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**THE** course of treatment prescribed in this issue, unlike the nostrums of the lobbyists, is based upon an accurate case history of American workers. It shows why the "every day in every way" panaceas of our political soothsayers fail . . . and, what is more important, it is a course of treatment that will benefit the vast majority, instead of a small minority of the American people.

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# HEALTH and HYGIENE

JUNE  
1935

By Dr. VIVIAN TERRY  
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Dr. REUBEN S. YOUNG  
Dr. L. L. SCHWARTZ  
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## Health Advice

Detroit, Mich.

TO THE MEDICAL ADVISORY BOARD:

I just don't know how to begin to explain my case. We have two children. We couldn't afford to have any more. So, three years ago I took some stuff when I thought I was going to get another baby. The stuff nearly bled me to death, and when the doctor asked my husband over the phone what the case was, he wouldn't come near me. I got run down from loss of blood, and got a bad cold and a cough, just like whooping cough. One night I woke up with the pillow all bloody. A hemorrhage from the lungs. Well, I was afraid to go to any doctor in case he told me it was T.B.

For two years, my husband was out of work, so he did all the housework and I took care of my health and the hemorrhage ceased altogether. I felt good — never better, until eight weeks ago. I was hanging clothes, and all of a sudden I got a mouthful of blood. I let it go for a day. But the next day the bleeding got worse. I went to a doctor and, after he examined me, he said I had a touch of T.B. on both sides. The next day he sent me to another doctor who examined me and said I had no sign of T.B.

I was very weak and run down and had bad fever. I went back to the first doctor, and asked him to check the bleeding at once. He never paid a bit of attention to the awful bleeding, but gave me some tablets and tonic which never did a thing. By night, the hemorrhages came one after another, and made me very weak from loss of blood. So we called a third doctor. He examined me and said I had the kind of T.B. that comes on you suddenly, and if you don't check it you'll bleed to death. He said I either had to go to the hospital at once, or take treatments. Having a home with two children, one 10 and one 11, my husband working at

(Continued on page 31)

# HEALTH and HYGIENE

THE MAGAZINE OF  
THE DAILY WORKER MEDICAL ADVISORY BOARD

Vol. I

JUNE, 1935

No. 3

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FRANK LEONARD, Editor

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# We Invite—

MILLIONS in America have expressed themselves in favor of the Workers' Unemployment, Old Age and Social Insurance Act, H.R. 2827. Too few as yet are aware of the introduction in Congress of still another bill which concerns itself with the well-being of the masses of the American population. We refer to the Workers' Health Insurance Act, H.R. 5549.

HEALTH AND HYGIENE is for genuine socialization of medicine. The power to effect such genuine socialization of medicine would be created through enactment and enforcement of H.R. 5549. A careful reading of Section III of that Act will indicate that the power to socialize medicine would be granted under the Act to the true representative of the broad masses of the workers, farmers, and allied professionals of America.

With this issue, HEALTH AND HYGIENE is opening a campaign for the passage of H.R. 5549. The magazine invites organizations and individuals to participate in the campaign and to enlist others in the move to force Congress to pass H.R. 5549.

While thus favoring the passage of H.R. 5549, HEALTH AND HYGIENE is mindful of the fact that too little discussion has been carried on, either among laymen or among professionals, on the general subject of real health insurance and genuine socialization of medicine. As it is pointed out in this issue by the writers of the article on "Health Insurance—How?" there is a great variety of opinion on the general subject of socialization of medicine. Many honest professionals oppose socialization because they recognize so many proposals as either ineffective or fraudulent. The laymen are apathetic because they have little confidence in plans that speak of "socialization" to be effected by closed corporations directed by representatives of the very same people who continue to impoverish them and to deny them the possibility of obtaining any medical care whatsoever.

HEALTH AND HYGIENE, therefore, opens up to all the discussion on the subjects of health insurance and socialization of medicine. We would like to hear from laymen as well as from professionals. We want to hear from opponents of socialization of medicine, and from proponents of various plans of socialization, as well as from those who join with us in endorsing H.R. 5549 and H.R. 2827.

THE ARTICLE "Health Insurance—How?" is the collective statement of three professionals who have previously expressed themselves publicly on the subject of social insurance. All three testified in favor of H.R. 2827 at the hearings conducted in Washington by the sub-Committee on Labor. Dr. Young, a well-known Negro physician, represented the Interprofessional Association for Social Insurance. Drs. Schwartz and Schulte represented the Economic Federation of Dentists of Greater New York.

HEALTH AND HYGIENE is printing in this issue the full text of H.R. 5549 and H.R. 2827. To facilitate discussion of these measures, a special reprint of the two bills will be sent gratis by HEALTH AND HYGIENE to individuals and organizations who ask for copies.

# "C O" DEATH LURKS IN INDUSTRY

"C O" is the chemical formula for carbon monoxide. The formula often means death to workers. Invisible, odorless, deadly poisonous—carbon monoxide literally ambushes those workers whom it kills in industry.

CARBON monoxide poisoning is one of the most widely distributed and most frequent causes of accidental death, both in industry and in the home. With the introduction of fuels such as natural gas, producer gas, carburetted water-gas (illuminating gas), and gasoline for heaters and combustion engines, the number of cases of carbon monoxide poisoning has mounted alarmingly.

Workers are totally ignorant of the dangers and deadly properties of this gas, and are constantly exposing themselves to the fumes. Thousands of workers die annually of carbon monoxide poisoning, and many more thousands suffer the constant ill effects of exposure to the gas. Workers suffering from chronic non-fatal forms of carbon monoxide poisoning often become more susceptible to the inroads of various other diseases not immediately connected with carbon monoxide poisoning.

In industry the workers come in contact with a great many possible sources of carbon monoxide. In the iron, steel and allied industries, leaky blast furnaces, gas valves or mains are a particularly frequent source of gas poisoning, especially to workers engaged in cleaning out furnaces. Examination of the blood of one thousand blast-furnace workers in the steel industry in Illinois showed that about one-third of the men suffer from mild to fatal carbon monoxide poisoning during the year. The frequency of poisoning is particularly high in gas-producing plants where acute and fatal gas poisoning are not uncommon.

The carbon monoxide hazard attends all welding processes with acetylene gas, all soldering processes, and the melting and pouring processes in brass foundries. It is present in the garment industry and in steam laundries among workers using gas-heated ironing and pressing machines.

Carbon monoxide is present in death-producing quantities in the exhaust of all gasoline burning engines. Garage air is decidedly dangerous after an automobile engine has been running for only 15 minutes, particularly in small private garages. The newspapers often carry reports of death from this source.

The dangers of carbon monoxide poisoning are also prevalent in compressed-air work in tunnels, in mine fires, explosions, and blasting operations. The majority of deaths in mine disasters are to be laid to carbon monoxide poisoning; the actual force of the explosion causes a smaller percentage of deaths. Firing high explosives in improperly ventilated gun turrets, particularly on ships during the last war, often caused death from carbon monoxide poisoning. On one vessel alone, in the battle of Jutland, several hundred men were fatally affected by carbon monoxide produced by use of the explosive "Cordite."

Finally, in the home, improperly constructed gas heaters and leaky gas ranges with lack of ventilation to carry off the deadly product of combustion, have contributed tremendously to the increasing death rates from carbon monoxide poisoning.

### It Has No Odor

**C**ARBON monoxide is an odorless and invisible gas which is formed whenever a fuel is burned without a sufficient supply of oxygen. The lack of oxygen usually comes about through improper ventilation. A fresh supply of oxygen is not brought to the burning fuel, and carbon monoxide is produced. In addition, combustible gases, such as illuminating gas, producer gas, natural gas, etc., originally contain high percentages of carbon monoxide, so that all unburned quantities of these gases escaping are also highly dangerous. Other gases which have an odor and are mixed with the odorless carbon monoxide generally serve the useful purpose of leading one to suspect the presence of carbon monoxide in a gas-laden atmosphere.

Inhaling carbon monoxide so affects the blood of humans that it becomes incapable of absorbing the oxygen which is essential to life. Thus it acts differently from the highly poisonous, irritating gases used in modern warfare. These war gases produce their fatal results by intensely irritating and burning the linings of the breathing passages.

In city fires, the dense black smoke also contains irritating substances which cause coughing and tearing of the eyes. But suffocation from this smoke is caused by its high carbon monoxide content.

### Symptoms

**D**EPENDING upon the percentage of carbon monoxide and the duration of exposure to it, one finds the following symptoms in cases of gas poisoning: At first, headache, dizziness, dimness of vision, and weakness appear. These symptoms may occur among workers after one hour in an atmosphere containing *two parts of carbon monoxide to every ten thousand parts of air*. If exposure is continued, or the percentage of carbon monoxide rises to as high as fifteen parts per ten thousand parts of air—then nausea, vomiting, fainting and coma follow. If no treatment is given, then death results.

Workers who are constantly exposed to carbon monoxide fumes do not generally complain of the severe symptoms listed above. Usually, they suffer from headache, nausea and occasional dizziness. Loss of strength and awareness resulting from the "knockout" properties of the gas reduces the workers' efficiency and leaves them open to other industrial accidents.

In those cases where recovery has followed

severe carbon monoxide poisoning because of prompt treatment, after-effects are often found—such as blindness, mental dullness, constant headache, and severe disease of the brain and nerves.

### Treatment

**T**REATMENT of severe carbon monoxide poisoning consists of the following:

1. The victim should be removed to the fresh air as soon as possible.
2. If breathing has stopped, or the patient breathes in occasional gasps, artificial respiration by the Schaefer method should be given until normal breathing is resumed.
3. A mixture of five per cent carbon dioxide and 95 per cent oxygen should be administered by an inhaler for at least 20 minutes, and sometimes for as long as three hours.
4. The body must be kept warm by means of blankets or hot water bottles.
5. The victim should be kept at rest *lying down*. Alcoholic drinks, such as whiskey, should *not* be given. After partial recovery, he should be removed to a hospital.

### Prevention

**P**REVENTION of carbon monoxide poisoning is achieved when the source of the escaping gas is discovered and eliminated. Recently, a very delicate instrument has been perfected, through the use of which the smallest amounts of carbon monoxide gas can be immediately detected. This instrument uses a chemical—*iodine pentoxide*—which changes color in the presence of carbon monoxide gas. Formerly, birds and mice, which are particularly susceptible to the ill effects of carbon monoxide gas, were lowered into suspicious enclosures and observed for signs of poisoning. However, the birds and mice are not nearly so sensitive as the iodine pentoxide indicator.

### Guard Against It

**W**ORKERS must guard themselves against practices which expose them to the carbon monoxide danger.

1. Automobile engines should not be run in a small garage, unless the doors and windows are wide open.
2. Workers should insist that large garages install systems of artificial ventilation to carry off the poisonous fumes.
3. Workers should not sit in closed cars or

trucks with the engines running, since exhaust gases often leak into the car and may produce symptoms of gas poisoning.

4. Heavy, long-continued labor should not be performed on still days by workers repairing streets on which automobile traffic is heavy. Short working-shifts with intervals of rest in the fresh air should be demanded.

5. Before entering manholes for underground power and signal circuits, sewers, blast furnaces or any other enclosures where the atmosphere is contaminated with gas, workers should insist that the air be tested for carbon monoxide. If the gas is found present, the enclosure should be thoroughly ventilated until no trace of gas remains.

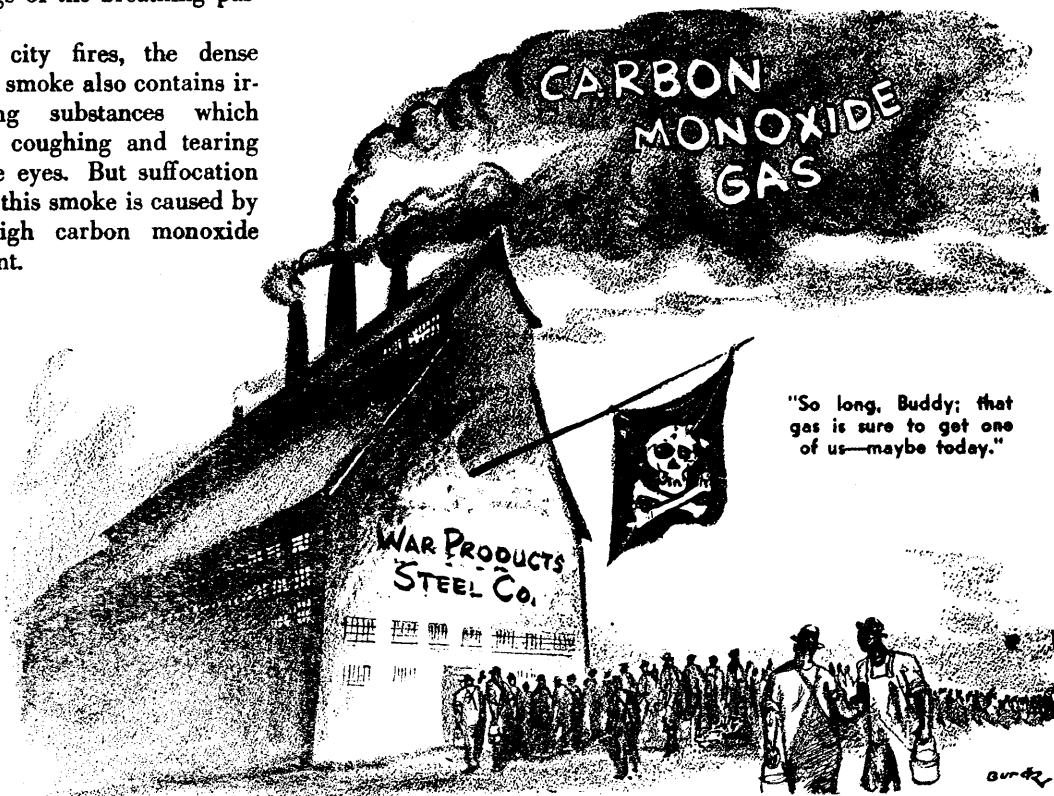
6. In fighting fires, and in mine rescue work, special two-hour gas masks should be used by men who have been previously trained to use them.

7. In the home, a gas heater should not be allowed to burn in a closed room in which persons sleep, especially if the heater burns much gas and has no flue. Where such a heater is used, it is absolutely essential that one or more windows be opened to supply plenty of fresh air. Gas heaters used in the home are often of improper design. They lack a proper flue for ventilation, necessary for the carrying off of the deadly fumes. The tubing of cooking ranges is often defective, and the unburned gas escapes through leaks.

8. In all industries where gas is produced or consumed, the iodine-pentoxide indicator should be utilized to ascertain the presence and source of the carbon monoxide fumes. Tanks, mains, valves, and blast furnaces should be kept in constant repair to prevent leaks. Where improper combustion produces carbon monoxide, a system of ventilation should be installed. The design of fuel burners should be modified to reduce the production of carbon monoxide gas to a minimum.

Workers are gradually coming to the realization that safeguards for their health are often neglected by the employers in a mad race to maintain profits.

The workers must demand of the owners of the industries that they be given proper protection. They must demand that proper tests be made, that rest periods be given those workers who may be exposed to the deadly fumes, that ventilation be installed and kept in repair.



By Burck

# HEALTH INSURANCE—

# HOW

By

MAURICE V. SCHULTE, D.D.S.  
REUBEN S. YOUNG, M.D.  
LOUIS L. SCHWARTZ, D.D.S.

care, while thousands of highly trained doctors are approaching destitution because of a lack of patients who can pay.

We doctors possess certain knowledge, training, abilities, techniques. We are vitally concerned that these be made

available to the largest number of the population. At present, the reverse is true. Medical and dental care is available not to the largest number of people, but to the smallest number whose high incomes permit the "luxury" of adequate care.

One of the accepted authoritative sources on the subject is the so-called Wilbur Report, being the final report made in October, 1932, by a Committee on the Costs of Medical Care headed By Dr. Ray Lyman Wilbur. This report showed that, in 1929, over 46 per cent of those in our population who earn less than \$1,200 a year went without any medical, dental, or eye care. The report adds:

"The situation is actually even more startling than appears from these data because many of the persons who are counted as having had medical care may have had extremely little."

The report shows that in 1929, only 20 per cent of our people received dental care. Certainly that fact is not due to a lack of interest in dental care. It is certain also that, since 1929, with workers' incomes reduced by 45 per cent, with millions having been added to the ranks of the unemployed, the situation now is still more "startling."

On the basis of its studies, the Wilbur Report declared:

"The groups with smaller incomes obtain far less service. In spite of the large volume of free work done by hospitals, health departments, and individual practitioners, and in spite of the sliding scale of charges, it appears that each year nearly one-half of the individuals in the lowest income groups receive no professional medical or dental attention of any kind, curative or preventive."

WE ARE FOR the socialization of medicine. We contend that genuine socialization can come only through the establishment of a comprehensive system of social insurance. Such a system must include health insurance. We submit that there are three elements which must be present in any program that promises health insurance for the working men and women of this country who compose the vast bulk of its population. Such a program must provide:

1. Full medical and dental attention to all working people—workers, farmers, and professionals, employed and unemployed, and their families.

2. Control only by those who are interested in its honest and efficient functioning, those who give the care and those who receive it.

3. Financing through taxation of those sections of our population which are able to pay, that is, those in the higher-income brackets.

Two bills have been presented to the United States Congress during its last session which, taken together, enacted, and enforced, would provide for the American people genuine and complete social insurance, including health insurance. One is H.R. 2827, known as the "Workers' Unemployment, Old Age and Social Insurance Act," introduced by Representative Lundeen of Minnesota. The other is the "Workers' Health Insurance Act," H.R. 5549, introduced by Congressman Dunn of Pennsylvania. We are for both bills!

In this article, however, we shall confine ourselves to a discussion of health insurance only, since that is the subject upon which HEALTH AND HYGIENE asked us to write.

## "Startling" Figures

IN AMERICA, the heights to which medical facilities have been developed contrasts sharply with the depths to which the health of our population is falling. Millions of working people are denied necessary medical and dental

# —Toward Socialized Medicine!

Not only how—but for whom, and at whose expense? The writers of this article are firing the opening gun in HEALTH and HYGIENE'S campaign for socialization of medicine. They believe that genuine socialization will be made possible by enactment and enforcement of the Workers' Health Insurance Act. The article presented herewith is, however, only an introduction to the general subject. Other articles, for and against the issues raised by these writers, will appear in HEALTH and HYGIENE.

And, in a footnote, the report adds: "*Actually this is an understatement.*" (Italics ours.)

Dr. Thomas Parran, Health Commissioner of the State of New York, has reported that in this one state 50,000 people die every year for lack of medical care.

The Milbank Foundation reports that a study of the health of families shows disabling illness was 39 per cent higher in the families of unemployed than it was in the families of employed workers.

## Worse for Negroes

THERE IS ground for belief that, like the Wilbur Report, the reports by Dr. Parran and by the Milbank Foundation are also "understatements" rather than the reverse. Let us quote once again from the Wilbur Report:

"The Committee survey does not include data for Negroes. It is well known, however, that the 10 per cent of our population who are colored have health problems which are, on the whole, considerably more serious than those of whites. The Negro is America's principal marginal worker, and he suffers in the North as well as the South from the many disabilities that this entails: Poor housing, less adequate diet, less sanitary surroundings, more employment of married women, and greater economic insecurity.

"Although Negroes have lower death rates than whites for a few diseases, rates double or more than double the rates of whites are recorded for tuberculosis, organic heart disease, acute and chronic nephritis, cerebral hemorrhage, pneumonia, typhoid fever, whooping cough, bronchitis, puerperal conditions, influenza, malaria, and pellagra. Not only death rates are higher, but so also is the incidence of illness, at least from certain diseases."

The findings of the Committee on Maternity Mortality of the New York Academy of Medicine

HEALTH and HYGIENE

reveal that the economic status of the mother has much to do with the risk of maternity. In a study of 341,879 births that occurred in 1930, 1931 and 1932, it was found that there were 20 per cent more deaths of the newborn infants among the families living in "slum" districts than there were among the families in the wealthy classes.

In a study made recently in the Western States, it was found by statistical evidence that there is a connection between infant mortality and the lack of vitamin B. Mothers who were unable to supply themselves with sufficient milk, eggs, and fresh meats during pregnancy showed a higher infant mortality rate than those who were able to supply themselves with the necessities.

Where there is a high death rate under one month of age, and also a high premature birth rate, the mothers were found to be on a diet deficient in vitamins, especially vitamin B. With high vitamin consumption, the death rate and premature birth rate are low.

## Plight of Practitioners

Physicians and dentists, pharmacists, nurses, and other health workers who are seriously interested in the welfare of the people as a whole, and in the welfare of their professions, must be in favor of genuine socialization of medicine.

Just as the people in general seek doctors to treat them, so the practitioners today—more and more of them—seek patients to treat. There is genuine unemployment among the practitioners even as there is among those who would be patients. Lest statistics tire the reader, let one figure suffice: Of 7,000 dentists in New York City, 1,000 have indicated they would be interested in a job at \$18 a week!

What keeps the patient from the doctor? The answer is clear and simple: *He cannot pay for medical and dental care.*

It is in the economic interest of the practitioner, as well as in the general interest of all our people, that we demand legislation enacting the two bills we mentioned at the beginning of this article: H.R. 2827 and H.R. 5549.

There are two camps among the doctors today. One is against socialization of medicine. The other camp, however, includes a great number of doctors who are for socialization—but what kind? Many of these doctors, as yet, do not understand that a program of genuine socialization of medicine must include the three elementary factors which we have enumerated above.

In their anxiety to escape from their plight, many of these doctors hail any measure proposed by any group that promises to alleviate the lot of the patientless practitioner. They become interested in rationalized private practice, like group clinics. They think in terms of health "insurance" which would put more taxation in one form or another on the backs of those *least able* to pay, instead of on those who have the wealth. Some of them endorse various share-the-misery plans like the "model" health insurance bill proposed by the American Association for Social Security.

Many honest doctors are honestly opposed to socialization because the press has presented plans ranging from sincere and confused to fraudulent and misleading measures designed to bring about a "New Deal" in health for patients and doctors. Those honest doctors, naturally, see through those plans. Knowing the plans are inadequate, and not knowing that an adequate



Her "Ki-Ki's" health is insured— But not the health of her husband's workers.

plan has been proposed and introduced in Congress, they turn against socialization itself rather than against the frauds.

The three practitioners writing this article believe that a magazine like *HEALTH AND HYGIENE*, genuinely interested in the welfare of the largest section of the population, offers an excellent forum in which doctors and their patients might discuss the subject of genuine socialization of medicine. It is for that reason that we accepted the invitation of *HEALTH AND HYGIENE* to present the subject, and it is for that reason that we join with other doctors in the appeal to the professionals and laymen alike to thrash the subject out thoroughly and to back the Workers' Health Insurance Bill, H.R. 5549.

## GUARDING IVANOFF'S HEALTH

Any discussion on socialization of medicine cannot ignore the latest accomplishments in Soviet Russia where not only is the worker's health the concern of the government, but the government itself belongs to the worker. "Ivanoff" is a typical Soviet Russian worker through whose experiences the author of this article tells of the means employed for guarding the health of workers in a country where the private profit motive has been abolished.

**I**VANOFF applied for a transfer to a new factory that had been recently completed. Accepted on the job, he found on arrival not only a new plant but also a new town that had grown up on what was formerly a stretch of waste-land. Here he found even greater comforts than he had been accustomed to. A light and airy apartment, a little garden, a club, a gymnasium, a lecture hall, a theatre, a department store and other conveniences were his. The history of the town and factory is a part of the history of Soviet industrialization.

Building a factory in the Soviet Union is the concern of the worker, not of the individual investor or corporation. The Soviet worker looks upon the factory as he looks upon his home. He spends nearly a third of the day in the factory and, as in his home, he demands all safety and comfort that modern technique can supply. The architect, the technical engineer, the sanitation engineer and the public health doctor cooperate in drawing up the plans and specifications. When the building is finished, and the machinery is installed, a model plant is ready to receive the workers to whom the hum of the wheels is the song of encouragement and an assurance that collective effort has made another leap forward along the road to Socialism.

The factory is spacious. There is no overcrowding. Powerful ventilators keep the air fresh and clean. Should it happen to be a dusty industry, such as tool grinding, the air is regularly tested for the number of dust particles per each cubic centimeter of air—and proper adjustments in the ventilators are made to keep the dust particles in the air at a minimum. The factory has a sanitary water supply, an efficient

lighting system, lavatories, showers, a factory kitchen, dining rooms and—above all—a clinic, with doctors and nurses in charge, to take care of the health of the workers.

The factory is visited regularly by government inspectors. It is their duty to examine the efficiency of safety devices on machines, and to investigate accidents. In addition, inspectors are elected either by the shop committee or by the trade union. These inspectors are usually shock brigaders who are thoroughly familiar with certain types of machines. They carry on safety campaigns, as a form of social service, doing this work outside of their regular work hours.

### Health Comes First

**W**HEN IVANOFF came to the new factory, the clinic doctor had on hand a summary of the health record from the clinic of the plant that Ivanoff left. Ivanoff was given a physical examination, and found in good health. Six months later he was examined again. A short time later, something went wrong along the power transmission line. Ivanoff suffered some bruises, narrowly escaping more serious injury. His injuries required three weeks' sick leave. (Of course, he was paid his wages in full during that time.)

An investigation of the accident was started by the mechanical engineer, the state inspector, the doctor, and the representative of the shop committee. They found that proper safety demanded replacing of an entire section of the transmission unit, although this unit appeared to be in good condition. Replacement cost several thousands of dollars. But the life and health



of the workers in the Soviet Union is not measured in dollars and cents. A worker's health and safety come first. The unit was replaced.

Ivanoff's health is guarded in other ways, too. The factory kitchen supplies the noon meal to all the workers. The doctor inspects the kitchen regularly, and watches the menus for their nutritive and vitamin value. He examines the water and milk supply for purity. There are at times some workers who need special dietary care. Possibly some are mild diabetics, or have stomach disorders, or suffer from chronic gall bladder disease that cannot be operated, or they may have some other ailments which can be corrected by diet but need no hospitalization. These are taken care of by the diet kitchen, where specially trained dietitians prepare the food as prescribed by the physician.

### Real Safety

**L**ECTURES on hygiene, lectures on social diseases and their prevention, are frequently given by the factory medical staff. The workers are encouraged to come to the doctor with their problems. They look upon the doctor as the guardian of their health and their adviser. A spirit of unity prevails: The worker, the engineer, and the doctor all strive for the common good because they are their own masters.

## FOODS and FADS

**T**HERE are many kinds of vegetarians. They range from the strict or orthodox vegetarians who eat only foods of vegetable origin, to the broad or liberal kind who eat everything but meat or fish. There are even some who regard themselves as vegetarians, who will eat fish but not meat. However, good vegetarians regard these as renegades or fakers.

Vegetarians include special food faddists who eat only raw food, or exclusively nuts and fruits; some eat only those parts of the plant that grow above the ground, because they are exposed to sunshine, others only the roots of plants because

How can safety in industries best be achieved? When the entire system of industry and government is one, when the worker's health and well-being are taken into consideration instead of cost—then a solution is reached. In the year 1934, there were from 30 per cent to 40 per cent less accidents in industries in the Soviet Union than there had been in 1933. How was that accomplished? Here are some of the steps:

Fatigue is responsible for many accidents. Therefore, the work day was shortened. The Soviet worker works *only seven hours a day*; in certain industries, the work day is *only six hours long*.

There are 18 scientific research institutes engaged in investigation of means for protection of workers in different industries.

Safety devices must be installed on all machines where accidents are possible. Gloves, goggles, proper clothing must be worn by workers when safety indicates their use.

In 1933-34, the Soviet Government appropriated 110 million dollars for labor protection.

Regular plant inspection *must* be made by government and shop committees.

Periodic physical examinations must be given all workers.

Rest periods, vacations, recreation, and education are provided for all workers.

### ● Is Vegetarianism Healthful?

they are in contact with mother earth. The more important of these varieties of vegetarians must be considered separately.

We will omit from consideration the special faddists, the fruit and nut eaters, the raw food eaters and the other more extreme sects.

#### Strict Vegetarians

The strict vegetarian does not eat milk, butter, cheese, eggs and sometimes honey, because these foods are of animal origin. Some of them do not wear shoes made of leather, or clothing containing wool because these also come from

animals. Others carry this even further and do not use serums or vaccines or drugs of animal origin.

The arguments given for observing the strict vegetarian diet are of two kinds, health and sentiment. We will concern ourselves chiefly with the health argument. It is said that meat is unhealthy, that eating it leads to disease, and that it is unnecessary. It is supposed to be bad for the stomach, the kidneys, and to lead to acidosis, constipation and high blood pressure. These claims are entirely without foundation. There are no diseases that are caused by including meat in the diet. This does not mean that meat should be the only article in the diet. Only a very few faddists in the opposite camp would attempt such a thing. It is true that Eskimos live exclusively on meat and fish and maintain good health. But they live under special conditions and eat some of the meat or fish in a raw or frozen state.

#### Meat Not Harmful

Including meat in the diet does not cause constipation. Excluding vegetables and fruits may be a factor but that is a very different thing. Meat does not cause high blood pressure. What does cause high blood pressure is not really known. In the treatment of high blood pressure, especially if the person is overweight, the intake of highly nutritious foods, including meat, is diminished.

Meat eating does not cause kidney disease. In certain kinds of kidney disease the body cannot handle the usual amounts of protein, the chief content of meat. In these cases protein foods such as meat, fish, cheese, nuts, peas and beans are restricted. In other kinds of kidney disease a high protein diet must be given. But these facts have no bearing on the diet of the person without kidney disease.

Much publicity has been given in recent times to acidosis. Advertisers tell us to "get over on the alkaline side." The subject of acidosis is a complicated one. In certain diseases the blood is more nearly acid than at normal times. Except when a person is very close to death it is never *really* acid. In diabetes, in marked vomiting continued over a long time, starvation and some forms of kidney diseases, acidosis exists. At such times special medical measures are necessary. For the persons without these special diseases it is necessary to know that fruit, vege-

tables and milk provide the substances required to keep the blood in a proper alkaline state (the opposite of acid), and that tomatoes, oranges and lemons are particularly good for this purpose. Including meat in the diet does not cause acidosis or any tendency to it. In short, the use of meat does not cause any disease, and is in no way harmful to health.

#### Vegetarianism and Health

Can a person maintain good health on a strict vegetarian diet? It can be done but it is difficult. An infant or growing child cannot do it. If kept on a strict vegetarian diet a child will not develop normally and will be very susceptible to many diseases. For any parents to try to maintain a child on a strict vegetarian diet, if they could possibly do otherwise, would be an outrage. Fortunately few people are foolish enough to try it.

Two scientists of the United States Department of Public Health, Mathilde Koch and Carl Voegtlin, have found that monkeys who have been fed on a strictly vegetarian diet developed degeneration of the brain and spinal cord, very similar to or identical with those found in pellagra. Strictly speaking, scientists should be careful about saying that the same thing always happens to humans which happens to animals upon which experiments are conducted. But when monkeys are the animals upon which the experiments are made, these doubts are reduced to a minimum.

Some healthy adults can keep healthy on a strict vegetarian diet, but they have a hard job before them. Meat, fish, cheese, eggs and milk, nuts, peas and beans contain large amounts of protein. A protein is a food element that is used to build up and maintain the body tissues. Proteins are necessary for life. They are made up of a group of substances called amino acids. These are simpler substances that are hooked up to one another in different proportions to make up the different proteins. Some of these amino acids are not important because they are replaceable by others, or the body can make them. Some are essential and cannot be replaced, or made by the body. Meat, fish, milk, eggs and cheese are rich in these essential, irreplaceable amino acids. Other foods are not. To get enough of these essential amino acids one would have to eat very large amounts of vegetables, amounts too large for comfort. In most people

the eating of such large amounts of bulky food would lead to disturbances of the digestion. In addition, a vegetable diet that gives enough of these amino acids is expensive.

None of these objections holds for the liberal vegetarian diet. If milk, eggs, cheese and butter are included in the diet, meat is not essential. But a thing can be good even though it is not essential. Meat has virtues not found even in the dairy products. To most people it tastes good. It stimulates the stomach to pour out a liberal amount of gastric or stomach juice, and in this way helps digestion. It is a valuable, concentrated food. It helps give variety to the diet. In the form of fresh lean beef and liver it is an excellent source of vitamin G, the lack of which causes a disease called pellagra. In the treatment of pernicious anemia, a very serious disease affecting the blood, liver, or an extract from it, is replaceable only by stomach-wall extract. In other kinds of anemia meat is an important item in the diet, and must be given.

#### Economic Pressure

There are millions of people who exist practically on a vegetarian diet, not from choice but because of economic pressure. The most severely exploited workers, especially those in the colonial countries like China and India, are forced to live almost exclusively on grains. Meats and milk are available only to their bosses. In many parts of the world, a worker's economic status can be measured by the number of times a week he can get meat.

From an agricultural point of view vegetarianism is highly impractical. Have you ever met a farmer who is a vegetarian from choice? Animals have an important job. They convert products that are too coarse and rough for human use into concentrated useful food. There are millions of acres of land that are much too poor in quality for the raising of crops, but are very useful as grazing land for steers. Animals like pigs convert what would otherwise be waste into wholesome food products. To attempt to produce milk and eggs without using some of the animals as food would be very wasteful and

would greatly raise the social cost of these products. This is so because males and females are born in about equal numbers, but only a few males are needed for propagation. The other male chickens or bulls must be eaten or wasted.

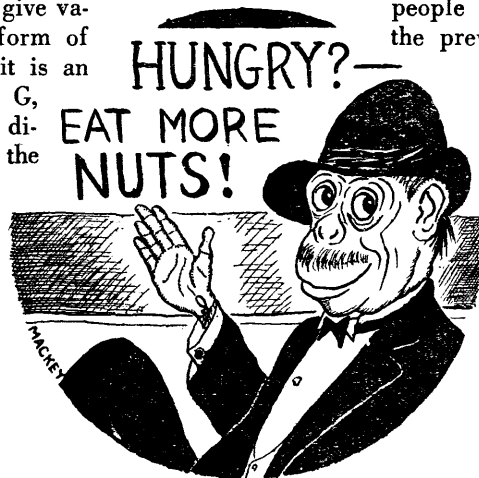
As for those extremists who are opposed to the use of any animal product, including such things as leather, wool, insulin, which is made from the pancreas or sweetbread, antitoxin for diphtheria, which comes from the blood of horses, and many serums and vaccines, these extremists are going against the trend of civilization. They would condemn to death millions of sick

people and interfere seriously with the prevention of disease. On this point they would be joining hands with the Nazis who oppose the use of serums and vaccines because they claim these products spoil the purity of German blood.

Early nineteenth century literature on the subject of vegetarianism shows that, originally, the arguments in its favor were entirely mystic, religious, and biblical. It is

only recently that vegetarians have found it necessary to place a pseudo-scientific mask over their cult. But for all that masking, vegetarianism remains mystic and ideal in the worst sense.

In five-sixths of the world today, starvation is widespread, fascism is a menace or an actuality, and war is the order of the day. It seems, at the very best, like a brand of foolishness or misdirected energy for workers, in such a world, to worry about food fads. The workers are beginning to learn that they must build a new world for themselves and their children. In that process, they need all the energy and strength that they can wrest from the present system. Looked at from that viewpoint, then, engaging in a cult like vegetarianism does not only rob the bodies of these workers of whatever strength they might get immediately from the heartier foods that they fight for. It also takes their minds off the more important problems of the day. A worker busy organizing clubs, will probably have less interest in organizing to get more milk and eggs for his children, or more work at union wages.



# THE SICK BABY

Very often, the parents of a young child could save themselves great trouble, and the baby great discomfort, if they only knew whether the young hopeful was really ill or only "acting up" in a natural way. The baby specialist who writes this article tells you to watch for these signs indicating that the baby is ill: Loss of weight, temperature, loss of appetite, vomiting, diarrhea, convulsions, and coughing. When the baby is ill, he is also likely to have a different kind of cry. The various ways of a baby's crying are described here.

#### Weight

The way the baby gains weight is an important sign about his well-being. An ordinary healthy baby should gain from four to ten ounces every week. However, sometimes for one week or so there may be only a slight gain or even none. If the baby had been gaining regularly before, and this lack of gain does not keep up for more than two weeks, don't let this worry you. But if the baby does not gain weight for more than two weeks, or if he keeps losing weight, call a doctor. This failure to gain may mean either the baby is getting not enough food or an improper diet, or it may mean the baby is sick.

#### Fever

**F**EVER is one of the most important signs of illness. Often parents think fever is due to teething and are wrong. A mother should learn how properly to take a baby's temperature. A rectal thermometer can be bought in any drug store. Either the druggist or the doctor will gladly teach her how to read it. Unless the baby seems ill, it is best not to bother taking its temperature. Before using the thermometer, shake it so the thin column of mercury is below the 97 degree mark. Put some vaseline or oil on the bulb. In taking the baby's temperature, he should be placed on the lap with his face down. The bulb end of the thermometer should be put about one inch into the rectum. It should be held there for five minute. The baby should not be left while the thermometer is in. It is best to keep him quiet, and even hold the legs, so that the thermometer is not broken.

A baby's temperature normally ranges between 98.6 and 99.5 degrees Fahrenheit. If the baby's face is flushed, or the skin of his whole body (not merely the hands and feet) is hot,

**O**NE OF the worries of every young mother of the working class, who cannot afford the constant attention of a physician, is how to recognize illness in the baby. The sensible young mother knows that there is a difference between being "too fussy" with the baby and being cautious about any ailment that the child might suffer. But how is she to know what is the matter with the baby? How is she to know, for that matter, whether the baby is ill, or whether the child is merely fretful, restless, or temperamental.

Very often, signs indicating illness in a baby are hard to recognize until definite changes have set in. It is wise, therefore, to learn to observe the child so that the parent could tell that something is wrong with the baby, something that should need special attention.

The mother should learn to observe certain things about the baby when the child is well. Then she will recognize changes when the baby is ill. Watch the baby's normal activity and wakefulness, the expressions of his face, color of skin, color of tongue, condition and temperature of the skin. If the baby, then, shows signs of pain or discomfort, if he is unusually drowsy or irritable, you will notice the change easily. Watch the baby's stool, the number of bowel movements, and the amount and color of his urine.

If the baby develops any signs of sickness, put him to bed immediately. Under these circumstances, treat the baby as if he is sick, until the doctor comes and give specific directions. Do not take him outdoors. Do not bathe him. Feed him lightly, giving him such foods as diluted milk, barley water and cooked cereals. Watch his temperature and be on the lookout for other symptoms such as pains, vomiting, loose bowel movements, convulsions, running nose, sore throat or difficulty in breathing.



the temperature should be taken. Remember that a baby is more likely to develop a fever than a grown-up, and that, when he is ill, the fever is apt to be higher than in an adult. A daily rise in temperature, even if slight, lasting for a long time, is often as important as a higher temperature for a short period. A sick baby may have fever at any time of the day or night, but the temperature is likely to be higher in the evening than in the morning.

A slight fever associated with sneezing, a running nose, or cough, may be due to merely a cold in the nose or throat. But it may also be the beginning of a more serious illness. When these become associated with pain or restlessness, an inflammation within the ear may be setting in. Often babies with pain in the ear keep turning their heads from side to side. When fever is accompanied by a rash, it may be caused by a disease like measles, scarlet fever or chicken pox. It is also safest, however, that a doctor be called whenever the baby's temperature goes over 100 degrees.

#### Refusal to Eat

**WHEN THE** baby refuses to eat the kind of food he has been used to eating, that may be the first sign of illness. This does not mean you should be alarmed if the baby refuses to eat the kind of food he dislikes. (You should never force food on a child, whether he refuses because he is ill or for any other reason.) But if he refuses to eat when you are certain it is the kind of food he is used to, then he may have a pain in the throat.

#### Crying

**IT IS NOT** always easy to tell what is wrong with the baby if he cries. The cry may be due to discontent, discomfort, hunger, temper, pain, or illness. A certain amount of crying is normal for a baby. However, when the crying lasts much more than a half hour to an hour, the cause should be investigated.

One who has experience with babies is able to distinguish several characteristic cries. *The cry of a healthy baby* is often a scream. It is loud, and strong, and so forceful that the baby gets red in the face. *The cry of temper* is loud and strong too, and is accompanied by kicking and stiffening of the body. These cries of habit

are usually continuous, and stop when the baby gets what it wants. *The cry of pain* is seldom continuous and is sharp, shrill and loud. This cry is accompanied by drawing up of the legs and other signs of distress; it rarely ceases with picking the baby up or carrying him about. *The cry of hunger* is usually continuous and fretful. Often the baby, in such a state, sucks his fingers or the whole hand. He is relieved if you give him slightly sweetened water or milk. *The cry of an ill baby is a fretful, moaning cry.*

#### Vomiting

**THERE** are two main types of vomiting. One consists in the infant spitting up some or all of the contents of the stomach. The vomitus runs over the face, clothing, pillows, etc. It is due to faulty feeding, over-feeding, too much handling of the infant during or after feeding. Often it is due to the baby swallowing too much air, then expelling it. The expelled air carries with it the curded milk, etc.

The other type of vomiting consists of sudden and forceful expulsion, often shooting out through the nose as well as the mouth. This may indicate indigestion, or it may be the first sign of a contagious disease. If this happens two or three times a day, a physician must be consulted.

Vomiting may be present with indigestion with, or in absence of, loose bowel movements. If the vomiting continues more than two or three times a day, it should be called to the attention of the physician. In the meantime, no liquids or food should be given.

Vomiting is often present at the beginning of an infection. In such cases, the baby will usually have fever.

#### Diarrhea

**A HEALTHY** baby usually has from one to three soft stools a day. The stools of a nursing infant are orange in color; those of a bottle-fed baby are yellow to dark brown in color.

When the stools are loose and watery, diarrhea is present. In every case, one should observe if blood and mucus are present. If blood is found, a physician should be called, for it is often an indication of a serious illness. There is just one exception, and that is in a constipated baby whose hard stool may have one or several streaks of bright blood.

Diarrhea may be due to starvation. If the baby gets very little food, the stools may be frequent, small, scanty, thin and green. However, infection or improper feeding (unclean milk or the wrong food) are the main causes of diarrhea. The infection may be of the nose, throat, ears, etc. Unclean milk may come from contamination in the dairies, in its transportation, in the stores, or in the homes.

Diarrhea is a condition that may be serious in infancy. It should therefore be treated and checked in the beginning. If it is not severe, and no vomiting is present, give boiled skimmed milk (milk from which all of the top cream has been removed, boiled for 30 minutes), sweetened weak tea, and barley water. If the diarrhea is severe (more than ten movements a day) or if not checked after two days, call a physician.

#### Convulsions

**CONVULSIONS**, when marked, are easily recognized. However, there are mild seizures consisting of unconsciousness, blank expression and stare, and rolling of the eyes, which are often not noticed and which have just as much significance.

In infants, convulsions may occur at the beginning of an infection. However, convulsions may be due to birth injuries, or to other brain conditions. Or, they may be due to tetany if the baby does not get enough cod-liver oil.

#### Coughing

Babies should be watched for hoarseness or croupy cough. Such a cough or hoarseness may be an early sign of diphtheria.

A cough without fever, occurring once in a while, especially in the morning, or during the night, may be due to the mucus dripping from the nose or mouth into the throat. But if this happens often, and if the baby is feverish at the same time, call a doctor.

#### Two Books

**IF YOU** live in a city, not far from a clinic, have your baby examined often. If you live in a rural community, you might also make arrangements to take the baby into the nearest clinic not too rarely. Watch these early signs of sickness outlined above, and call a doctor when you suspect the baby is ill.

There are two books, both published by the government, which give excellent advice of special interest to parents of young children. Both books will be sent to you free of charge if you write to the following address: "Children's Bureau, United States Department of Labor, Washington, D.C." One of the books is Publication No. 8, entitled "Infant Care." The other is called "The Child from One to Six: His Care and Training." The latter is Publication No. 30. When you write for these books, ask for them by number.

## What Is the M. A. B.?

**THE MEDICAL ADVISORY BOARD**, which conducts this magazine, is an organization of more than fifty physicians and dentists, many of whom are specialists in their fields. They contribute the bulk of material to **HEALTH AND HYGIENE**.

In every case, an article appearing in **HEALTH AND HYGIENE** is written by a specialist in that field of medicine, dentistry or Public Health with which the article may deal. Answers to questions from readers, when those questions deal with matters of health or hygiene, are also written

by specialists. Often, the articles or answers are the products of more than one doctor, the members of the Medical Advisory Board having a firm belief in the usefulness of collective effort.

Most of the members of the **BOARD** practice in Greater New York City. **HEALTH AND HYGIENE**, because it is a national publication, has already attracted to the **BOARD** some practitioners from outside New York. The **BOARD**, and the magazine, welcome contributions from any practitioner. These should bear in

mind that **HEALTH AND HYGIENE** is a magazine for the working class. That means not only that articles should be written with absolute clarity. It means also that the writers must be absolutely unafraid of any bugaboos, free from superstitions, thoroughly honest, and unafraid to attack and expose fraud and quackery. The experiences of the **MEDICAL ADVISORY BOARD** have proven both that there are doctors who will write in that manner and readers who want that kind of writing when they can get it.

# ABORTION

## By 'PILL'?

By Dr. Vivian Terry

**T**HERE are many medicines on the market that are supposed to bring on menstruation. Many are advertised in magazines. Some assure you comfortingly: "Don't be alarmed when nature fails!" Others are absolutely guaranteed to solve your problem of "unnatural delay or irregularity."

The most misleading, unscrupulous purveyors—are those manufacturers who conduct a mail order business and who advertise their preparations in the love story, photo-play or pulp magazines, or in the foreign language newspapers.

In the magazine *Motion Picture*, the February, 1934, issue, there were six such advertisements, inserted at a cost of about \$400. These quack concerns expect at least 400 times the money spent in return—and they get it—from credulous, uninformed people who, in their great distress, turn to anything which they think may help.

In *Film Fun*, February, 1934, issue, a magazine of the same type, Prof. Dupree advertised his "French specific" pills. This very product, as long ago as 1922, was condemned by the Bureau of Chemistry of the American Medical Association, "for false and fraudulent claims regarding its use in suppression of irregularities of the menses." The chemists reported at that time that the preparation contained aloes, iron sulphate, with a trace of alkaloid, and indication of cotton root bark and tansy. Today, this product is still being sold, since the government has insufficient authority to prevent the concern from conducting its nefarious business. The only power at its disposal is the seizure and destruction of the medicines on hand. Once in a while, the manufacturer pays a fine—usually nominal—then he is at liberty to continue his practices under another name.

Another such company, whose advertisements are widespread, is the Southington Remedy Co. As a result of an investigation conducted by the Federal Trade Commission, the owner was forced to sign a stipulation "to cease claiming by inference or directly that his preparation would cause abortion, or that it was competent treatment for the relief of suppressed menses, or that stubborn and abnormal cases could be relieved by its use." We find reference to testimonials without number in the advertisements of this company. Most of the letters, supporting the claims of the manufacturer, are either paid for or come from women in whom the menses were normally delayed and by coincidence occurred after the pills were taken.

The Snyder Co., another concern which advertises its wares in these magazines, states: "Often successfully relieves some of the longest unusual unnatural cases—often produces the most unbelievable and most remarkable results—worth \$5.00—send \$2.00 box—double strength \$3.00; two for \$5.00." The results *are* most remarkable; the woman is \$5.00 poorer and has nothing to show for her money: She is still pregnant.

Most of these companies attempt to lure the prospective buyer by claiming some secret formula—either French (perhaps based on the much exploited notion that these people are supposed to have the art of love developed to a high degree) or East Indian—which lends a note of mystery to the product.

All of these preparations, regardless of the name given to the product or the claims made for it, or the testimonials to substantiate these claims, are worthless. *There is no drug, or combination of drugs, which when taken by mouth will with certainty produce abortion.*

A woman is "caught"—or thinks she is: Should she buy a mail order "cure" advertised in a magazine? Will jumping down a flight of stairs bring it on? What can the doctor do for her, or how about that secret and much-prized prescription that she might get by asking Mildred to ask Sue to get from Mamie whose husband has cousin who's a druggist? The writer of this article, an authority on women's diseases, discusses the various methods and claims; evaluates them—and suggests a way out of the dilemma facing those who can't afford pregnancy. . . .

### What Can the Druggist Do?

**I**N DISTRESS because her period is late, a woman might ask a friendly druggist for help. Some druggists frequently concoct a mixture of drugs according to their own formula which they sell with an air of secretiveness, at a great profit. Or the druggist might sell a patent medicine of which many samples are on the market. Most of these preparations—such as Ergoapiol, Emmenagogue pills of one brand or another, or liquid preparations—have similar ingredients. They usually contain a physic (cathartic) such as aloes, phenolphthalein (the same stuff that is in Feenamint and Ex-Lax), castor oil or cascara sagrada. Some of them also contain tansy oil, or pennyroyal, or cotton root bark. All these irritate the lining of the intestine and, indirectly, they irritate the womb. Many of them have quinine, ergot, or rue—which act directly as irritants of the womb.

All of these drugs will cause miscarriages if taken in large enough quantities. But, at the same time, *they will cause generalized poisoning of the woman.* Many cases have been reported in medical literature in which even small doses have caused women to become deathly sick because of sensitivity to the drug. In fact, that is the very way ergot was discovered. Many peasant women, having eaten rye which had been attacked by ergot (which is a parasitic disease of rye), were taken violently sick with vomiting, pains in the abdomen and convulsions. In other cases gangrene of the toes and fingers set in and spread rapidly to other parts of the body. If these women were pregnant, a miscarriage occurred.

Since that discovery, a process for separating ergot from the rye, and purifying it, has been perfected. When taken in large doses, ergot may—and very often does—cause nausea, vomiting, frequent bowel movements, nervous spells with twitching, and general convulsions. When it is taken in small doses, it does no more than leave the woman unhappy, nervous, irritable, with stomach complaints—but still pregnant. Similar effects have been observed from the use of quinine or rue.

### What About the Doctor?

**W**HEN THE magic potion, which the druggist has dispensed, fails, the anxious woman turns to the doctor. Many women, especially if they have the means, rush off to the doctor when there is a delay of two or three days. They beg for aid. The physician, however, cannot make a positive diagnosis at such an early date—at least a two-week delay must elapse before he can attempt a diagnosis by physical examination. By a biological examination (injection of the urine of the woman into a rabbit) a diagnosis can be made after one week's delay. If the pregnancy is not sufficiently advanced for him to make a positive diagnosis, he may advise injection of some glandular preparation—like extracts of the ovary, bearing the name of folliculin; or estrin or agomensin. The patient thinks that when this medicine is introduced into the arm, by a hypodermic needle, it must surely be powerful enough to bring about the menses. A series of articles appearing in the medical journals, evaluating these preparations, have revealed their worthlessness in bringing about the period when a woman is pregnant. In some cases the physician, to allay the worry of the patient (which is a cause for the delay), may prescribe the very same drug that the druggist had previously given her; he may add to it some medication like bromide, luminal, veronal or any other sedative to calm her nerves.

After careful investigation of thousands of women, it has been established that the menstrual cycles are irregular even in healthy women, varying between as few as 21 days and as many as 34 to 36 days. Women who have chronic diseases, such as tuberculosis, diabetes or kidney disease, or some chronic inflammation of the female organs, often have prolonged and irregular cycles. Worry, especially about the delay, change in climate, any shock or emotional upset—such as loss of a job—a cold, or any run-down condition of the body—may delay the menses.

There are many women who are anxious to have babies and yet, despite many attempts, have

had miscarriages. These women did not take pills, or move pianos, or jump down a flight of stairs. In these cases the blood flow started naturally. *It is well known by specialists in women's diseases that there are no medicines that bring on the period, if the woman is pregnant.* When a woman is generally healthy, and the womb in good condition, she could take all the medicine that the druggist sells her or the doctor prescribes for her—and nothing will happen. Hundreds of women have spent their hard-earned money for drugs which left them weak, and exhausted, and nervously upset, while their pregnancy continued right on. The only thing that helps these women is an abortion.

### Prevention of Abortions

ALL OF these conditions exist and flourish because the burden of bearing a child and caring for it after birth are so distressing, especially during this depression, that women seek any means which will help them avoid such responsibility. In the history of medical science this era is one of prevention. There is antitoxin for prevention of diphtheria and scarlet fever. There are injections of serum against measles and infantile paralysis. There is vaccination against small pox. But, when we consider prevention of abortion (there are about 1,500,000 abortions performed illegally throughout the United States every year) or the useless expenditure of millions of dollars on patent medicines which harm mothers—then, organized medicine, as exemplified by the American Medical Association, no longer thinks in terms of prevention.

There are, however, many individual physicians who are opposed to such a stand. These doctors willingly give birth control advice to women. These physicians realize the havoc that an undesired pregnancy plays on a woman,

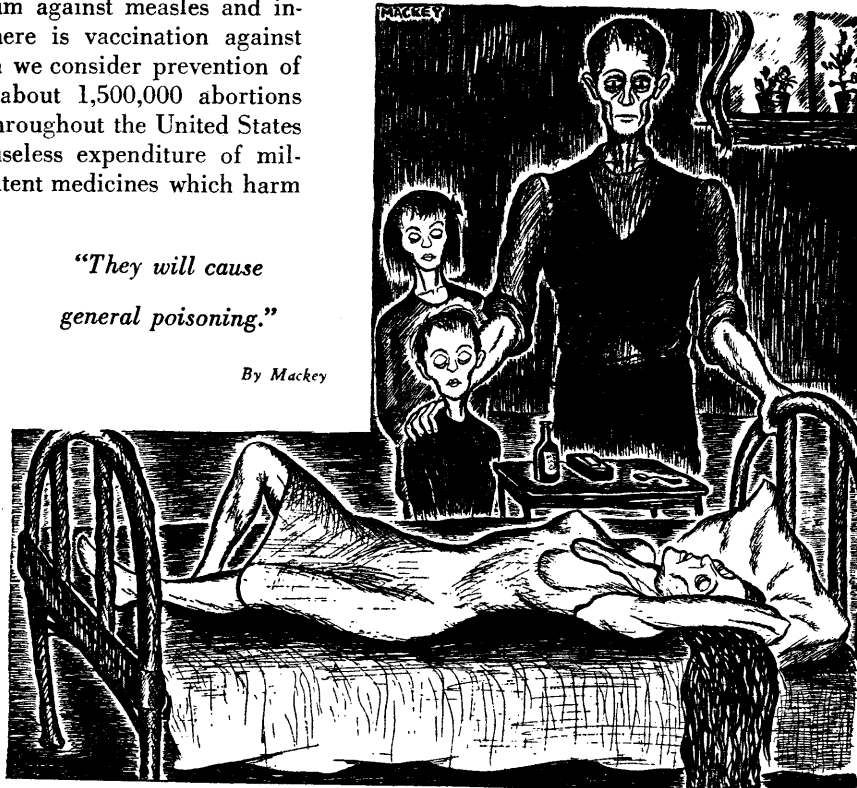
physically and mentally. They realize the medical need, and the social need, for such advice.

In spite of the great social need, our government still has on its statute books a law that makes it illegal for even the doctor to send any pamphlet, book or device for prevention of pregnancy through the mails or by express. That is not all. Right now, there is a bill before Congress—the Higgins Bill in the House, and the Hayden Bill in the Senate—sponsored and initiated by Postmaster General Farley, to make the receiver as well as the sender liable to punishment of a fine of \$5,000, or five years imprisonment.

While there is growing opposition to such illiberal legislation, it has not assumed the proportions that it should. Men and women of America should not only oppose this type of legislation. They should also organize to force the establishment of birth control clinics throughout the country. To date, there are about 200 such birth control centers located mainly in large cities, at which women can be instructed in scientific methods for the prevention of pregnancy.

*"They will cause general poisoning."*

*By Mackey*



This number is so inadequate—even for our urban population—that it is almost negligible.

The remedy for the wiping out of those quacks who become wealthy because women in distress will buy almost anything, and the way to reduce the number of illegal abortions, is to advocate repeal of anti-birth control legislation; organize to defeat extension of legislation of that kind, like the bills sponsored in Congress by Postmaster General Farley; and organize to force establishment of more birth control clinics in rural communities as well as in the cities.

In some states, birth control advice can be given legally under laws that permit doctors to give information to married women for the protection of health. In the birth control clinics, or "Mothers' Health Centers" as many of them are called, conducted in accordance with the standards of the American Birth Control League, contraceptive advice is given by competent gynecologists. In many of these clinics, the patient pays only from 10 cents to \$1 for the service.

In one large city where the population is nearly 3,000,000, there are only three such clinics. The last report of these clinics shows that 782 women were given contraceptive advice in one year. These women ranged in age from 17 to 47. Most of them were the wives of workers earning not more than \$15 a week, and some were the wives of unemployed workers. Their husbands are factory workers, laborers, porters, longshoremen, truck drivers. In these clinics Negro women are given the same care as white women.

It is interesting to note two factors in the report from the centers in this city. One factor is that the 782 women given advice had a total of 3,613 pregnancies—or nearly an average of five

children each. Certainly, in these times, when the average of the pregnancies these women had is nearly five—which means that some of them may have had as many as eight or ten pregnancies—these women were entitled to contraceptive advice.

The other factor which should be noted about this report is that religious taboos about birth control are being gradually broken down. In one clinic where 275 patients were given advice in one year, 157—*more than half*—were Catholic. In the second of these clinics, 39 out of 165 patients were Catholic. In the third center, located in a Jewish neighborhood, there were nearly as many Catholic women applying for advice as there were Jewish women.

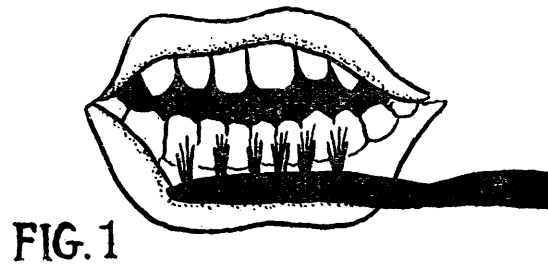
The American Birth Control League, 689 Madison Avenue, New York City, is fighting against legislation that would stop what little birth control information is being spread now, and is advocating bills permitting the further spread of information. There may be a clinic in your city, or near your rural community, affiliated with the American Birth Control League, where you could get information about how to spread the organized demand for legalizing birth control.

Get in touch with that clinic or with the League, and help fight for the repeal of anti-birth control laws. Bring up the subject in your trade union, lodge, Women's Council, Neighborhood Assembly, Unemployed Council, or social club. Help drive the quacks out of business and help to reach the workers with genuine information about contraception. When such information is spread widely, it will be unnecessary for women to jeopardize their health on the exploded theory that "pills" or other drugs bring on miscarriage, and it will be unnecessary for many of them to go through abortions.





# MASSAGING the GUMS



Using the tooth brush properly is easy enough, if you follow the directions patiently. Incidentally, one of the leading dentists in New York, who writes this article, tells you to save your money and not to buy "fancy" curved tooth brushes or expensive mouth rinses—and he prescribes a simple mouth wash for you.

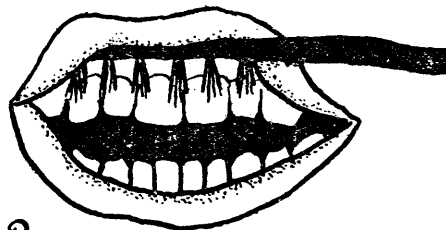
**METHODS** usually used to clean the teeth may be called brushing the teeth, or even sweeping the teeth. The stroke of the brush is usually up and down, across the teeth, or a rotary motion.

Any one of these is suitable to cleanse the teeth, but they do not take care of the gums. Hygienic precautions are as necessary for the gums as they are for the teeth or for the rest of the body.

The muscles of the body need exercise. We get some of these exercises by the various methods known to all of us: Walking, bending and breathing exercises, and all kinds of athletic activities. The muscles of the jaws, and the gum tissue, should also be exercised. The gums, too, have to be stimulated, to maintain good circulation and proper function.

This can be done partially by chewing hard foods, such as apples, nuts, fibrous meats, raw vegetables or bread that's a few days old—not bread that is just out of the oven. Unfortunately not all workers can get foods of this kind often (except, possibly, stale bread). The present economic order does not provide enough of those foods that are necessary for sound teeth and healthy gums.

FIG. 2



But even when those foods are used, all they do is to help circulation of the blood in the gums. In addition to that, the gums must also be *massaged* with a toothbrush.

Massaging the gum with toothbrush bristles is somewhat similar to massaging or kneading the body muscles with the fingers.

### How to Use It

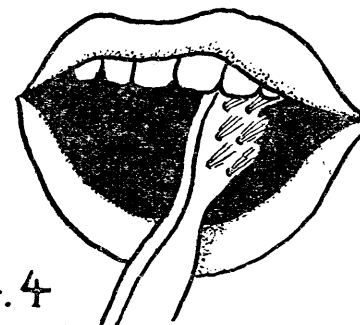
**PLACE THE** bristles of the toothbrush on the lower gum as shown in *Figure No. 1*. The side of the bristles should touch the gums; some points of the bristles will be on the teeth, and some *between* the teeth. That part of the brush handle into which the bristles are set will be between the lip and the gum; it will not touch the gum, it will be just off the surface of the gum. With the brush in that position (as in *Figure No. 1*) force the bristles gently between the teeth, then vibrate ("shimmy") the brush in a circular movement. Do this while you count twelve. Then lift the brush—do not drag it. Place it in the next area, and do the same thing again while you count twelve. Repeat this until the gum on the outside part of the lower teeth is massaged.

Now place the bris-

gles on the upper gum, as in *Figure No. 2*. Note that now the bristles are reversed, and pointed down. Repeat the motions until this surface of the gum is massaged. Place the bristles as shown in *Figure No. 3* for the tongue side of the upper gum. Continue the count of twelve for each area. Lift and place the bristles on the next area, as shown in *Figure No. 4*. Keep the handle of the brush as nearly in line with the nose as possible. This will help you placing the bristles in the proper position. Finish massaging the tongue side of the upper gum, then place the bristles as in *Figure No. 5* for massaging the tongue side of the lower teeth.

In placing the bristles on the tongue side of the teeth, try to have the points of the bristles touching the teeth first. Then push the brush slightly (pushing upward for the upper teeth, and downward for the lower teeth). If you do that, the side of the bristles will come in contact with the gum. In that way, the points of the bristles will not prick the gums. When you have the bristles in proper position, start the vibration motion of the brush.

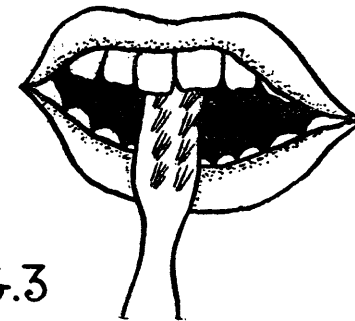
FIG. 4



Try not to press too hard, so that the bristles will move easily. See that the bristles do not bend backward. If that happens, the points of the bristles may prick the gum tissue. Also, if the brush is dragged from one area to the other, the gum tissue may be injured.

When the points of the bristles are in motion, and are *between* the teeth and on the surface of the teeth, the food is loosened. In that way, you are less likely to have cavities formed in your teeth. But these bits of food that are brushed off should be rinsed afterward with a mouth wash. It is necessary to get rid of these food

FIG. 3



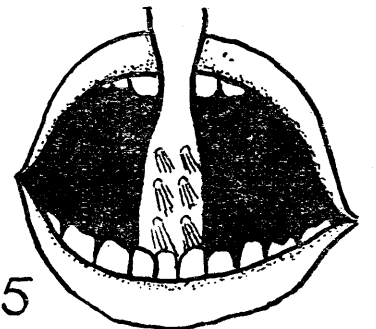
particles, otherwise your job of cleansing your mouth is only partly done. The chewing surface of the teeth should also be cleansed. This is done by placing the bristles at right angles (perpendicularly) to the chewing surfaces. Again, a vibrating motion should be used, and not a long stroke back and forth. When you stroke the brush back and forth, you simply glide over the teeth, missing all the tiny crevices. But when you use the vibrating motion, the bristles get into the small pits and spaces. Then the food caught in these small spaces is brushed out. When this is followed by rinsing, the result is that you prevent decay of the teeth.

If you use the toothbrush as described in this article, your gums will be massaged properly. But, in some cases, the film on the outside surface of the teeth will not be removed by the points of the bristles during the massaging movements. In these cases, it is necessary to use the vibrating motion on the surfaces of the teeth, exactly as it was done on the chewing portion of the teeth.

### What Kind of Brush?

The shape of the toothbrush, the kind of bris-

FIG. 5



gles, and the number of bristles, are all important for proper use of the methods described here. However, do not allow yourself to be misled by advertisers, or by fancy displays at drug counters and in department stores, into buying expensive tooth brushes which are supposed to do all kinds of wonders for you.

There are tooth brushes in which the bristles curve inward, and some curve outward. Some have impressive looking angles. Other brushes have bristles which are shaped so that some curve inward and some curve outward on the same brush. And then, of course, there is just

the plain tooth brush, with a straight handle and a straight line of bristles arranged in tufts. That's the best kind of tooth brush to use.

The twists and curves given those other brushes, on the idea that they conform to the curves of the teeth, accomplish very little. One curve may fit the outside surfaces of the teeth accurately. But the same curve will not fit the inside surfaces of the teeth. For that reason, the straight handled brush, with the tufts all arranged in equal length, is the best. This brush strikes the happy medium.

The brush should have two or three rows of bristles, with five or six tufts in each row. The bristles should be about seven-sixteenths of an

inch in length, and of good quality. When you first start using the method described in this article, use a medium bristle. Later, use a hard bristle.

Massage the gums twice a day, before breakfast and before going to bed at night.

It is not necessary to use tooth paste or powder with this method. Just wet the brush with water. For a rinse, you need not buy an expensive mouth wash. You can make your own. Take a cupful of dry salt, another cupful of sodium bicarbonate, and a third cupful of borax. Mix them well and place in a dry, covered jar. When you are ready to rinse your mouth, put one level teaspoonful of this mixture into a glass of warm water—and you have an inexpensive mouth wash.

# LAXATIVES Cause Constipation

"Constipation can be cured in most cases," says the author of this article, who is a famous stomach specialist. But the way to that cure never lies through the laxatives. These, in many cases, will not only fail to cure constipation, but will make it worse.

ONE of the most vicious rackets in our land of rackets is the attempt of drug manufacturers to sell the cathartic idea to workers. Over the radio, through the press, on billboards, through every channel of ballyhoo, workers are being led to the absurd belief that one cannot be healthy unless one is addicted to the continued use of cathartics. As a lure these cathartics are put into pleasant-tasting chocolate tablets or chewing gum form so that children as well as adults can learn to clear their "systems" of non-existent "poisons." The indiscriminate use of drugs in an effort to cure constipation invariably leads to illness which is much more harmful and more difficult to cure than constipation.

Constipation is a condition in which the passing of the stool is delayed or incomplete. Most people have a bowel movement daily; others may have one regularly every second or third day. These people are not necessarily constipated. Delay with irregularity, straining and discomfort at stool are characteristics of constipation. Added to these symptoms, headache, tiredness, a feeling of fullness in the abdomen and belching may be present.

## The Causes

The causes of constipation are numerous; generally these can be divided into mechanical and functional. Under mechanical causes are listed those conditions which actually place an obstruction in the way of passage of the stool, as tumors, scars, kinks, ulcers, and stenosis (narrowing) of the bowel tract. Under this heading also are found those conditions which do not obstruct the bowel passage but yet, because of the associated pain and discomfort, make the moving of the bowels difficult. Among such conditions are hemorrhage (piles) fissures (cracks) and fistulas (chronic sores) at the rectal opening.

Constipation which results from these mechanical causes are best treated surgically.

The second, and by far the more common groups of causes of constipation are functional, that is, no disease of the bowel is present but the bowel is not working properly. Thus improper diet, insufficient water-drinking, flabbiness and weakness of the abdominal muscles, lack of exercise, old age, irregular hours for going to stool or inattention to the urge to do so, all may contribute toward the development of constipation.

## Atonic and Spastic

There are two types of functional constipation. The less common type, which occurs especially in stout people who do not get much exercise, is characterized by a weakness of the muscles of the intestines. This type is called *atonic* constipation. In this type of constipation the muscles of the bowel are too weak to move the remains of the undigested food in the bowels. The second type of constipation occurs usually in people who are underweight and of high-strung temperaments and is marked by a cramp-like condition of the muscles of the intestines. This type is known as *spastic* constipation and in this condition the muscles of the intestines clamp down on the bowel contents, thus interfering with the process of expulsion. It is especially in spastic constipation that inflammation of the bowel (colitis) may occur if cathartics are habitually used.

## Eight Rules

The treatment of the atonic type of constipation consists mainly in trying to re-establish a normal healthy rhythm of bowel movement. This is achieved by the following procedure.

1. Proper diet; to a full diet of meat, fish, vegetables and fruit are added foods which contain "roughage" that is, foods which leave a large amount of undigested remains in the bowel. Such foods as whole wheat and bran products, coarse vegetables such as lettuce, spinach, celery, cabbage, beets and carrots; fruits such as prunes, apricots, plums (best cooked at first) and figs, dates and raisins. (All roughage is avoided in spastic constipation.)

2. Sufficient water drinking; from 6 to 8 glasses of water should be taken daily, both with and between meals.

3. Regularity of time for the bowel movement. It is usually most convenient to go to stool regularly soon after breakfast. Here one must sit relaxed for 5 to 10 minutes. The regular rhythm of the bowel movement is not easily re-established in some cases. But in the beginning, while the process of re-education of the bowel is taking place, it is not a great calamity if the bowels do not move until a later hour.

4. Exercises should be taken. It should be moderate exercise and done out-of-doors if possible.

5. *Agar-agar* may be added to the diet. It is best if taken in the coarse form. Two table-

spoons daily at any one meal serves the purpose of increasing the "roughage."

6. Mineral oil is often of use in the treatment of constipation. One or two tablespoonsful is generally the dose which will be effective. It is important to make sure that the mineral oil does not contain any added drugs. The widely advertised combinations of agar-agar and mineral oil do not contain enough agar-agar to be effective. Agar-agar and mineral oil separately or together are more effective and less expensive.

The use of agar-agar and mineral oil should be discontinued as soon as regular bowel movements are established.

Yeast products have been widely advertised for the cure of constipation. There is no scientific basis for the use of yeast. *Acidophilus milk* products are also of doubtful value.

7. Laxatives such as senna, aloes, rhubarb and phenolphthalein *must* not be used. They will make the constipation worse by increasing any inflammation of the bowel which may be present. Physicians will sometimes use such laxatives during acute illnesses, but they are only used cautiously by medical men in the treatment of constipation. Certainly, the cure of constipation can be effected without the use of drugs. *Cascara Sagrada* (aromatic extract) in one or two teaspoonsful doses for adults is milder and as effective as any drug with a harmful effect.

8. Enemas are not an effective form of treatment for constipation. They will bring about a bowel movement but will not attack the causes of constipation. Repeated enemas irritate the rectal opening. Enemas are sometimes useful in acute illnesses when the bowel movements have become irregular. Plain water should be used, since soap or other material added to the water do not increase the effectiveness of the enema and may cause irritation.

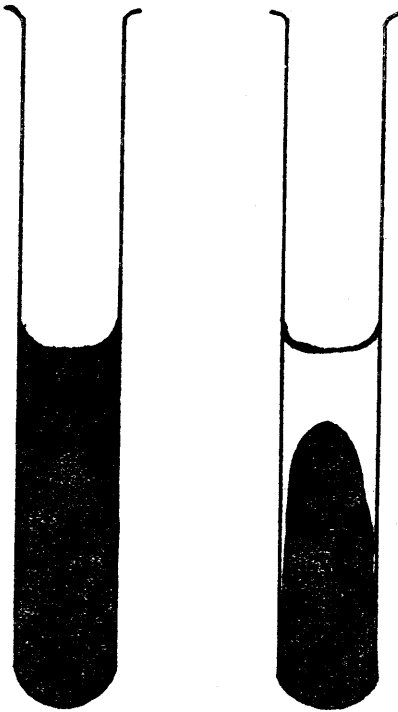
The foregoing rules apply to the *spastic* type of constipation as well as the *atonic* type, with the exception of rule 1. The diet should be different in the spastic type.

In spastic constipation, "roughage" containing food like bran and wheat products and coarse raw vegetables and fruits, are to be avoided. Cooked vegetables and fruit may be gradually added to the diet as the spastic constipation is being cured.

Constipation can be cured in most cases. Observance of the above rules and the strict avoidance of the ballyhooed laxatives will do the job.

# So THIS is BLOOD!

We all know the importance of the blood. But few of us realize why the continued flow of our blood is so vital to life. One of the foremost of hematologists—blood specialists—in New York tells in the simplest language exactly what the blood is, what it does for us in our body, and how it is made up. HEALTH and HYGIENE runs in every issue one article telling how the body works.



The above tubes contain the same quantity of blood. The blood in the left tube is fresh drawn, with cells evenly distributed. The tube on the right contains blood in which the cells have clotted at the bottom.

**B**LOOD IS A very complex fluid. In order to understand just what it is made of, a little review of man's life history is in place. All animal life began under water many millions of years ago. At that time the form of animal life was very simple. It was made up of single cells, or colonies of single cells, laid in one layer or two layers. As this animal life floated or moved in the water, it had all the stuff necessary for its existence around it. But evolution went on. The forms of life became more complex, more involved. Soon animals arose which were built up in three layers—an inner layer, an outer layer, and a middle layer. The outer layer was in contact with the world. The inner and middle layers were shut off from the outer world by the outside layer. Therefore, nature was confronted with a new problem—she had to create some means whereby the inner layers of the body got food and air *from* the outside world. The answer of nature to this problem is the blood.

The function (or purpose) of the blood is to bring *to* the cells of the body the stuffs that are necessary for life, and to carry away *from* the cells of the body the waste-products of their own activity. This purpose is absolutely essential for life. Any part of the body will die if the blood

coming to that part is shut off. Some parts (like the brain) die very quickly. Some parts last longer. But, sooner or later, that part of the body which loses its blood supply will die. Therefore, without blood there is no life possible.

In former articles you have learned about the foods necessary for the body. You have learned that fats, carbohydrates, proteins, minerals and vitamins are necessary in our diet. These substances should be present in proper amounts in our diet. But when this food gets into our stomachs and intestines, the story is only half-told. What happens next is very important. These foods are worked on by chemical substances, like in a chemical factory. The food is broken up into its chemical parts. These chemical parts are "absorbed," taken in through the lining of the intestine, and get into the blood. Then the blood carries these foods all over the body. If something happens to stop this absorption, the results are very serious.

The blood carries these foods in solution. By this we mean that these foods are dissolved, like sugar in water. There are many substances that are carried by the blood in this way. An idea of how many substances there are, may be gained from a small list of substances carried by the blood from the intestines to the rest of the body. Some of these substances are:

- |                |               |
|----------------|---------------|
| 1. Amino-acids | 8. Phosphate  |
| 2. Fatty-acids | 9. Sulphate   |
| 3. Cholesterol | 10. Carbonate |
| 4. Sugar       | 11. Sodium    |
| 5. Calcium     | 12. Potassium |
| 6. Phosphorous | 13. Vitamins  |
| 7. Uric-acid   | A, B, C, D, E |

## The Blood Stream

**T**HESE ARE by no means all the substances that are carried in solution in the blood. Our blood is a pretty busy place. Some people think that a "blood-test" is a simple thing. There are tests for each of these substances. When we say "blood-test," we must state what we are testing for.

These are substances that are necessary for life, or are necessary for good health of the cells of the body. But the blood carries other substances in solution. It carries the cells' waste-products away from the cells to the kidneys, lungs and rectum, where the body puts them out. Among these substances are: 1. Carbon dioxide; 2. Urea; 3. Ammonia; and 4. Pigment.

The blood is, in some respects, like a river. The water in the river carries in solution many substances; it carries gold, silver, filth, etc., down to the sea. So the blood carries these substances in solution to and from the cells of the body. But the blood stream carries not only the "raw materials"; it carries also the "finished product." And that is not all. The blood has still other functions. To understand these other functions, let us examine the blood itself.

If we look through a glass of tea with sugar dissolved in it, we can see right through it. It is transparent. But if we take a glass of blood that has just been taken out of a vein or artery and look through it, we cannot see anything through the blood. If the blood were just a fluid carrying substances in solution (as the tea carries the sugar in solution), it would be clear and transparent. But it is not. There must be other things in the blood which are not in solution. With the naked eye, you cannot see what other substances are present. But with the aid

of a microscope, your eyes are opened and your question is answered. When you look at a drop of blood on a piece of glass (called a slide) under a microscope, you see little forms. There are three kinds of forms (or formed elements as we call them) in the blood. These are: 1. Red blood cells; 2. White blood cells; and 3. Blood platelets.

These forms are very small. Yet they have *form*, that can be seen through a microscope. The other substances which we discussed above, those that are in solution, have no form that could be seen even with the aid of a microscope. But the red and white blood cells, and the blood platelets are not in solution. They can be seen when we use a microscope—although they are so small that one ordinary glass filled with blood holds something like twelve and a half billion red blood cells.

## The Red Cell

**T**HE RED blood cell is very interesting. Its shape is like a little plate that is thinner in the center than about the edge. It has one peculiarity that is very strange. Let us see what that is.

All animal and plant life is made up of cells. The cell is a form of life that is made up of certain parts. There are millions of different kinds of cells, but they all have an outer shell (the *cell-membrane*); the substance that fills the cell (the *protoplasm*); and a *nucleus*.

The nucleus is a little body inside the cell that has certain important duties. The most important duty is to superintend and take part in the birth of new cells from the old cell. But the red cell has no nucleus. That means that it cannot have new cells come from it. It is a cell that cannot "bear children." But that doesn't mean that the red blood cell itself has been born by Immaculate Conception. It is made in the bone marrow. We have all seen bones of cattle. These bones contain fatty parts and red parts. The red part of the bone marrow is the "factory" for red blood cells. There lie certain cells that first appeared in our bodies when we were still inside our mother's body. These old cells (they are called *primitive cells*) lie in the bone marrow, and throw off little red blood cells. At first the new red blood cells have a nucleus. But then the nucleus is thrown out of the cell, and the red blood cell is ready for its big adventure. It leaves the bone marrow and gets into the blood pipes. And now its important work begins.



It is carried by the blood to the lungs. There it comes in contact (through two thin layers of human tissue) with the air. The air contains oxygen. Oxygen is absolutely essential for life. It is for oxygen that we breathe. It is for oxygen that the fishes breathe. It is oxygen that is necessary in many chemical processes that take place in our body. Without it we cannot live. The oxygen is in the air. How can it get into the tips of our fingers, our toes, our bones? It is the red blood cell that carries the oxygen from the air to all parts of the body. It has, therefore, a most vital part to play in our body. We can compare the red blood cells to the trains and ships that carry sugar and bread and steel to where they are needed. The red blood cell carries oxygen—the life-supporting chemical of the air. Since we could not live without oxygen, we see, therefore, how important the red blood cells are.

Under the microscope, the red blood cell appears in color a pale yellow to a pink. The white blood cell, seen under the microscope, is pale tan, or almost white.

#### Fighters and Defenders

**T**HE WHITE blood cell is about three times the size of a red blood cell. It has a nucleus. It has no definite shape. It moves about by sticking out little lumps of living flesh (protoplasm) and then moving into this projection. This is called *ameboid* motion because the *amebae*, a certain simple type of animal that biologists study, very often moves this way. The white blood cells come from the bone-marrow, too.

The job of the white blood cell is to defend our bodies. They are our army. They give forth certain juices that kill bacteria. They themselves attack and eat up bacteria and poisons. Whenever we have an infection of a certain part of the body, that part

is swollen. That is due to the pouring out of fluids and white blood cells. The white cells get out of the blood pipes and attack the bacteria. This can be easily compared to the army that is moved to the troubled spot from its armories or barracks. The soldiers get off the train and get into action to disperse the enemy.

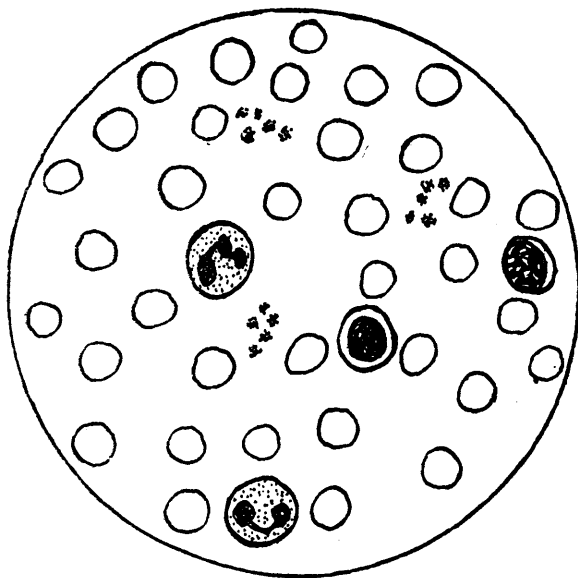
After the battle is over, there are dead soldiers to bury, wounded soldiers to take to the hospital; and bridges and houses to be rebuilt. And so, in the body, there are different types of white blood cells. One is a simple rank-and-file soldier. He fights the enemy, and gets killed or wounded. There is another type of white blood cell that eats up the dead soldier cell; otherwise, the bacteria which killed the cell would live on the cell—and get too strong. And finally, there is a type of white blood cell that superintends the building of new tissue in place of the old that has been destroyed during the battle.

The platelets are much smaller than the red blood cells. They are round or oval little bodies about one-fifth to one-tenth the size of a red blood cell. They are really not cells, but parts of

cells that lie in the bone-marrow. The platelet has a very important job; it helps in clotting the blood.

While the blood flows in its pipes (arteries, veins, capillaries), it is fluid, or watery. But when we receive a cut, something happens. At first the blood flows out easily. But after a few seconds to a few minutes, it starts flowing slower and slower—until it stops flowing altogether. At the wound, there soon forms a thin cover, a clot. The blood plate-

lets have played a chief part in making this clot. If the platelets are not there as they should be, or if they are not doing what they should, the smallest cut continues to bleed until the patient bleeds to death.



Above we see the appearance of a thin layer of blood as seen on a slide through a microscope. There are three kinds of discs. The clear discs are the red blood cells. They are not actually as transparent as they appear in the drawing above, but they are clearer than the others. The discs that have thick shading inside are the white blood cells. At the top and at the center, you note small forms in clusters. These are the platelets.

# FEVER— foe and friend



By Rico

Man in his search for cures against various diseases has discovered from time to time that he could use one disease to fight another. In very recent years, science has learned to use fever, always a dread in itself, in the fight against other diseases. A brief history of this discovery is given in this article.

**I**N VIENNA, more than thirty years ago, a middle-aged physician who kept in touch with scientific literature discovered that fever is at times a help in the cure of certain diseases. His name was Dr. Julius Wagner-Jauregg. In 1927, at the age of 70, Von Jauregg (as he is now called) received the Nobel Prize for the use of malaria as a cure in cases of general paresis.

Malaria is a dread disease which gives the patient very high fever. General paresis is a form of insanity caused by syphilis. General paresis was then considered hopelessly incurable. Von Jauregg discovered that some of his patients who had suffered from general paresis had become entirely well. In every one of these cases, however, something similar had happened to these patients before they became well. They had suffered either from malaria or from typhoid.

Investigating the medical literature on the subject, Von Jauregg found that other physicians had also had the experience of patients suffering from general paresis being restored to reason again. In these cases, too, the patients had suffered either from malaria, or from typhoid, and in some instances from erysipelas (a severe infection of the skin which also produces high fever).

No genuine scientific advance has ever been made by one man alone. True scientific progress in any field must always be collective. But often

there is one man who stands out of the collective for his particular contribution. In this case, Von Jauregg was the man. Von Jauregg's contribution was apparently simple. If fever will cure general paresis, he said, then why not *give* fever to the patient suffering from general paresis? Other physicians had thought of the same idea, but were afraid of the experiment. But Von Jauregg reasoned that, if some of the sufferers from general paresis did die in the process, little would be lost since their paresis was in itself "a living death."

He decided that if he he could give a patient malaria, and cure this patient of general paresis, he would then take care of the malaria itself. Quinine had been established by that time as the cure for malaria. Von Jauregg suggested injecting general paresis patients with malaria germs.

Other doctors were horrified. They were afraid that Vienna would be laid open to an epidemic of malaria. They would not let Von Jauregg go on with his experiment, in spite of his argument that the malaria itself could be checked with quinine.

It was not until 1917, after many years of arguing his point, that Von Jauregg's viewpoint was finally accepted. Two patients were inoculated with germs of malaria. The patients recovered—both from general paresis and from

malaria. In ten years more, the theory of curing general paresis with fever was proven through its use on thousands of patients.

Just a few years before Von Jauregg's epoch-making work, a great American physician who helped found Johns Hopkins University Medical School, William H. Welch, suspected the role of fever during illness. He stated that it was a method by which nature came to man's aid during sickness when the body was fighting its parasitic invaders, the cause of the disease. Welch said that fever not only helped to destroy the germs and their injurious poisons, but it also helped the body get rid of such harmful substances.

### New Methods

**D**URING the past six years, a group of clear-thinking scientists and physicians took up where Welch and Von Jauregg left off, and have been exploring this fascinating field. Dr. Willis Whitney, an American research engineer, found that workers in wireless stations where short-wave broadcasting was done for long distance transmission, often suffered from unexplained fevers. After carefully eliminating various factors, he concluded that the energy given off in the form of radio waves must have been responsible for causing these fevers. He built a short-wave broadcasting set and, instead of using condensers, used two large plates. A dog was placed between these two plates, known as "condenser plates." The dog developed a fever!

Dr. Whitney called in some medical friends and suggested that the same thing be tried on humans. A machine for humans was developed. This machine, essentially a broadcasting station, produced waves 30 meters long and oscillations of the waves at about ten million times a second.

These men found that they could produce fever in the human body. It was then decided to try to find out the nature of fever, what diseases it could help and why it should help. A few machines were built and given to a limited group of physicians to study. In this group were Drs. Carpenter and Warren, now continuing their studies at the University of Rochester Medical School, Dr. Bierman of Beth Isrel Hospital and Dr. Leland Hinsie of Columbia Medical Center, New York City. Dr. Bierman named this machine the radiotherm, or radio heat.

Dr. Hinsie studied its effect on paresis and found that it could accomplish the same work as malaria without giving the patient such a serious disease as malaria. Drs. Carpenter, Warren and Bierman found that they could kill the germs that cause gonorrhoea with the fever. Now a large group of men from coast to coast in this country is investigating the value of fever produced by mechanical methods.

Among the newer facts that have been produced by this work were the more simple and inexpensive methods of giving patients fever. At present hot baths, electric blankets, special cabinets with ordinary electric bulbs, hot vapor machines and the special electrical device, called the diathermy, have proved successful.

These treatments must be given in a hospital under the watchful eye of a doctor and nurse skilled in the administration of the treatment. More than 40 deaths, some because of ignorance and incompetence, have been reported.

No longer is it necessary to give a patient one disease to cure another. The doctor can now control the level of the fever and maintain it for as long as is necessary. This could not be done with the older methods of injecting malaria and dead typhoid germs.

## Health Advice

HEALTH AND HYGIENE can be a real health magazine for workers only insofar as it reflects the needs of those for whom it is written and edited. The letters printed below, and many others, prove that belief justified. The writer of the letter below is not only answered specifically by a letter from the doctors of the Medical Advisory Board. In addition, full articles in this very issue of HEALTH AND HYGIENE will be helpful to the woman who wrote this letter and to many other workers in similar situations. "Health Advice"

### Should They Part?

will be a regular feature of HEALTH AND HYGIENE. Readers are invited to write of their own conditions for this column. Names will not be used unless authorized. But no anonymous letters will be accepted.

New York.

TO THE MEDICAL ADVISORY BOARD:

I have a girl whom I love. She has become impotent through an operation in which her ovaries, tubes and womb were removed. It is our desire to continue "keeping company," in spite of this condition. Is it advisable to do this in

spite of this condition and in view of the psychological result that this may have? Would it be likely to result in some psychopathic condition for either of us. Since we are very much in love with each other, and affectionate, we hope it may be unnecessary to part. However, we are both grown up mentally, and understand perfectly that we may be doing the harmful thing. If that is your decision, we are ready to part upon your advice. Please have the psychologists on your staff advise us exactly what to do under the circumstances. Thanks. B. C.

(For Answer, see page 32)

### TUBERCULOSIS—and Its Treatment

(Continued from page 4)

Dodge now, I said: "I'll take the treatments." He said they would cost \$28. Well my husband took me. The doctor took an X-ray and put gas in my right lung. The second day, he came and put it in at the house. Then, every third day; and now, every two weeks. Now he also takes an X-ray picture every time I go to him.

Now my husband and I read your articles. He says he never heard of any doctor doing this to a lung. So I thought I'd write and ask you the truth. My husband doesn't think this doctor is curing me, only money first before he does anything to me. He does not weigh me, just tells me to stay in bed for six months. Still I got to go up to his office. My husband thinks the lung will never go back after it is shrunk. Whatever advice you give me I'll take. Perhaps he is doing all he can to stop the bleeding. I feel better again, but this doctor told my husband that I have to have some nerve killed in my chest so it will help to heal the lung quicker. Do you think it has to be done? (My husband says: "It's money he wants.") We believe in you and whatever you say I'll do, as I know that's the only truth we'll get. The doctor's fee for this is \$50, and he'll wait until we save it. Should I go to another doctor?

Or is this one doing me good? Or should I go away to a farm? We live eight blocks from the main part of the city.

Could you tell me where I could get a book on T.B.? We tried here, but it seems we can't get one. Is there any danger of the children getting this from me? The doctor said I got this from someone not long ago.

I am 31; weigh now 102; am 5 feet 2. In the eight weeks, I haven't gained a pound, as much as I eat. Mrs. W. C.

### The Answer—

Mrs. W. C.—Your case is similar to many of those who have pulmonary tuberculosis or consumption. The frequent spitting of blood means that there is a cavity in the lung. Only an X-ray can show the exact situation of the cavity and how much disease of the lungs is present. If a cavity is present in one lung, then the bleeding comes from that lung. The doctor who is treating you gave you poor advice when he suggested that you take treatments at home. The tuberculosis sanitarium is the best place for the treatment of the early case. There you can get the treatments with the greatest benefit to you and with least cost. The treatments you are getting are called "Pneumothorax" treatments, and con-

sist of injecting air into the space between the lung and the chest wall. The air collapses the lung and, if the treatment is successful, the cavity is also closed. This is one of the best methods we have of treating tuberculosis.

You have been receiving the Pneumothorax treatments for eight weeks, so that it is far too early to consider any other operations such as cutting the phrenic nerve. Even after a longer time of Pneumothorax treatment, it is unlikely that cutting the nerve will be of any help. In only a very few special types of tuberculosis does the nerve operation do any good. Many specialists have given up the operation entirely.

You should make an effort to enter a sanitarium as soon as possible. There your case can be considered by several doctors who are specialists in tuberculosis. You should try to get someone to take care of your children until you are well, because if you stay at home your children can become infected and sick, and you won't have the best opportunity to get cured. We suggest that you go to the Detroit Board of Health for examination. There is an excellent sanitarium near Detroit, managed by the city. There you will probably get excellent treatment. We suggest that you obtain "Rules for Recovery from Pulmonary Tuberculosis," by Dr. Lawrason Brown.

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## "Dont Part"! — Other Advice

To B. C.

B. C.—You ask if there can be any untoward effects from continuing to see the girl whom you love. There is no reason why you should part because of the operation which she has undergone. The removal of the tubes, ovaries and womb means that the woman no longer can bear children. The operation does not, however, impair her capacity to love, nor need it diminish her erotic desires.

The inability to bear a child may be emotionally upsetting to the woman, depending upon the significance she places upon motherhood. In our society, woman is not regarded as the equal of a man. Many avenues of work and self-expression are closed to them. As a result, their only social utility is considered to be that of childbearing. The operation which you describe can increase a woman's feeling of inferiority and also cause anxiety and fear about the loss of sexual desires and womanhood. The latter is not true. We cannot urge you too strongly to continue your relationship with this girl.

Is Lard Better?

New York.

TO THE MEDICAL ADVISORY BOARD:

What is best for frying purposes, when frying is done? Is lard better than Crisco? I thank you. I think your magazine serves an excellent purpose and I will try to interest others in it.

Mrs. F. C.

Yes

Mrs. F. C.—There is good evidence at the present time to show that lard and the natural animal fats are more readily digestible than the specially prepared patented vegetable oils which are now on the market, such as cottonseed oil and corn oil. You will, therefore, be wise to limit your purchase of cooking fats to lard, and forego the very doubtful dietary advantages which are claimed for such products as Mazola, Crisco, Wesson Oil, etc.

Asphalt Hazards

Cleveland, Ohio.

TO THE MEDICAL ADVISORY BOARD:

I work in a badly ventilated basement of a factory with about 30 workers. Fumes from almost boiling tanks of a highly refined asphalt (used in sealing high voltage transformers) hang heavy.

Two compounds are used. Both have an asphalt base, and both have been highly refined. They differ only in that sand has been added to one.

The dust (cardboard) around the packers' benches is very bad, too. Is this harmful?

H. M.

H. M.—Asphalt is very dangerous to health. It has a number of effects. First it affects the skin. It causes pus-containing pimples to appear, especially on the face and hands. Secondly it affects the urinary tract. It causes growths in the bladder, ureter and kidneys. These pimples may become *cancers*. We need not stress the danger of cancer. Asphalt has also an effect on the liver (producing cirrhosis—extensive scarring) and also on the blood (producing polycythemia, or too much blood). To prevent trouble, the following advice is given by industrial physicians:

First: Anoint your hands and face with anhydrous (waterless) lanolin and olive oil before beginning to work and after the bath you take after work.

Second: Drink plenty of water.

Third: Ventilation is absolutely essential. Cancer, cirrhosis of the liver and polycythemia are dangerous diseases and should be prevented.

Fourth: The more refined the oil, the more harm it does. If possible, use the cruder oils.

As far as the sand goes, it causes silicosis, a dread disease of the lungs. Try to get a copy of the April issue of *Health and Hygiene* for a description of this illness. Ventilation is also extremely important here.

Sun as Cure?

Germantown, Pa.

TO THE MEDICAL ADVISORY BOARD:

I would enjoy along with your magazine an article entitled "The Sun and Its Healing Qualities." I think one on sunburn would also be timely and interesting. Of what value is sun cure, and to what extent is it practical? Is it beneficial to T.B. patients, or dangerous?

H. R.

Sometimes

H. R.—Sunlight has been used with greatest effect in tuberculosis of bones and joints. Treatment of tuberculosis by sunlight was used extensively for the first time by a Swiss physician, Rollier. Rollier found that the exposure of a tuberculous joint or bone to graduated doses of sunlight, resulted in a high percentage of healing, particularly in children. Substitutes, such as various types of artificial light from sun lamps, were found to be much less effective than direct exposure to the sun.

The use of sunlight treatment in other forms of tuberculosis—such as tuberculosis of the lungs, has netted discouraging results. Some observers have occasionally noted severe ill effects following exposure to the sun, and it is generally conceded that concentrated sunlight treatment is not among the useful procedures in the treatment of lung tuberculosis.

We have assigned the other subjects you mention to another specialist on our Board for extensive treatment in an article which will appear in the next issue.

H.R. 5549

Section I

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled that this Act shall be known by the title of the Workers' Health Insurance Act.

Section II

The Secretary of Labor is hereby authorized and directed to provide for the immediate establishment of a system of Health Insurance for the purpose of providing full medical and nursing care, including hospitalization, medication, laboratory tests, and treatment as well as all special services. Health Insurance services shall also be extended to include the dependents of the insured, *e.g.*, housewives, children, etc. The Health Insurance funds thus created, shall provide dental care including the replacement of missing teeth to all persons covered by the provisions of this Act and their dependents.

Section III

Such Health Insurance shall be administered by Health Insurance Commissions composed of elected representatives of workers' and farmers' organizations and representatives of the allied medical professional organizations, such as organizations of physicians, dentists, nurses, pharmacists and technicians and all others who come under the provisions of this Act.

The Health Insurance Commissions shall immediately upon the enactment of this Act, utilize all existing health agencies, *i.e.*, hospitals, clinics and offices of private practitioners for the rendering of the above services to the insured and their dependents. The insured shall be given *free choice* as to who shall render treatment, that is, any practitioner of their choosing or any clinic within their district. In either case, the amount of pay of the medical professionals and medical workers, as well as the conditions under which they work shall be determined

## Work for These Two Bills

Section 2

by agreements between the Health Commissions and the medical professions, and medical workers.

The Health Insurance Commissions shall further be empowered to use health insurance funds for the purpose of extending existing facilities through the building of additional medical institutions. They shall also be empowered to make any changes in the form of medical practice necessary to improve the working conditions in the medical professions and to supply all the insured and their dependents with adequate medical care.

Section IV

All money necessary to cover the cost of the health services guaranteed by this Act and the cost of establishing and maintaining the administration of this Act shall be paid by the government of the United States. All such moneys are hereby appropriated out of any funds in the Treasury of the United States, not otherwise appropriated. Further taxation if necessary to provide funds for the purpose of this Act shall be levied on inheritances, gifts, individual and corporation incomes of \$5,000 per year and over. The benefits of this Act shall be extended to all workers, employed or unemployed whether they be industrial, agricultural, domestic, office or professional workers and to farmers without discrimination because of age, sex, race, color, citizenship, religious or political opinion or affiliation.

Section V

This Act shall become effective within 30 days after its passage.

H.R. 2827

Section 1

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that this Act shall be known by the title "The Workers' Unemployment, Old Age, and Social Insurance Act."

The Secretary of Labor is hereby authorized and directed to provide for the immediate establishment of a system of unemployment insurance for the purpose of providing compensation for all workers and farmers above eighteen years of age, unemployed through no fault of their own. Such compensation shall be equal to average local wages, but shall in no case be less than \$10 per week, plus \$3 for each dependent. Workers willing and able to do full-time work but unable to secure full-time employment shall be entitled to receive the difference between their earnings and the average local wages for full-time employment. The minimum compensation guaranteed by this Act shall be increased in conformity with rises in the cost of living. Such unemployment insurance shall be administered and controlled, and the minimum compensation shall be adjusted by workers and farmers under rules and regulations which shall be prescribed by the Secretary of Labor in conformity with the purposes and provisions of this Act through unemployment insurance commissions directly elected by members of workers' and farmers' organizations.

Section 3

The Secretary of Labor is hereby further authorized and directed to provide for the immediate establishment of other forms of social insurance for the purpose of providing compensation for all workers and farmers who are unable to work because of sickness, old age, maternity, industrial injury, or any other disability. Such compensation shall be the same as provided by Section 2 of this Act for unemployment insurance and shall be administered in like manner. Compensation for disability because of maternity shall be paid to women during the period of eight weeks previous and eight weeks following childbirth.

Section 4

All moneys necessary to pay  
(Continued on Page 34)



## Letters to Editor

### "Retardo" Objects—and the Editor Answers

GENTLEMEN:—On page 28 of your magazine, HEALTH AND HYGIENE, dated April, 1935, you stated that *RETARDO* has as its chief constituent Uria-Ortho-Borate.

In your quasi-stupidity you possibly mean this to represent Urea-Ortho-Borate. In any event, your struggles with the English language expose a childish but pitiful ignorance. Before assuming the responsibility of printing pejorative statements it is sometimes more comfortable to acquaint yourself with the facts.

*RETARDO* does not and never did contain Urea-Ortho-Borate. A simple chemical analysis can indicate this to any court in the land. I am sending a copy of this letter to our lawyers.

Personally I am not in favor of protracted legal action unless I see no other course open.

Now, the matter I refer to may have been a mistake. In those circumstances, a retraction occupying equal space and of equal prominence to the objectionable statements might solve this uncomfortable situation.

Please let me hear from you immediately.

Very truly yours,

SHELLEY BRAVERMAN, *President*  
American Clinical Laboratories, Inc.

MY DEAR MR. BRAVERMAN:—Our proofreader did let "uria" get into our April issue in the article exposing *Retardo*. He should have known better, and we have a good mind to feed him *Retardo* for that.

Now, you say: "Retardo does not and never did contain urea-ortho-borate." If *Retardo* did contain urea-ortho-borate, that would mean your product contains a form of boric acid. And of course you will agree with the American Medical Association Bureau of Investigation which says that: "Boric acid has for many years been used as a basis for certain quack 'obesity cures.' Any reduction that may follow their use is due to so upsetting the digestive apparatus that the victim will naturally lose weight."

But the A.M.A. Bureau of Investigation has also had its chemists look into what they call "this nostrum" of *Retardo*. The report states that the chemists found "urea-ortho-borate as the essential ingredient, together with what seems to be a small amount of phenolphthalein."

Really, Mr. Braverman! This, in spite of your letter to us and in spite of your advertisements which state that *Retardo* is guaranteed "not to contain urea or its salts."

It looks like our proofreader against your chemist, Mr. Braver-

man. Under the circumstances, we shall have to assure our readers that we still stand by what we said about *Retardo* in the April issue.

Brooklyn.

For Wo-Chi-Ca

TO THE EDITOR:—HEALTH AND HYGIENE should be welcomed by all workers. They, of all classes of the population, need the kind of information you are giving them. But they need also to help care for themselves and their children under the present system. In New Jersey, a summer camp is being opened for children of unemployed. It is called Camp Wo-Chi-Ca. I am enclosing \$3 which please forward for me to the fund being raised to support that camp. I challenge others of your readers to do likewise.

FRED PIERPONT.

From Fascist Austria

Vienna, Austria.

TO THE EDITOR:—A group of American medical students at the University of Vienna greets with joy the appearance of HEALTH AND HYGIENE and wishes it all the success in the world. . . .

HEALTH AND HYGIENE comes just at the right time. By now the American medical profession, excluding the A.M.A., is seeing the light. We prophecy a surprisingly good reception for the magazine. Once more, best wishes. S. A.

sional workers, and to farmers, without discrimination because of age, sex, race, color, religious or political opinion or affiliation. No worker or farmer shall be disqualified from receiving the compensation guaranteed by this Act because of past participation in strikes, or re-

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