumont — The Backwoods Scientist

SCIENTISTS would be the last to belittle the part that sheer unpredictable accident plays in the achievement of their greatest successes. Time after time, some chance observation, some unlooked for deviation from the expected in a carefully planned experiment, some factor entirely beyond the control of the researcher, has opened a vista that led to the epoch-making discoveries that have built the world we live in.

But such accidents alone are not enough; it is also necessary that the observer be prepared to grasp their significance. Newton's discovery of the law of gravity is said to have been initiated by the observation of an apple falling to the ground. This story may not be literally true but it is symbolically correct. Apples had always fallen from trees to the ground but it remained for a Newton to inquire why, to correlate the phenomenon with a thousand other commonplace observations, to draw a general law, to be prepared with the mathematical training to reduce it to an everlasting formula. In another issue we shall relate the long and fascinating story of the series of episodes that led to the discovery of the life-giving insulin. That story, which ended so brilliantly with Banting's work in Toronto in 1922, began decades earlier in the backyard of a laboratory in Germany, with an observation apparently trivial and completely unlooked for, the by-product of an experiment that had nothing to do with diabetes. Science demands of its truly great workers certain indispensable qualities—the observing eye, the prepared and receptive mind, the power to toil, the divine gift of curiosity, and the will to sacrifice greatly for the sake of its fulfilment. Nature drops innumerable hints to the solution of its secrets, hints that are wasted or brought to their full fruition, depending on whether or not a man with the required qualities is there to seize them.

The story of William Beaumont is essentially the story of such an opportunity and such a man, and their meeting marks the beginning of America's contributions to the science of physiology. The time is the year 1822, and the place is the farthest outpost of America's trackless northwest frontier, Fort Mackinac, at the northern tip of what is now called Michigan.

Fur-capped French Canadian trappers mingled with Indians and uniformed soldiers on the single street of the village of Fort Mackinac, on that quiet afternoon in the summer of 1822. A shot rang out and the cry went up for Dr. Beaumont, young surgeon to the garrison at the fort. A half-breed French-Canadian trapper, Alexis St. Martin, refreshing himself at one of the public bars, had received a load of buckshot in the chest and abdomen from the accidental discharge of a musket, and was rapidly bleeding to death.

A HISTORIC ACCIDENT

Beaumont's training for meeting such an emergency as this and the hundreds of other events that made up the life of a frontier doctor were meager indeed when judged by modern academic standards. Born in 1785, he had worked on his father's farm at New Lebanon, Connecticut, until he was twenty-one, and then, having arrived at legal manhood, he set out towards the frontier with a barrel of cider and $100 to make his fortune. By the time he had reached Lake Champlain his money was gone and so was his cider. For some years he taught school and kept store in Champlain, and then, determined to enter upon a medical career, he apprenticed himself to a doctor at St. Albans, Vermont, to learn to do by doing. It is recorded that during the two years of his apprenticeship he kept careful notes of diseases, prescriptions, and dissections. Finally, in 1812, he stood for examination before the Medical Society of Vermont and was granted a license to practice medicine on his own. He immediately joined the army and participated in the northern campaigns against the British. At the conclusion of the war he resigned from the army and settled at Plattsburg, where he combined the practice of medicine with the keeping of the general store. At the age of thirty-four he re-entered the army, and was immediately

assigned to duty at Fort Mackinac, a three weeks' journey from Vermont, where, three years later, the gunshot accident that we have mentioned launched him into fame.

St. Martin's wound was very serious. The shot had torn away much of the entire left side; it had fractured the ribs and opened the chest and abdomen so that lung, stomach wall, food, and bits of clothing and wadding were crushed together in the wound. Beaumont cleaned and dressed it carefully, and waited for the man's death.. Miraculously, the man did not die. As weeks and months passed, the wound slowly healed and the patient gradually regained strength. But the healing left one lifelong deformity. *Under the left breast there was a permanent opening from the exterior directly into the stomach.* This opening, about one and one-half inches in diameter, had well-healed edges, caused no pain, and was covered by a flap of tissue that could be pushed aside by the finger to allow a view of the interior of the stomach. Here was a unique and precious opportunity to make a direct study of the workings of the stomach, and consequently during the two years of St. Martin's convalescence Beaumont kept him in his own home and nursed and fed him without pay. At the end of that time by means of threats, pleas, and cajolery he finally persuaded St. Martin to submit to a series of experiments.

A. Ajay

At the time of which we write little was known of stomach physiology. One theory, widely held, was that the stomach was essentially a mill and performed digestion by the production of enormous pressures. Another was that it was an oven and that it generated very high temperatures and simply dissolved food by heat. Some suspected that its action was chemical, but the nature of the chemical reactions was not known. Beaumont set himself to check all of these theories.

He had barely started when one day St. Martin grew lonesome for his family in far away Quebec, and suddenly disappeared. Beaumont was heartbroken. He sent out word by every trapper who passed through Mackinac that a reward would be furnished for information as to St. Martin's whereabouts, and that generous payment would be made to St. Martin should he return. For seven weary years there was no word of the fugitive and then one day, as suddenly as he had gone, he reappeared. Things had not gone well with him and he needed money. So the two men drew up a contract. In consideration for his board, lodging, and $150 a year (Beaumont's entire salary was $400 on which he had to support a wife and three children) St. Martin bound himself to "serve, abide and continue with the said William Beaumont . . . that the said Alexis, during the term of the contract, when thereto directed or required by the said William, would submit to, assist and promote by all the means in his power such philosophical or medical experiments as the said William shall cause to be made on or in the stomach of the said Alexis either through or by means of the aperture or opening therein in the side of the said Alexis, or otherwise, and will obey, suffer and comply with all the reasonable and proper orders or experiments of the said William."

THE EXPERIMENT BEGINS

The years 1832 and 1833 were happy ones for Beaumont, but let no one assume that St. Martin did not earn his money. Beaumont was nothing if not thorough. For temperature studies, he inserted into his subject's stomach the crude, wood-encased thermometers of the time, at different times of the day and in different weathers. He inserted rubber bags to measure the pressure of the stomach walls against them. Day after day, he inserted, tied to the ends of strings, every imaginable food and removed and reinserted them at regular intervals to note their digestibility. He inserted a mustard bag to irritate the stomach and note the effect on its walls. He put in food—raw, cooked, and half cooked. He withdrew gastric juice through a tube for study. He injected measured amounts of various liquids to see how long they took to disappear. He gorged his man one day and starved him the next. He got him drunk to study the effects of alcohol. He deliberately angered him to a frenzy to note the effect of emotion on digestion. He deliberately kept him awake for days and put him to sleep for days. For hours on end he peered into the stomach by candle light to observe its

action in different conditions of hunger and satiety. And on all these experiments he kept notes that were almost fanatically complete and accurate. With every experiment, note was made of the weather and of the subject's general physical and mental state. All foods were carefully weighed and carefully described as to freshness and consistency.

Whatever the eye could do unaided Beaumont did. In one phase of the work, however, he needed help and without hesitation he sought it. He did not have the equipment for chemical analysis of the gastric juice, so he gathered a particularly pure specimen and sent it by runner half-way across the continent to Professor Benjamin Silliman at Yale, with a humble request for its analysis. Silliman's name now lives in the annals of American science as the man who discovered and reported to Beaumont that the active constituent of the gastric juice was "muriatic acid" (what we now call hydrochloric acid) in a concentration of about 2 per cent.

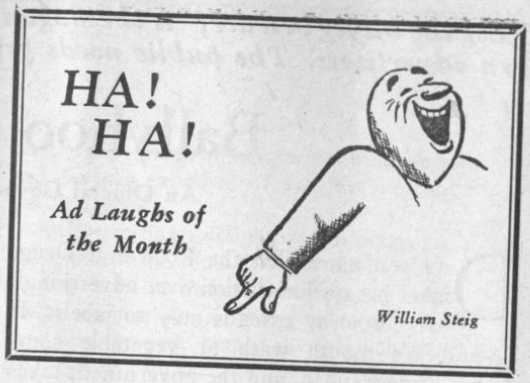
Beaumont did not stop with this. If that's what gastric juice is made of, why not manufacture some? So he did. He prepared a 2 per cent solution of hydrochloric acid and mixed it with food outside of the body under the same conditions of temperature and pressure as he had found to exist in the stomach of his subject. We now know why digestion did not take place, though Beaumont did not. It was not for many years that the peptic enzymes were discovered.

THE INDIAN QUITS

After a while St. Martin decided that the life of a human guinea pig was not for him, and in 1833 he vanished again, to struggle for a living on a Quebec farm until his death from natural causes at an advanced age.

Beaumont made a brief report of some of his findings in the Philadelphia Medical Journal in 1835, and the response was so gratifying that he came East to collect his findings in a book. That book, published obscurely in the village of Plattsburg in 1837, at the author's own expense and on cheap paper in order to save money, received world-wide acclaim, and is the foundation stone of our knowledge of the physiology of digestion. It is a careful review of the knowledge on the subject of the time,

(*Continued on page* 158)



Men love girls with pep. . . . Why not try Lydia E. Pinkham's Vegetable Compound?—*Advertisement for Lydia E. Pinkham's Vegetable Compound.*

A new discovery! Streamline non-fattening potatoes. . . . Highly mineralized potatoes that as a non-fattener rank with oranges. . . . You cannot eat enough of them to exceed your starch allowance. Practically the only starchy food that is alkaline.—*Advertisement for H. L. Martin's Streamline Non-fattening Potatoes.*

Ad-Ex Pocket Exerciser will work wonders. A midget in size (only seven inches long) yet five minutes daily with it gives new enjoyment to life . . . A gym in a capsule.—*Advertisement for Ad-Ex Pocket Exerciser.*

AT THE OFFICE, MR. A. SPEAKING: "Tim's always flying off the handle." MR. B.: "Yes, he's getting impossible to work with."

AT HOME, MARY SPEAKING: "If you were as bad tempered at the office you'd get fired." TIM: "Sorry, Mary. It's not my temper—I'm uncomfortable! I'm going to see a doctor!"

THE DOCTOR, TO TIM: ". . . and it's aggravated—sometimes caused by using harsh toilet tissue."

AT HOME, MARY SPEAKING: "Why this tissue is terrible, Tim—just full of rough spots and splinters." TIM: "No wonder it caused trouble. Now look at this Soft-Weve Waldorf the doctor recommended." MARY: "Goodness, it's soft and smooth as cloth."

AT HOME A MONTH LATER, TIM SPEAKING: "Gosh, Mary, look! I got a raise!" MARY: "Wonderful, darling! And that first order of Waldorf isn't gone yet!"—*Cartoon strip advertisement for Waldorf toilet paper.*

We invite our readers to send in contributions to this department.

"Let the buyer beware," is the slogan of modern advertisers. The public needs protection.

Ballyhoo or Truth?

An Official Government Exposé, II

DO you know that the Food and Drugs Act has no jurisdiction over advertising? Its authority extends only to labels. If So-and-So's mouth wash or vegetable compound is misbranded, and the government takes legal action against it, So-and-So can merely transfer the false claims from the label to advertising and run no further risk of annoyance from the Food and Drug law.

For example, take *Vapo-Cresolene,* formerly labeled for whooping cough, spasmodic croup, bronchial asthma, nasal colds, bronchitis, and other diseases. After government seizures, the claims were removed from the label, but they have been continued, with even greater emphasis, in advertising.

OH, SING OF LYDIA PINKHAM!

Years ago the manufacturer of *Lydia Pinkham's Vegetable Compound,* that ancient subject of ribald song, paid a fine for false labeling. This boon to womankind is now widely sold under a label which merely says: "Recommended as a vegetable tonic in conditions for which this preparation is adapted." Advertising matter, however, asserts that *Lydia Pinkham's Compound* is beneficial in cases of female weakness, nerve troubles, "pains in the side," rundown conditions, and other female disorders. Its value may be inferred from the fact that the law does not limit the extent to which truthful claims may appear on labels.

Advertisements by the Lambert Pharmacal Company, manufacturer of *Listerine,* have appealed for its more extensive use under such captions as "Tuberculosis," "Pneumonia," and other serious diseases. Such representations do not appear in the labeling of *Listerine.*

These examples could be multiplied indefinitely. The fact that operators in food-and-drug-manufacturing fields are obliged to restrain themselves in *label* statements has caused some of them to roll up their sleeves when it comes to advertising.

Take your favorite magazine or newspaper —almost any copy of any number of publications—and carefully compare the advertising claims for foods and drugs with the labels of the same products. Listen to your radio, and make the same comparison. You will find in too many instances that advertising claims go far beyond those printed on the labels or in circulars accompanying the goods in interstate trade. Twenty-nine years' enforcement of the law has corrected the labeling of thousands of food and drug commodities. But the average consumer is far more influenced by advertising claims than by statements on the labeling.

A PENAL LAW NEEDED

In fairness to the publishing and radio industries, it should be stated that many newspapers, magazines, and radio stations will not accept advertising copy that has not been carefully scrutinized for truth and accuracy. And it should be said that many manufacturers scrupulously hold their advertising copy within the bounds of truth. But because of an unscrupulous minority—and such minorities exist in all groups—effective self-regulation of advertising is impossible. Persuasion to righteousness will not avail. Only the force of a penal law will effect genuine correction.

A revised food and drug law should apply the same standards of truth to advertising as to labeling.

EDITOR'S NOTE: *We do not feel, as does the writer of this article, that the worst sins in the advertising business are necessarily committed by the so-called "unscrupulous minority." It is our belief that advertising of foods and drugs today is characterized by fraud and falsehood throughout the industry, and that the largest and most powerful companies are very often the worst offenders. For proof of this we refer our readers to our monthly feature entitled* HA! HA! AD LAUGHS OF THE MONTH.)

The third article in this series prepared by the United States Food and Drug Administration will appear in the June issue.

Editorials:

The Relief Situation With need increasing as a result of mass lay-offs and wage cuts in industry, recent decreases in relief allowances are especially ill-timed. People who have been living on what is admittedly an emergency standard, unsuitable for sustaining good health over a period of time, are forced to cut their meager food allowances still further. It must be borne in mind that *any* cut in relief allowances means that the *total amount of the cut must be deducted from the food budgets of the relief recipients.* When relief is cut the landlord does not lower the rent nor does the utility company charge less for electric current and gas. The only item on which the family on relief can spend less is food.

Large sections of the population are today suffering from malnutrition as a result of inadequate relief allowances. To decrease these allowances is to open the gate still further to the multitude of diseases that afflict the poorly nourished. Present relief standards must be maintained and increased, if not for humane reasons, then as a matter of public health necessity.

Mayor La Guardia and the New York City Council are to be commended for rescinding the 10 per cent city relief cut, but their method of raising the additional funds, namely, by taxing cigarettes, electricity, gas, and other necessities which relief recipients themselves must buy, cannot be defended.

Our Syphilis Control Plan Having played an important part in stimulating public interest in the campaign against venereal disease, we bring to a close our Syphilis Control Plan, through which we have provided about 3,500 persons with free blood-Wasserman tests. Ballots that are still outstanding will receive attention when they come in, as will the requests that are in our office at present but that have not yet been answered.

Since we launched our plan several other organizations have followed our lead by undertaking similar projects, and many local departments of health have made free tests available on a larger scale than ever before. We feel that we are in some degree responsible for the widespread interest that has been aroused and for the extension of facilities by public health agencies.

An interesting sidelight on the campaign is the comment of the officials of the New York County medical society, to whom we wrote, asking cooperation. These gentlemen replied that "in our own county there are abundant facilities to provide both for the study, diagnosis and treatment of these diseases for the indigent as well as for the rich, and therefore [we] deem any action re the suggestion contained in the letter from HEALTH AND HYGIENE unnecessary."

The American Social Hygiene Association and other agencies who have been engaged in efforts to secure more adequate syphilis control in New York and other localities will undoubtedly be amazed at the New York society's contention that present facilities are abundant.

The A.M.A. Protests The sudden concern of Dr. Morris Fishbein and *The Journal* of the American Medical Association over the supposed dangers to academic freedom that would result if government subsidies were given to medical schools, makes us laugh up our sleeve when we remember an incident that occurred in 1935.

In the spring of that year several students, instructors, and technicians at the College of Physicians and Surgeons of Columbia University were expelled for trying to organize a peace society. The dean of the school was quite frank in admitting that the students were expelled at the demand of certain wealthy contributors who threatened to cut off their financial support if pacifists were allowed to remain in the school.

Did *The Journal* of the A.M.A. protest? It did not. It saw no reason to comment, although the affair received wide publicity in the lay press.

The spectacle of Editor Fishbein and *The Journal* suddenly coming out as champions of liberty would be amusing if it were not so typical of the demagogic tactics resorted to by all the worst reactionaries today in an attempt to win public support.

A SURGEON AT T

By DR. LEO ELOESSER

Editor's Note: **Dr. Eloesser is one of the leading chest surgeons in the United States, having been president of the American Association of Thoracic Surgery. He is Professor of Surgery at Stanford University Medical School, and is now serving with the Spanish Loyalist forces as head surgeon of one of the military hospitals in Barcelona.**

WE returned from the Teruel front on December 26. However, scarcely had we returned to Barcelona when fighting began, and we got orders to return to the front on New Year's Day. We left Barcelona in the snow; the Valencia orange groves were snowy and frozen and as we got into the mountains it was very cold and the snow from one to three feet deep. The road was crowded with all kinds of traffic; truckloads of men, victuals, and ammunition; artillery, tanks, and cars all made an inextricable mess in a one-car lane. At each village ingoing and outgoing traffic would be jammed in the narrow street, neither willing to back out, so that Weisfield and I would get out, act as traffic officers, and curse our way through. We spent two nights en route.

No sooner had we arrived at our destination than the wounded began to be brought in, so that for the first two days we worked right through. Work was difficult. There was no heat, except for one small stove in the receiving and classification room. There was no light. The line from a neighboring town had been put out of commission, so that we had to work with candles and pocket flash lamps. I have one little pocket lamp with a detachable light that straps on the forehead; I did laparotomies [abdominal operations, Ed.] with that, but it wasn't very satisfactory.

It may be hard to picture such a hospital to one who hasn't seen one working. Two or three big mud-stained ambulances are drawn up in the frozen mud. Teams of four stretcher bearers are carrying wounded up a flight of stone steps by the light of a flickering candle. Perhaps it's as well there is no more light so that you may not see the blood soaked and mud encrusted clothes and overcoats that cover them. They take them into a big room, perhaps fifteen or twenty feet wide and twice as long. Near one end of the room is a little round stove; not much heat around it, for when the door is opened an icy blast blows through it and out of the paneless window. At the end of the room where the stove is, are an old marble topped dining-room buffet, used as a surgical supply closet, and a dressing table, an old sofa, an old arm-chair, a few other chairs, and a surgical table. This end of the room is lit by some candles stuck around onto the furniture in various places—dimly lit, so that if you're very careful where you step you needn't stumble over wounded who lie on mattresses and stretchers placed on the floor near the stove. As near as possible, for those wounded who can sit, those shot through the arm, and some shot through the head, are sitting on the sofa and the chairs, and they too are huddled over the stove waiting to thaw out their frozen bodies. A surgeon in uniform and a medical student are on their knees beside one of the wounded; by the light of a candle stuck onto the floor they are trying to give him a transfusion of blood. It isn't going very well, and they are in the way of stretcher-bearers bringing in more wounded. In the utter blackness of the far end of the big room another surgeon and a sanitary officer with him are moving

Gale Sondergaard, popular stage and screen actress, aids the Medical Bureau in sending equipment to Spain.

about, from one stretcher to another. The sanitary officer has a candle in one hand, in the other a pair of bandage scissors and a paper and pencil. The pair are sorting out the wounded, examining their tags, uncovering and examining their wounds, deciding who needs operation, who is so shocked that he can't be operated upon, who can be sent on to another, better, and safer hospital farther from the front —and who is beyond all help. The stretcher-bearers wait impatiently for their stretchers in the flickering candle-light. They need them in order to take their ambulance out again for more wounded.

Up a stone step and through an arched stone portal is another room. It was perhaps a study or a lady's sitting room, and the big room was the drawing room of this old converted villa. God, it's cold in there! There's no heat at all, and here too the panes have been blown out of the windows. The room is full of cots in which wounded are lying; some are asleep, after an injection of morphine, exhausted, some are groaning, some are crying out loudly at the top of their voices: "Sanitario! Sanitario!" (Orderly, Orderly!)

Opposite the wall with the stone portal is a door, leading out onto a stone staircase. It's a narrow staircase, about three feet wide. Look out you don't fall onto the floor below! The banister has been chopped away to give the stretcher-bearers room enough to bring down their stretchers. There is a stone landing with a glass door on the other side, and light, not much light, but still light, after the blackness of the ward, shines through the panes of frosted glass. Some of these panes are out, and their places have been taken by pieces of pasteboard held in place with adhesive plaster.

THE OPERATING ROOM

The room into which this door leads is warm. Warm and suffocating. The air is a mixture of smoke from a poor stove-pipe, the fumes of burnt alcohol, steam and unpleasant surgical smells, mainly iodine and fresh blood. The room was evidently a big dining room. A French window, closed and shuttered now, so that the light can't be seen, leads out onto a little tiled balcony overlooking the broad valley that leads on to Teruel and the clear cut range of hills beyond the valley. Both of red earth, from which the little town gets its name. A brook flows below, just at the foot of the balcony. Tomorrow morning early, before the planes start bombing you can go out and look at these things. The view is very lovely. The people who owned the villa, a Valencia doctor fond of shooting and fishing, and his family, used to sit out here and have their dinner and look at it. The walls of this old dining room are painted with these scenes, but someone has painted little tanks and airships into them, and one wall is spattered with red where blood from a pressure transfusion tube squirted onto it.

In one corner of the room stands a little black kitchen stove; there is a bucket of water on it and a nurse is bending over it, rubbing her eyes and trying to get it to burn. Black

smoke pours from the chinks of the stove and from the ill-fitting stove pipe which has been mended with adhesive plaster.

In the middle of the room is a surgical table covered with a black rubber poncho; a man lies on the table. He has been shot through the forearm, the arm is shattered, both bones are sticking out of it, surrounded by dirty shreds of bloody brown muscles and whitish tendons; the wrist and hand dangle by a strip of skin. At the side of this table is another little high three-legged round one. This table is covered with a cloth and surgical instruments are laid out on it. Two surgeons, clad in ridiculous ill-fitting smocks which they have put on wrong side foremost, so that they may button in the back, are busy with the wounded man. He has had a local anaesthetic, but is quite conscious and is talking to them. They are cutting his arm off; cutting through the strip of skin that it dangles from, and cutting off the dirty shreds of flesh and the dirty ends of the bones. There is a single electric light bulb hanging from the ceiling of this room which emits a faint glow. It is helped out by candles held by an orderly.

American doctors giving first-aid to the wounded just behind the front lines.

The self-evident question is, of course, "Why do you put up with this, and why don't you get what is needed?" And the answer to that is: To have what is needed takes time and money and means of transportation. Money can be got, sooner or later, some way or other. Time can't, and when wounded begin to pour in, one has to take things as they are and make the best of them and leave improvements until later. And as for transportation: you may understand why I am clamoring so loud, long and insistently for a Ford carry-all and a light delivery truck. I'd sooner have these two *now* than a fleet of Mack trucks in six months. All the things in the world won't help unless you can take them with you and can take them where you want them.

The situation as regards equipment has improved. In the first place, before we left the hospital the town council had given me help with masons and carpenters and the place was quite ready to make a nice little hospital for us by the time we moved out. That, however, will not help the next one. Enamel ware, etc., I provided myself with. I flooded Spain with requisitions for about six weeks; but these beseeching papers brought forth nothing but promises. So I went into Teruel one day in a fog that protected the road, and I found a nice shell-struck pharmacy and next to it a nice shell-struck bazaar with all sorts of things in it; brushes, pitchers, bowls, buckets, pots and pans; a real Aladdin's cave the cellar of that bazaar was; so I loaded up the little Ford. Tomorrow and the next few days I'm going to look around here for a small light-generating plant; I am told they can be had for from 3,000 to 6,000 pesetas, i.e., about $1,200, and I'm going to get one. That should solve the light problem. And I do beg you to send the transportation I asked for promptly.

With kind regards.

Very sincerely,

L. ELOESSER.

Survival of the Quickest

SHREWSBURY claims to be building the first municipal bomb shelter in Britain. Of reinforced concrete, it will be ten feet below ground level and hold *at least one hundred people*. The population of the borough is 32,370. Survival of the quickest?—*Medicine Today and Tomorrow.*

A nurse dispels some prevalent story-book illusions concerning her profession.

Women In White

By MARY TANENHAUS, R.N.

MISS JONES, the attractive young nurse, straightened the seams in her stockings, ran a comb through her golden tresses, placed her probationer's cap correctly on her head, and set out to begin her morning's duties. As she strolled down the corridor she passed Miss Snodgrass, the supervisor, who waved at her and said, out of the corner of her mouth, "Hy'a toots!" It was a sunny morning, and the ambulant patients, strolling on the roof garden, stopped for a moment to listen to the songs of the birds. As Miss Jones passed Ward B, Dr. Rue, a handsome young interne, asked her to go dancing. When she reached Ward C, Dr. Hue, another handsome young interne, also asked her to go dancing. In Ward D, Dr. F., a third h.y.i., also asked. By the time she had reached the end of the corridor, she had turned down nine invitations, but had finally given in to the dashing Doctor Fussface, the one who did such perfectly wonderful appendectomies.

"Miss Jones went on duty looking smart,
She took all the temperatures and put them on the chart,
She gave this one a hypo, and gave that one a drink,
And gathered up the basins and washed them in the sink. . . ."

—Nurses' version of *Casey Jones.*

Sophie Kaplan put down the magazine out of which she was reading this entrancing account of Miss Jones' nursing career, and said, "Gee, Mamie, wouldn't-cha rather be a nurse than working here in the five and ten. . . ."

* * *

Thousands of hopeful young women have the idea that a nurse's life is as gay as the description above. This idea, however, is a fantasy inspired by the movies and the pulp magazines. The same note of unreality runs through such novels of "vocational guidance," written for adolescents, as *Sue Barton, Senior Nurse*, by Helen Dore Boylston.

The question of what the nurse's life is really like is one in which people have been interested for a long time. Sixty-five years ago a committee formed to investigate conditions at Bellevue Hospital in New York City tried to answer this question and others about hospital life. Their report stated that food for the convalescent patients was dumped on the table (no dishes) to be picked up with fingers. The beds were filthy, swarming with vermin. The laundry was staffed by one old man who went through the motions of washing the bed linens without soap. The nurses were prisoners arrested for drunkenness, immorality, and other offenses, who slept in the bathrooms on straw beds laid on the floors, who took fees and were not to be trusted with medicines or food brought in by visitors.

This was in 1873. A few months later the first training school for nurses to be established in America was organized at Bellevue Hospital. Sixty-five years have brought vast changes and great progress to hospitals and hospital employees. Hospital laundries are supposed to conform to rigid standards of modern sanitation . Medical science has become a great deal more efficient and complex. Professional standards and ethics have spread throughout hospital life. Years of required and patient practice, as well as rigorous examinations, have given the nurse the professional status that is rightfully hers. Yet throughout the years, from the very beginning, nurses have been exploited in a way that few other professional workers have.

GOOD NIGHT, NURSE!

In almost every hospital in the country, the working conditions of nurses are far worse than those of other professional groups, and usually their conditions are as bad as those of industrial workers in the least exemplary factories. Except in a few large cities where improvement has recently been manifested, it is customary for nurses to work nine, ten, and twelve hour shifts with no rest, to get the least desirable food and lodging, and low wages.

The central problem in the working condition of nurses is fatigue, and it is a public health problem as well as a problem that concerns nurses only. Most people are sooner or later, if not periodically, in a nurse's care, and therefore it is important that the health and efficiency of nurses be in no way impaired by fatigue or bad conditions of employment.

Persons who don't know better are sometimes heard to remark, "You can't be sick. Why, you're a nurse!"

Such a remark shows a thorough lack of understanding of the facts. Indeed, the nurse, who may be thoroughly versed in all the principles of good health and hygiene, has practically no chance to apply these principles to her own life because of the unsatisfactory and unhealthful conditions under which she is forced to work.

NURSES ARE OFTEN SICK

Under present working conditions it is no wonder that nurses are chronically tired. Periods of rest during the day are necessary in order to maintain a high grade of efficiency and an eight-hour day is all that should be required of any worker in order to ensure freedom from fatigue and a high quality as well as quantity of work. The publicly owned hospitals in New York State are today working on an eight-consecutive-hour day as a result of legislation sponsored and campaigned for by the Association of Hospital and Medical Employees, a C.I.O. affiliate. At present, this organization is campaigning for a state law that will establish the consecutive eight-hour day for all private and charitable hospitals in the state, most of which now operate on a twelve-hour day basis. Only when such a law is passed will nurses be able to keep themselves in good health and give the public the type of service it should have.

No person who works twelve hours out of twenty-four can expect to develop a well balanced personality. Many hospitals have a split shift, so that it becomes necessary for a nurse to stay on the hospital grounds during the two or three hours between shifts. She does not have the time to change clothes and get out of the vicinity of the hospital. Living and working under such conditions leads to very narrow development. It means that the nurse is unable to bring any real understanding to the patient's problems, because she has little or no contact with the problems of the outside world. After twelve hours of work the most inviting thing to any nurse is sleep.

The incidence of tuberculosis among nurses is appallingly high, as might be expected under such working conditions. Fatigue is also one of the first symptoms of tuberculosis. In my own class of twenty-three students who graduated in 1936 from the Bellevue School of Nursing, five have developed active cases of tuberculosis. The idea of using isolation technique as a protective measure against tuberculosis is a comparatively new one in hospital planning and management. In New York City cases of open tuberculosis are found in all the general medical wards of the municipal hospitals without any special technique being used to protect the other patients or the nurses and other hospital employees. No effort is made, unless specific symptoms indicate the disease, to determine whether a patient admitted with another disease has tuberculosis. Many of these patients, scattered throughout the hospitals, undoubtedly do have the disease in an active form, but without gross manifestation, and so are not discovered. This makes the city policy twice defective. Primarily, for not discovering early cases in the curable stage; and, secondly, for not protecting the hospital employees.

VACATIONS ARE ESSENTIAL

In view of the fact that the State Compensation Board has ruled that tuberculosis is an industrial disease for nurses, and that similar rulings for other employees so exposed will probably be made, it seems logical that hospitals, both private and municipal, would find it economical as well as humane to employ preventive measures. The Association of Hospital and Medical Employees, C.I.O., suggests the establishment of health services for all hospital employees. Such services should provide all the known immunizations such as vaccination, toxin-anti-toxin, and so forth, as well as preventive services such as the Mantaux test for tuberculosis, the Widal, Schick, and Dick tests, periodic physical examinations, dental examination, and so forth. Provisions should also be made for care during illness and after accidents, and for the correction of physical defects. A service of this sort would not only make for tremen-

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A step-by-step account of how the doctor examines the woman to discover pregnancy.

Proofs of Pregnancy

IN a previous issue of HEALTH AND HYGIENE (March, 1938), we discussed those presumptive evidences of pregnancy which the woman observes herself. These signs are the cessation of the menstrual flow, morning nausea, frequency of urination, enlargement and other changes in the breasts, enlargement of the abdomen, and the sensation of "quickening" from the movements of the fetus or unborn child. It was pointed out that each and all of these changes can occur in conditions other than pregnancy. The presence of all of these symptoms is of course strongly suggestive of pregnancy; yet they do not constitute positive proof of the fact that pregnancy has occurred.

EARLY SIGNS

There are occasions when the physician must go to court and be able to swear that he is certain that a woman is pregnant. On the basis of what observations can he take such an oath? To answer this we will follow the physician's examination of the woman.

The physician examines the breasts of the patient and notes their increased size as well as the network of veins beneath the skin. He notices the broad areola or dark area around the nipple, and looks for the tiny elevations known as the follicles or glands of Montgomery, which are scattered over the areola. He squeezes the breast to see if the "colostrum," a watery secretion, can be expressed from the nipple. All of these breast signs are presumptive evidence of pregnancy but are still not positive proof of its presence.

The abdomen is then examined. Following the tenth week the doctor feels a mass at the mid-line of the lower abdomen. From its position, size, shape, and consistency he can usually distinguish the growing uterus from other abdominal enlargements. The detection of such an enlargement is strongly presumptive of pregnancy, but it still is not absolute proof.

After the sixteenth week the doctor can feel the outline of the baby through the abdomen and through the uterus (womb). The "feel" of the baby's body can be distinguished from that of the uterus that envelops it. The back of the baby can be distinguished from the side, on which the arms and legs can be felt. The back feels firm and smooth, while the arms and legs feel irregular and knobby. The head can be felt as a firm round mass. This detection of the shape of the baby at the sixteenth week is very strong evidence of pregnancy. It is almost positive proof because only very rarely will any conditions other than pregnancy present these findings. Still it can and has happened that even under these circumstances the diagnosis has been mistaken. Very occasionally a peculiarly shaped tumor of the abdomen will so closely approximate these findings that the doctor may be misled.

After examining the abdomen the physician examines the vagina and feels the uterus from below. At the tenth week the skin around the entrance of the vagina loses its normal pinkish color and takes on a dusky, purplish hue. It becomes still darker as pregnancy advances. Earlier than the color changes around the vagina, and more constantly present, is a similar color change of the cervix or tip of the womb. Both of these color changes are due to the increased blood supply to the parts and the normal congestion of blood which occurs there at this time.

BIMANUAL PALPATION

The doctor then feels the cervix. Usually firm, it becomes soft with pregnancy. The beginning of this softening may be detected by the skilled obstetrician as early as the sixth week. Goodell has described this sign as resembling the change in sensation that is noticeable when a finger is first pressed against the nose and then against the lips. At about the same time another internal sign appears. That part of the uterus just above the cervix becomes compressible between the doctor's fingers.

The doctor then feels the tip of the cervix with one hand, while he presses on the top of the uterus through the abdomen with the other. This is called bimanual palpation. In this way

he feels the entire uterus between both hands and ascertains its size and shape. At the eighth week he feels the uterus to be both larger and softer. At the same time, when feeling the uterus by means of bimanual palpation, he may, by the eighth week, feel periodic contractions of the uterus. After the sixteenth week he may be able to feel these uterine contractions by placing his hand on the abdomen. These contractions occur about every ten minutes and are painless.

These pelvic signs, the purplish coloration of the vagina and cervix, the softening of the cervix and the tissues just beyond it, the enlargement and softening of the entire uterus, and the contractions of the uterus are again very strongly suggestive of pregnancy, but it is still possible for other conditions to bring them on.

THE BABY'S MOVEMENTS

Before the year 1818 the doctor had only one absolute sign of pregnancy on the strength of which he could swear that the woman was pregnant, secure in the knowledge that no other condition could produce it. This was the detection of the movements of the fetus or unborn child.

The movements of the fetus may begin as early as the tenth week. They are felt when the doctor puts the palm of his hand on the lower part of the abdomen over the uterus. However, movements can rarely be detected in this way before the sixteenth week. The doctor gets a muffled feeling of movement as though something were moving under several covers. Later in pregnancy the movements are stronger and consist of sudden soft thrusts against the doctor's palms. The movements can often be brought about by placing a cold hand or other cold object against the abdomen. They may also be stimulated by suddenly pressing the fingers into the abdomen against the uterus, or by pushing the uterus from side to side. It is said that the movements can be detected earlier if the cheek instead of the hand is placed on the abdomen. However, this mode of examination has passed into disuse. By means of bimanual palpation it is sometimes possible to feel the fetal movements at the end of the third month. The detection of active fetal movements is a positive sign of pregnancy. No other condition can be responsible for this sign.

In addition to the active movements of the fetus, passive movements can also be detected. These depend on the fact that the fetus floats within the uterus in a bag of water called the amniotic fluid. When the uterus is suddenly pushed from side to side, the fetus bounds away from the blow and then bobs back. These passive movements as felt through the abdomen are called external ballottement. Unlike the active movements they are not absolute proof of pregnancy. They can also be detected by bimanual examination during the fifth and sixth months.

Fetal movements can also be heard by placing the stethoscope against the abdomen over the uterus during the fourth, fifth, and sixth months. The noise produced is like the sound made by gently tapping the back of the hand when it is placed over the ear. This sign is called the "choc fetal."

While listening for this sound by placing his ear on the abdomen, the mayor of Geneva, in 1818, heard the fetal heartbeat. He did not understand the significance or importance of his discovery. Three years later Kergaredec listened with the then recently discovered stethoscope for the "choc fetal." He heard a faint ticking like that of a muffled watch, and noted that this ticking was at the rate of 148 beats a minute. Kergaredec therefore correctly decided that he was hearing the fetal heartbeat. He thus added another positive sign of pregnancy, one that establishes the existence of the condition beyond any doubt.

THE FETAL HEARTBEAT

The fetal heartbeat can usually first be detected between the fourth and fifth months. It can be heard over an area of from three to five inches. In very fat women, or when the amniotic fluid is very abundant, it is difficult to hear the fetal heartbeat until later in pregnancy. At one time it was believed that a relatively slow fetal heart rate of about 120 meant that a boy was coming, while a rate of 140 or over was supposed to indicate the arrival of a girl. This mode of forecasting sex was soon found to be like all the others, that is, it worked only about half the time, while the rest of the time it gave the wrong result. No method of predicting the sex of the child exists today.

In 1895 Roentgen discovered the x-rays.

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City dwellers are often troubled by these pests. Instructions for home extermination.

Getting Rid of Cockroaches

COCKROACHES may become troublesome in any establishment. They are notoriously destructive and annoying in the kitchens and pantries of houses, restaurants, and hotels, and in stores, manufacturing plants, libraries, etc. It is not only the food and other possessions, such as bookbindings and fine fabrics, which they eat or disfigure that make them important enemies of man, but the pollution of foods over which they run may place them in the role of disease carriers. Of the large sums spent by owners of apartment houses, hotels, hospitals, and business establishments for pest-control services, a very large proportion is for cockroach suppression; and thousands of dollars are spent annually by the American public to fight roaches in the home. While cockroaches can be controlled without great difficulty by home owners, commercial exterminators are available in most cities for such work.

One of the best ways to prevent roaches from becoming established in a home is to watch carefully all baskets or boxes of food supplies and laundry brought into the house. Roaches hide among packages and about clothing and are frequently carried from place to place. Kill these stray roaches with a fly swatter, or, if they are encountered unexpectedly and no weapon is at hand, crush them underfoot. Trade at roach-free stores.

FUMIGATION AND CRACK FILLERS

For the immediate elimination of roaches in tight rooms there is nothing better than a thorough fumigation by a professional fumigator. Fumigations are expensive, however, and in congested areas, where reinfestation is apt to take place quickly, the expense is seldom warranted. In more loosely constructed buildings the fumigant usually escapes so fast that the eggs of roaches, protected in the egg capsules, are not killed, and a second fumigation a month later may be necessary.

Crack fillers, such as putty, plastic wood, or plaster of paris, can be used effectively in closing cracks and openings to prevent roaches from finding places of escape to hiding places. These cracks and openings can be located by watching the roaches run for concealment. Fill all cracks about water and steam pipes passing through floors, cracks leading to spaces behind baseboards, door and window trim, etc. This is particularly important if roaches are coming into the room from adjoining apartments, through wall spaces, along the plumbing, or beneath doors.

EXTERMINATING POWDERS

Sodium fluoride powder is the best all-round cockroach remedy. It is poisonous to man if taken internally in sufficient amounts, and it should be kept out of food and away from children and pets, but if used carefully in roach control, no harm will follow. It may be applied with a small duster or bellows, or, better, with a modern electric power duster with an extension rod so shaped that the powder can be blown into the hiding places rather than about the room. It can be sprinkled by hand along the back of shelving, drainboards, etc., where roaches run most frequently, but dusting the hiding or congregating places affects more roaches at one time, and they die rapidly when the powder is blown directly upon them. However, when the powder is placed where the roaches run over it, it kills chiefly as a stomach poison. It sticks to their bodies, and in cleaning themselves after running over it they transfer the powder to their mouths and thus swallow it. As a stomach poison it is slow but sure. Sodium fluoride powder is the basis of most effective roach powders sold under various trade names. It remains effective indefinitely in dry situations but in very damp places it may cake over and become useless. Applying the powder in the evening is advised, and it is best not to clean it up for a few days. The application

Charles Martin

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Battle lines draw closer in fight between medical society and group plan in capital city.

Trouble along the Potomac

THE sniping tactics of the District of Columbia Medical Society against the Group Health Association in Washington, described in Dr. Kingsley Robert's article in the April issue of HEALTH AND HYGIENE, became open warfare a few weeks ago when the medical society expelled from its rolls Dr. Mario Scandiffio, child specialist on the Group Health Association staff. Of the 1,350 doctors in the District of Columbia, 800 are members of the medical society. At the meeting at which Dr. Scandiffiio was voted out, less than one-fifth of the medical society members participated in the 148 to 5 decision. The charge upon which Dr. Scandiffio was ousted was that of failing to obtain the society's approval of his contract with the Group Health Association. No charge of incompetency or unethical conduct was brought.

The Group Health Association Medical Center was opened last October in Washington to render up-to-date medical services to Group Health Association members. According to the cooperative group health plan, members, for $3.30 per month per family, receive medical and surgical examinations and treatment, home care, surgical operations, maternity care, and twenty-one days hospitalization.

STRIKING THROUGH THE HOSPITALS

Opposition from the medical society arose as soon as the association was formed. Even before it had opened the doors of its medical center, *The Journal* of the American Medical Association said the Group Health Association was illegal, and bitterly opposed the project. Plans to institute legal proceedings against the Group Health Association were discussed at a special meeting of the medical society, and the Group Health Association found it impossible to recruit a staff of Washington physicians. A Group Health Association doctor who had been on the courtesy staff of the Emergency Hospital for many years was suddenly refused admission to the hospital. A Washington doctor who agreed to join the center was forced under social pressure to withdraw. Recently, when one member of the group plan was admitted to a Washington hospital as a patient of the Group Health Association's surgeon, he was given a pre-operative narcotic and was on the operating table when the surgeon, in the act of "scrubbing up" for the operation, was told he would not be permitted to operate and the patient had to be sent home.

THE COMMUNITY CHEST THREATENS

While opposition from the medical society closes Washington hospitals to the Group Health Association members and doctors, public opinion continues mainly on the side of the Group Health Association. Many persons in the District threaten to cancel their pledges to the Community Chest unless the hospitals change their attitude, and the Community Chest director has stated that if the controversy is not settled, hospitals will have to conduct their own fund-raising campaign.

President William C. Kilpatrick of the Group Health Association has announced that a conspiracy suit will be brought against the medical society for preventing free choice of staff physicians by the Group Health Association and free choice of staff physicians' services by Group Health Association members.

In the courts, too, the group plan in Washington is dependent upon future action. Early this year, when the Appropriations Committee of the House of Representatives refused to take any action against the Home Owners Loan Corporation's aid to the Group Health Association, and when the legislative council of the Senate advised that the H.O.L.C. appropriation to the Group Health Association was legal, the Corporation Counsel and District Attorney in Washington ruled the group plan illegal, and to settle this question the Group Health Association filed a petition for a declaratory decree with the Federal District Court. No answer to the January 28 petition has as yet been filed by the District Attorney.

The dictatorial attitude of the medical society has called forth widespread protest, and

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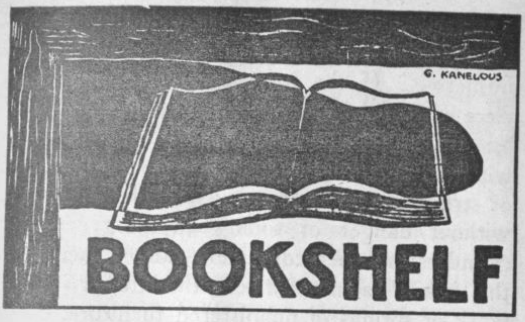

HEALTH INSURANCE: THE NEXT STEP IN SOCIAL SECURITY. By Louis S. Reed, 281 pp., Harper & Brothers, N. Y., $3.

THE author of this book, at one time a member of the research staff of the Committee on the Costs of Medical Care, and author of several treatises on the subject of medical economics, poses the following fundamental questions in this, his latest work:

"Is the health of everyone a concern of the community? Should adequate medical care, preventive and curative, be available to everyone, irrespective of whether the individual happens to have the purchase price? Should the community see to it that all obtain such care?"

Mr. Reed's answer to all of these questions is a very definite "Yes," and he then proceeds to build up a case for compulsory health insurance as the only means by which such care, admittedly lacking today, can be provided. The facts concerning both the problem and the solution are presented in a manner that will be understandable to the average intelligent reader, without a superfluity of statistical matter. He shows how the prevailing individual fee-for-service system of medical practice has failed to meet the situation, how under this system neither the doctor nor the patient fares well in the vast majority of instances, and how the government is the only agency that is equipped to carry through a plan of insurance that will meet the demands of the situation. The objections of those who complain that "government interference" will be detrimental to the profession and the public are met by effective arguments to the contrary and by pointing out that similar government activity in other countries have, by and large, been beneficial to doctors and patients alike.

A health insurance plan such as that recommended by Mr. Reed would undoubtedly do much to straighten out the medical snarl that exists in America today. However, one major defect of such a plan is that it provides only for those who are employed—the cost of the plan is to be borne by a tax on payrolls with both the employer and employee contributing, with the government also paying a share out of general tax funds. Such a scheme automatically excludes the unemployed, the very ones who are most likely to be ill and to need medical care. It would seem to us that any really effective health insurance plan must begin by considering those who need medical care the most.

Mr. Reed's book, coming as it does at a time when the subject of the distribution of medical care is being widely discussed by both professional and lay groups, should find a large audience, and we recommend it to all who would like to have the subject presented in a readable and yet comprehensive fashion.

A DIABETIC MANUAL FOR THE MUTUAL USE OF DOCTOR AND PATIENT. By Elliott P. Joslin, M.D., 6th edition, 219 pp. Lea & Febiger, Philadelphia, $2.

THE sixth edition of this valuable handbook will be of interest to both the physician and the layman who is concerned with the treatment of diabetes. The new material is concerned chiefly with the protamine zinc insulin treatment that has been developed in recent years.

The extremely readable style of the author, one of the foremost authorities on the subject, makes the book especially suitable as a guide for diabetic patients who want to follow the doctor's instructions as intelligently as possible.

PERSONALITY IN FORMATION AND ACTION. By William Healy, M.D., 197 pp., W. W. Norton & Co., N. Y., $2.

THIS book is a careful study of personality by one of the outstanding authorities in psychiatry and child training. He has for many years been the head of several of the leading clinics in the country, so that what he has to say should be authoritative and of great interest to every student of the subject. The book is not, however, suitable for the lay reader who is without sociological, psychological, or psychiatric training. It is of special interest to social workers and psychiatrists.

Dr. Healy emphasizes repeatedly that personality is the result of many different forces and factors. For example, one component is the intelligence with which we are endowed by heredity or by conditions occurring before birth. Another is the health of the mother during pregnancy. The nutrition of the child and early environmental influences are of fundamental importance in the development of a well adjusted and properly functioning personality. In this respect the author has inadequately stressed those factors in early child-

hood which are likely to lead to a sense of insecurity and of emotional dissatisfactions of other sorts. He gives several illustrative case histories which demonstrate the point that children who receive inadequate affection or who do not have well adjusted parents as models to follow, often develop serious personality defects.

In some respects the author takes a most reactionary stand. For example, he states specifically that he believes child labor to "be very character forming." He qualifies this by saying that child labor should be done "under decent conditions and hours." However, there has never been an example in history when child labor was performed under such conditions. On the contrary, since children are less able to defend themselves against economic exploitation, they have been subjected to even worse working conditions than their parents. The character forming aspect of child labor as it is practised today remains obscure to us.

So also in his discussions of employer and employee relationships Dr. Healy paints a touching picture of mutual misunderstanding and pleads for appreciation of the fact that the employer who throws hundreds of thousands of workers onto the bread line, or who takes other measures of an even more cruel nature, does so largely in response to his emotional needs. There is a political naivete in some of this material which is quite incomprehensible in a man of Healy's standing in the sphere of social problems.

Getting Rid of Cockroaches

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should be repeated at intervals of a week or two until all roaches disappear. Usually one or two thorough treatments are sufficient.

Pyrethrum powder, used in the same way as sodium fluoride, is excellent when thoroughly applied to the hiding places or to the roaches themselves. It quickly stupefies the roaches. They usually turn on their backs, and although they live for some time, they eventually die if thoroughly treated. The stupefied roaches should be swept up and destroyed several hours after treatment before those least affected can revive. Pyrethrum powder is a safe remedy and will not injure man or pets. Upon exposure to air it loses its effectiveness after some days, and only fresh, finely ground powder should be used. It can be most thoroughly applied by means of an electrically operated dusting machine.

Phosphorus pastes, obtainable at drug stores, are excellent for the control of roaches, particularly the larger species and the tropical roach. They are ideal when roaches are not numerous. If the paste is spread on a small piece of flexible cardboard, which is then rolled into a cylinder with the paste on the inside, and with the cylinder held firm with a rubber band or string, it can be inserted behind books, etc., without danger of soiling anything; or the cylinders or other containers can be tacked to the back of cabinet drawers, the interior framework or springs of upholstered furniture, or in other situations where they will not be seen. They are especially effective in very damp climates.

Sprays consisting largely of kerosene oil and pyrethrum extract are excellent for killing roaches. They kill only by contact; hence the roaches must be hit and made wet by the spray. As roaches run rapidly, sprays are not so easily applied to single cockroaches. If possible, the liquid should be sprayed into the hiding places, where more of the roaches can be hit at one time. Much good can be done by applying sprays with a hand sprayer, but the liquid can be introduced into hiding places more effectively with a power sprayer.

There are on the market today various makes of machines, operated by electricity, which break up oil-pyrethrum preparations and some other sprays into a fine mist that can be made to fill a room. This mist is very irritating to roaches and causes them to run out of their hiding places into the open, where they die if a sufficient amount of the spray particles comes in contact with their bodies. By repeated applications roaches can be controlled by the spray from these machines in modern tight rooms. Vaporizers have a tendency to drive roaches into surrounding rooms; hence, before using them, all openings to the exterior should be closed so that the roaches cannot escape from the room under treatment. When loosely constructed rooms are infested, many roaches are in the surrounding wall spaces, and the irritating vapors penetrate these only sufficiently to annoy the roaches and drive many to parts of the building to which they normally would not spread, thus complicating the problem of control.

This article was digested from the booklet entitled "Cockroaches and Their Control," published by the United States Department of Agriculture.

Questions and Answers

(*Continued from page* 130)

trimmed by a chiropodist who understands the condition. Wearing woolen socks or stockings is also important. In cold weather it may be advisable to wear shoes that are warmly lined with wool, felt, or sheepskin.

Warm baths, especially sitz baths, are of benefit. The temperature of the water should be about 95 degrees at first and should be gradually increased. If the temperature cannot be measured, water that is comfortably warm to the hand may be used. Care in regard to the temperature of the water is necessary, since in advanced cases of this disease the patient's ability to notice differences in the temperature of water applied to the foot may be impaired and a burn may be caused. Warm weather and warm climates also seem to help. Frequently contrast baths are beneficial. In contrast baths the feet are first immersed in cold water (40 to 50 degrees Fahrenheit) for one minute and then in warm water (100 to 110 degrees Fahrenheit) for five minutes. This can be repeated many times throughout the day, always ending with the warm water.

The use of medicines internally has not proved of much value. The use of pancreatic tissue extract, especially the Sharpe and Dohme product No. 568, is an attempt to dilate the blood vessels by the injection of a product that has an effect almost exactly opposite to that of nicotine, that is, it widens or dilates the blood vessels and permits a greater flow of blood. However, in many cases of Buerger's disease the vessels that remain open are already dilated to the maximum degree and no medicine or injection will be of any benefit. It is always dangerous for a patient to take medicines or injections without the direct supervision of a doctor.

Numerous operations have been described for the treatment of this disease. None should be permitted unless a doctor well trained in the treatment of this condition is in charge.

Jewish Dietary Laws

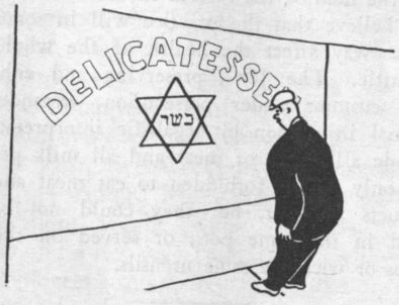
Roxbury, Massachusetts

DEAR DOCTORS:

What is the reason for the Jewish rule that forbids the eating of pork, and why do orthodox Jews refuse to eat meat and milk at the same meal?
—I. P.

Answer—These practices are the remains of customs that go far back into the history of the Jews. They are not peculiar to Jews. Anthropologists, who study the customs and culture of different peoples, have found that other groups have had similar if not identical customs. These customs, which are usually religious or which become religious, develop out of primitive social conditions. What makes the matter particularly interesting in the case of Jews is the way they have clung to their customs.

When the Jews lost their independence they were oppressed by other nations. In an attempt to maintain their spirit and self-respect, they held fast to their old customs and even developed them still further. In the same way the Irish, in the



past, have gathered around the Church in their struggle against England. The more the Jews were persecuted the more observant of their religious customs they became. As persecution slackened, the Jews tended to become lax in observance. Thus, in Germany before the World War, while the Jews lived under certain definite limitations, they enjoyed more freedom than in many other parts of Europe, and they tended to become less "Jewish" and more like their neighbors.

Among the observances of the ancient Jews were certain injunctions concerning food. Only certain foods were permitted to be eaten. These were called "kosher," which means clean in the sense of being fit and proper for eating. Other foods were on the forbidden list. Any number of other peoples had and still have their permitted and forbidden foods.

The only kosher meats among the Jews are those from animals which chew the cud and have split hoofs. The pig has split hoofs but does not chew the cud and so Jews may not eat pork, ham, bacon, or other pork products. With most of the peoples among whom the Jews lived at different times pig meat was regarded as a delicacy. Certain of these peoples even regarded the pig as a sacred animal. Thus as time went on and persecution increased, the pig, which was eaten by some of the persecuting peoples and revered by others, became a particularly abhorrent animal to Jews. It is true that there is a danger of developing trichinosis (See the February, 1938, issue of HEALTH AND HYGIENE) from eating pork that is not sufficiently boiled or cooked, and some claim that knowledge of this

fact was the basis for the feeling against the pig. Careful study, however, reveals no reason for this claim nor any evidence that the scientific knowledge of the ancient Jews was in advance of that of their neighbors who did not abhor the pig.

Another injunction forbade the eating of "meat dishes" and "milk dishes" together. In its original form this injunction forbade cooking the young calf in the milk of its mother. Many primitive tribes observe this restriction. Their explanation is that it is a particularly unnatural crime to cook the flesh of the calf in its mother's milk, and they believe that the practice will in some mysterious way affect the health of the whole herd of cattle. The Jews, preserving and enhancing their customs under persecution, expanded the original injunction by legalistic interpretation to include all forms of meat and all milk products. Not only was it forbidden to eat meat and milk products together, but they could not be prepared in the same pots, or served on the same dishes or with the same utensils.

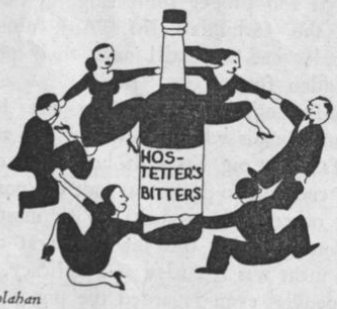
Good for a Jag

Detroit, Michigan

DEAR DOCTORS:

I have been advised by a friend to try *Hostetter's Bitters* to pep me up. Do you advise this? —T. S.

Answer—*Hostetter's Bitters* contain 25 per cent alcohol, one-half the strength of "straight" whiskey. The recommended dose of six tablespoonfuls daily is the equivalent of one and one-half ounces of whiskey or two bottles of beer. It will have no effect on you that the whiskey or beer would not produce. As far back as 1878 public authorities questioned the use of this product as a beverage. An analysis in 1883 showed 32 per cent alcohol, in 1897, 39 per cent alcohol, in 1906, 43 per cent alcohol, and later 25 per cent. Besides sugar and water, the only other active ingredient is quinine. The laxative drugs in the preparation had no effect on a healthy man. To get enough quinine in *Hostetter's Bitters* to equal the usual dose of fifteen grains, it would be necessary to drink twenty ounces, which would be the alcoholic equivalent of ten ounces of "straight" whiskey. An epidemic of drunkenness in Danville, Virginia, in 1917 was due to the sudden widespread use of *Hostetter's Bitters.*



Chas. E. Colahan

Is Sex Reversible?

Rutland, Vt.

DEAR DOCTORS:

Recently I have read in newspapers where one sex was converted into another. I have become curious and would like to know more about this subject.—D. P.

Answer—Whatever the outward appearance may be, an individual is a male if testes (male internal sex glands) are present, and a female if ovaries(female internal sex glands) are present. Rare cases have been reported in medical journals and books concerning persons having both testes and ovaries. Such persons are true hermaphrodites (Hermaphrodites in ancient Greek mythology was the child of Hermes and Aphrodite and later assumed the characteristics of both sexes). Some people have poorly developed external sex organs that suggest the sex organs of the opposite sex. These are false hermaphrodites. How does this happen? For the answer we must understand the development of the unborn child (fetus or embryo) in the womb (uterus).

In the young embryo are certain tissues which later become the internal sex glands and external sex organs. In the beginning, they are of such a form that they may, with further growth and development, become either male or female. During the fifth month of pregnancy, however, development, if normal, becomes definitely directed either towards maleness or femaleness.

We know that each organ in the male has its corresponding organ in the female. Thus, the ovaries in the woman correspond to the testes in the man; the clitoris to the penis; the fleshy lips or pads at the entrance to the vagina to the scrotum or bag. In this last instance, it may be noted that the scrotum consists of two halves fused at a sort of seam, which, in the woman, remains open so that the vagina lies between the lips. Even the uterus of the woman has a corresponding structure in the man which, however, is very poorly developed and has no function. And it may be noted that the tubes in the woman correspond to the sperm ducts in the man.

Suppose a person with testes, that is, a male, is born with a disturbance of development of the external sex organs. It is noticeable that the penis in such a case may be about as small as a clitoris, and the urine passage from the bladder (urethra) does

not become completely enclosed in the penis as is normally the case in the male. Instead, the urethra opens on the under side of the base of the penis, further suggesting the female, in whom the urethra ends just beneath the clitoris. If, in addition, the two halves of the scrotum have not completely grown together, the resemblance to the female genitalia may be great enough to cause confusion. In such a person, the breasts may be fuller than in the normal man, which further increases the outward appearance of a poorly developed woman. But because such a person has testes, the individual is a man.

Sometimes such persons have been brought up as girls. So strong is the influence of their education as women, so much do they act and respond like women, that is has sometimes been thought wiser to let them continue as women."

The reverse may happen. A person with female sex glands (ovaries) may be born with a large clitoris that looks like a penis. The lips of the opening into the vagina are so close together that there is practically no vagina. As a result, a scrotum is thought to be present. In addition, the uterus is very small. Such a person is usually brought up as a boy, and only the periodic staining of the urine by blood at puberty (coming of age) arouses suspicion that there is something wrong. This staining of course, is caused by menstruation. It may be better for such an individual to continue as a "male" because here, too, re-education is difficult and dangerous psychologically. Because the uterus is small there would be no child-bearing even if operations were performed. Fatherhood is, it can be understood, impossible since the person is really a woman. A satisfactory marital life can be enjoyed by either the male or female false hermaphrodite once the limitations of the marriage are recognized.

Vitamin Preparations

MANY millions of patients' money are annually wasted by the modern habit of prescribing of "vitamins" when none are needed, for they are altogether adequate in the ordinary everyday diet. Indeed, prescribing expensive vitamins, when there really is a need for them, without simultaneously teaching the patient how to get along without the medicine by improving his diet, is failing in the duty of the physician.—*From an article in a recent issue of* The Journal *of the American Medical Association by Dr. Bernard Fantus, Director of Therapy, Cook County Hospital, Chicago, Illinois.*

Women in White

(*Continued from page* 148)

dous improvement in the health of hospital workers but it would also provide very valuable clinical and research data for the medical staff.

Anyone who is familiar with the arduous nature of a nurse's work and the amount of sheer physical effort required, effort which taxes even the strongest nurses who are working with non-contagious diseases, will readily admit that all nurses should get a month's vacation each year with pay. Under the additional hazard of contact with contagious diseases, where the maintenance of body resistance is so important, nurses should receive six weeks vacation, at least, two weeks of which should be during the winter. Many private hosiptals give no vacations at all; some give one or two weeks; and a few give four weeks. Sometimes, the employees are so tired or ill that they are forced to take leave without pay—a step which they cannot afford under the present wage scale. The lack of ambition and interest in work, so often found among nurses, is generally due to fatigue and nervousness, nervousness which may be directly attributed to the insecurity and lack of opportunity offered to hospital professionals. Nursing under present conditions cannot be called a career, financially or otherwise. Promotions are secured by appointment; often merit is ignored. Seniority rights are a myth. The experience a nurse accumulates during the course of her work has very little meaning or value when promotions are made. New graduates just out of school often step into positions as teachers, instructors, ward heads, and, in one instance a new graduate was made superintendent of a hospital. The way to remedy this is to provide civil service status for nurses in munipical hospitals. Civil service status would mean advancement on the basis of merit, seniority rights, and security of tenure.

Ironically, the hospital employees cannot look for security from the health point of view. Even the government has excluded this group from the benefits of the Social Security Act. Pensions have never been considered, except on a volunteer basis that most employees are unable to afford. Wages are ridiculously low on an absolute basis, and unbelievable when compared to other fields which require an equal degree

of education and responsibility. Graduate registered nurses today in private and voluntary hospitals receive from $50 to $75 per month for doing general duty work twelve hours a day. Many of these hospitals employ non-registered nurses, out-of-state graduates, or undergraduate nurses at even lower rates, from $40 to $60 per month for twelve-hour duty. The Feld-Todd Bill, providing for the licensing of practical nurses in New York State, is a move to employ practical nurses in the hospitals and thus lower the wage-scale even more.

Despite the efforts of the older organizations in the field, the most effective work towards the betterment of the nurses' status has been done by the Association of Hospital and Medical Employees, a trade union affiliated with the C.I.O. As stated above, it was this group that secured the consecutive eight-hour day for 80,000 city hospital employees. As a trade union it faces the problems of the nurses frankly and proposes a practical program for their solution.

Hospital professionals are waking up to the fact that both they and the public will be better served when nurses are able to apply the principles of hygiene and healthful living to themselves. Under their present conditions of employment they cannot do this.

Trouble along the Potomac

(*Continued from page* 152)

on March 26 Senator Capper of Kansas called for a hospital investigation in the District. At the same time Representative Scott of California introduced a resolution into the House of Representatives, calling for congressional investigation of the Group Health Association controversy and threatening action against the medical society if it did not cease discrimination against the group plan.

Dr. Kingsley Roberts, medical director of the Bureau of Cooperative Medicine, investigating the case declared: "The future of the Group Health Association depends upon its ability to secure hospital facilities. All liberal groups must rally to Group Health's support to break what amounts to a medical society conspiracy against the attempts of the people to protect their medical needs and budget their health."

Beaumont—Backwoods Scientist

(*Continued from page* 141)

a transcript of the experimental notes, and a series of sober and temperately drawn conclusions. The words of one paragraph from the introduction to the book may well be carved into the portals of our modern temples of research for they are the credo of true science: "I have no particular hypothesis to support; and I have therefore honestly reported the result of each experiment as it occured. My opinions may be doubted, denied or approved, according as they conflict or agree with the opinions of each individual who may read them, but their worth will be best determined by the foundation on which they rest—*the incontrovertible facts.*"

Danger Signals in Pregnancy

THE FOLLOWING symptoms are signs of danger that the pregnant woman will do well to heed, according to the Children's Bureau of the United States Department of Labor:

Bleeding from the birth canal, even if slight.
Severe or continued headache.
Severe backache.
Pains in the abdomen.
Spots or blurring before the eyes.
Dizziness.
Swelling of face, hands, or legs.
Severe vomiting or nausea or indigestion.
Severe constipation.
Scanty urine.
Sudden gain in weight.

If any of the above symptoms appear during pregnancy the woman should not become frightened but should inform the doctor *at once*. The doctor will then tell her what extra care should be taken to avoid the danger.

We recommend that expectant mothers read the booklet entitled *Prenatal Care*, published by the Children's Bureau of the United States Department of Labor. Individual copies of this booklet will be sent free upon request to the Bureau in Washington, D. C.

Proofs of Pregnancy

(*Continued from page 150*)

Four years later Mullerheim got an x-ray picture of the bones of the fetus. The substance in the fetal bones which blocks the x-ray and yields the picture is calcium. During the first few weeks there is not enough calcium to cast a shadow. However, by the sixteenth week an x-ray picture of the fetal bones can be obtained. This is another method of proving positively that pregnancy exists. The x-ray method can also be used to determine the presence of twins or triplets.

There are also several laboratory tests by which a positive diagnosis of pregnancy can be made at an earlier stage than these physical tests by the physician. These laboratory tests will be described in a subsequent article.

Some Offending Foods

IN A RECENT number of the Proceedings of Staff Meetings of the Mayo Clinic, Dr. W. C. Alvarez lists a number of foods that not infrequently cause distress in certain individuals. The list, which follows, was obtained by examining 500 people who had abdominal distress after eating. The figures indicate the percentage of persons affected.

Onions (usually raw)	27
Milk, cream, ice cream	26
Apples (raw)	26
Cabbage (cooked)	25
Chocolate	18
Radishes	17
Tomatoes (more often raw)	15
Cucumbers	13
Eggs	13
Fats, greasy and rich foods	12
Cantaloupe	11
"Meat" and beef	11
Strawberries	10
Coffee	10
Lettuce	8
Dried beans	8
Cauliflower	8
Watermelon and "melons"	8
Pork	7
Corn	7
Pickles and sour foods	7
Bananas	7
Peanuts	6
Oranges	6
"Sweets"	6
Spices	6
Cheese	5
Peppers	5
Salmon	4
"Fruits"	4
"Nuts"	4
Prunes	3
Peas	2
Potatoes	2
"Coarse foods"	2
Fish	2
Chicken	2
104 other foods	1 or less

PURELY PERSONAL

READER-EDITOR CORRESPONDENCE

E. H. of New York Mills, Minnesota, thinks that while we have done a very good job of exposing fake patent medicines, we have not sufficiently stressed the fundamental economic reasons behind the success of the patent medicine vendors. E. H. sums up the situation so well that we quote from his letter:

"The reasons [for self-diagnosis and medication] as I have observed them are in the main economic. The worker living from hand to mouth will seek skilled medical aid only as a last resort because he thinks he cannot afford it, and he is usually correct. He also goes to the free clinic as a last resort because the service he gets is often superficial as a result of the large number of patients being treated by a few overworked and underpaid doctors.

"Under such economic conditions the worker hopes that the curse of illness will not fall on him. When he feels it coming he is haunted by fears for the welfare of himself and his family. He fears losing his job. He has no money to go to doctors with, and he must keep on working. So he listens to the siren voice of the patent medicine company. . . .

"The worker thinks that perhaps they might help him, that perhaps his trouble will vanish like Hoover promised that the depression would vanish. . . . Under such conditions the result is inevitable. The worker turns over cash he cannot afford to spend for a nostrum that cannot help him but that may injure him. The industrialist pockets the profit. It is an old, old story. This gigantic social evil would disappear with the enactment of two fundamental steps: (1) put teeth into our pure food and drug laws, and, (2)bring about universal socialized medicine, making the benefits of medical science open to everyone and assuring the sick worker security which he now doesn't have."

S. E. of Berkeley, California, writes: "I would like to make a few comments on the material that you have been presenting. I think it is important to make it extremely specific, as you usually do. For instance, the article on sex training that came out a few months ago, written from the point of view of one mother and how she handled it with her child, is worth all the articles that deal in generalities, and more. I think that you need some more pushing on the drug bill to get the people to the point where they will write their congressmen —not only telling how the Congress is trying to table it, but the effects on specific individuals, and how it affects their families."

C. M. of New York City suggests that we issue some of our outstanding articles in pamphlet form. A good suggestion, and one that we have been considering for some time. In fact, the first pamphlet in Health and Hygiene's new "Pamphlet Library," entitled *How to Fight Syphilis*, is now ready. It has been compiled from material on venereal diseases previously published in H. & H. and is available in individual copies or quantity lots, at very low prices. For details see the advertisement on the inside front cover of this issue.

Just to show how impossible it is to please everyone, we quote from two letters we received, each on the subject of diet.

J. S. of Brooklyn writes: "After reading two of your articles recently regarding meat in the diet and how you defend such unnatural foods for Man, I am wondering how many shares H. & H. has in Armour or Swift & Co. You are doing good work in exposing many commonly advertised products and giving the truth to the masses, but when it comes to meat-eating, you are all wet. . . . As proof that meat-eating and wrong foods in general are the chief causes for disease, look at the overflowing hospitals."

While e.d.b. (who has an evident dislike for capital letters) writes: "ay am a thousand miles ahead of you, but you seem to be going in my direction strong. you select good contributions and throw the nonsense in the waste basket. the cause of all medical confusion is that account is not taken of the poisons in plant foods, every fruit, vegetable, and grain containing poisons that interfere with the functions of the human body.

"reject all foods of plant origin and eat meat, say beef, rid the beef of poisons by discarding the juice, which is one-half the original weight. never submit animal food to 212. stop at 200 degrees Fahrenheit [You slipped up on a capital letter there, e.d.g.] when using a frying pan, extract the juice by slow heat, and then sear the top and bottom by a quick, hot fire, not allowing the interior to become much more than raw.

"this philosophy solves nearly all problems."

If J. S. and e.d.g. want to get together and argue this out, we'll supply each one with the other's full name and address.