

WHY SYPHILIS AND GONORRHEA?

HEALTH AND HYGIENE

MAY, 1937

15 Cents

THE CONSTIPATION SCARE

Facts About Laxatives

Curing with Fever

Meat in the Diet

Air-Condition the Factories!

The Popular Health Magazine Written by Doctors

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Purely Personal

LAST MONTH WE received a number of letters congratulating us on our second birthday and expressing satisfaction with our anniversary issue. We wish to thank all those who wrote to us, and assure them that we are going ahead with plans for an even better and bigger magazine. Prospects for expansion look good as long as subscriptions keep coming in at an ever increasing rate. The month of March beat all records so far.

MRS. E. S. OF MALDEN, Massachusetts, indicates how **HEALTH AND HYGIENE** may save a reader much more than the price of the subscription. She writes: "I had occasion only yesterday to show the article on *Grove's Laxative Bromo-Quinine* to a person who has been in the habit of taking this stuff. She said she 'liked it' and took it as anyone would take some refreshment. She said she took it two or three times a day, but when she read your article she said, 'no more.'"

HOW MUCH MONEY do you suppose you spend each year for utterly useless drugs and cosmetics? The lump sum would stagger most people if they knew.

IT APPEARS THAT others than subscribers are benefited indirectly by the information in **HEALTH AND HYGIENE**. A firm of analytical and consulting chemists in Detroit recently wrote for a set of back issues and stated: "It may interest you to know that we are consulting chemists for one of the largest chain stores in this country and that we have found **HEALTH AND HYGIENE** of great benefit to us in determining the merit of various items which are handled by this chain." Thus, the customers of the chain store referred to are also aided in getting better goods for their money.

WE SOMETIMES WONDER if the readers of *Purely Personal* get tired of these bits from letters that are so complimentary. Well, here's one in a different vein. N. H., a dentist in New York City, writes:

"I had almost decided to discontinue reading **HEALTH AND HYGIENE**. Reason, the men responsible for its contents are

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Editors: **CARL MALMBERG and JOHN STUART**
Business Manager: **SADIE FRANKLIN**

**HEALTH
AND HYGIENE**

Magazine of the People's Health Education League

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Editorial:

May Day and Child Health

A Deliberate Bad Choice

OUT of almost three hundred available days in the year they had to choose May 1!

We refer to the completely inept selection of May 1 as "National Child Health Day" by the Children's Bureau of the United States Department of Labor, working in conjunction with the associated welfare groups and agencies throughout the country. A bulletin issued by the Child Welfare League of America announces that May 1 has been officially designated by Congress and the President as "Child Health Day," that a nationwide "demonstration for the children of America" will be held on that day, and that the slogan that will mark the day's observance is "Health Protection for Every Child."

Shortly after noon on May 1 the representatives of the numerous welfare agencies will sit down to a "great luncheon" at \$2.98 a head in the Grand Ball Room of New York's Waldorf-Astoria Hotel. As the bulletin points out, such a bargain-basement price is most unusual for an affair that is at once so swank and lofty in purpose. After lunch the problems of national child health will be discussed.

This is all very well, but we must remind our friends in the social welfare agencies that May 1 will witness a demonstration of another sort. While a few hundred are gathered around the tables at the Waldorf, *hundreds of thousands* of American working people will be marching in the streets outside. May Day is *their* day, and has been ever since it originated in this country in 1886. The choice of May 1 as "Child Health Day" is an obvious attempt to divert attention from labor's May Day, and as such it

shows a profound ignorance of the way in which child health can best be improved.

For how can the slogan "Health Protection for Every Child" be realized, if not by achieving a decent and adequate standard of living for every family in America? And what better indication is there of the will to achieve such a standard of living than the solid ranks of labor's marches on May Day?

Two Ways of Looking at it

THE two demonstrations that will take place on May Day illustrates two exactly opposite points of view on the problems of social welfare. According to one point of view a small group of well-intentioned people get together over a groaning banquet table and discuss what can be done for the "under-privileged." Committees are appointed, jobs are handed out, many beautiful statistics are gathered, and in the end a few temporary benefits seep through to those for whom all the fuss is about. Practically speaking, it is a case of the proverbial crumbs that fall from the table.

According to the other point of view, the man who has been getting the dirty end of the stick joins with his fellows in a struggle to secure for himself what he knows is rightfully his. In other words he comes demanding, not begging. This is the philosophy behind May Day, and it is one that will mean more to the health of America's children than the best efforts of all the welfare agencies combined.

It would seem proper that the editors of a health magazine should attend any gathering that is held to discuss child health. However, on May Day we are going to be marching.

How much truth is there in the idea that constipation is usually a serious condition requiring drastic treatment? Read this article before you buy a laxative.

The Constipation Scare

AS FAR back as medical history is recorded vegetable drugs have been used to induce catharsis (excessive movement of the bowels). Even the medicine-man who treated mainly with incantations and the beating of drums used cathartics. It is easy to see why he did this. He wanted to give the patient tangible evidence of the effectiveness of the treatment, evidence which the patient could observe for himself. And so today the layman uses cathartics whenever possible, because unlike a great many other drugs used in medicine cathartics produce an effect which a person who lacks the training and instruments of the physician can observe for himself.

It is also true that the ancient man saw in cathartics an obvious means of ridding his body of the demons which were supposed to cause disease; today the layman substitutes intestinal poisons for the mystic concept of demons and rids his body of these by taking a "physic."

A tradition has developed that in all lines of illness the flushing of the bowels is desirable, and that in any event if the bowels are not emptied with clock-like regularity disease will result. Naturopaths and other cultists have enlarged on this idea to the extent of stating that normally there should be a bowel movement following each meal, and that if one does not occur a "natural" cathartic should be taken.

That Loggy Feeling

Perhaps even more objectionable, because it affects a larger number of people, is the insidious advertising of patent medicine manufacturers and commercial drug houses. They have been able to make vast sums of money because it seems so reasonable to assume that the contents of the intestines are poisonous and can cause symptoms and disease. Missing a single bowel movement, they claim, will cause a "loggy feeling." A mass of misinformation about the intestinal tract and its contents has been served to the public by means of newspapers and radio, and it is not unusual to hear a

frightening diatribe upon the consequences of constipation in conjunction with a Beethoven symphony rendered by a famous orchestra. As a result millions of dollars are spent annually on cathartics which are not needed. While the actual figure cannot be calculated it is likely that more money is spent on cathartics than on certain important foodstuffs.

Cathartics Usually Not Needed

If it were true that a cathartic could do good in some cases and harm in none this widespread use would not be so serious. It would simply mean that millions of dollars were wasted in inducing bowel movements which were not required. But this is not the case. The indiscriminate use of cathartics has very distinct dangers. Constant use leads to a habit which is sometimes almost as difficult to break as a narcotic habit. Very ill persons are often weakened rather than helped by cathartics, and in many instances individuals who might otherwise have been treated successfully have been killed. All this is a result of injudicious treatment of a condition which is never serious, and which never demands instantaneous or heroic measures. There is always time to consider whether a cathartic is really necessary, for occasional or even chronic constipation rarely causes the minor and major body disturbances attributed to it.

When a normal individual consumes food it takes from eighteen to forty-eight hours for the processes of digestion to take place and for the food to leave the body. This period varies with the individual and with the type of food taken, as well as with a number of other factors. During this period the food is digested, the useful constituents absorbed, and the rest propelled down the intestinal canal towards the rectum. When it reaches the lowest portions of the intestinal tract the water in the mass is absorbed and the rest is ready for expulsion as a well-formed solid mass. This mass consists mainly of the indigestible residues of the food,

secretions of the intestine, and bacteria. It contains no substances which are poisonous to the body when present in the lower portion of the intestines. Bacteria are normally present in large numbers in the intestines; the intestine is never without them and they are harmless there unless they happen to be of specific types such as the typhoid, cholera, or dysentery bacteria. In the latter instances they cause specific diseases and not vague symptoms such as loggy feeling or lack of ambition. The bacteria normally in the intestine cause neither disease nor symptoms; in fact, some have believed that they serve a useful function.

Inasmuch as the fecal mass in the lower portion of the intestine contains little or no food, bacteria do not grow very vigorously and do not produce poisons. Thus, simple stagnation of the intestinal contents cannot in itself produce very serious consequences. As a matter of fact, most people who begin to suffer vague ailments when they miss their morning bowel movement do so because they have been taught to believe that such symptoms are inevitable. Far more serious than constipation itself is the fact that so many people are always conscious of the activity of their bowels, that they waste a great deal of thought on it, and that they take drugs which may produce effects far more serious than the condition which they are intending to correct.

The Bogey of "Auto-Intoxication"

A great deal has been made of "auto-intoxication." Many physicians have long ago given up the notion that such a condition actually exists, but the advertisers of cathartics cherish the thought dearly because it is such a potent selling argument. Auto-intoxication is a condition of poisoning of the body which is supposed to result from stagnation of the intestinal contents, the growth of bacteria, and the absorption of poisonous products from the bacteria.

It is interesting to consider just what a cathartic would do for such a condition if it really did exist. In intestinal stagnation or constipation the contents of the bowel remain so long that almost all the water is absorbed and the mass sometimes becomes stony hard. From such a hard mass the intestine would not be able to absorb any poison, because fluid is essential for the process of absorption. Anyone who has ever used a cathartic knows that it liquifies the fecal mass. Such liquification *would make it possible* for the intestines to absorb

poisons from the intestinal contents if any poisons were present.

Ordinarily the fecal mass contains very little food for bacteria to live and multiply on, and such activity is necessary for the production of bacterial toxins or poisons. Cathartics increase intestinal motility to such an extent that undigested and unabsorbed food, which normally would never reach the lower part of the intestines, is brought there. In other words, the food is hurried through the intestinal tract at too fast a rate. Thus, the cathartic brings food for the bacteria to live on. It is extremely fortunate for those who take cathartics for their auto-intoxication and "loggy feeling," that auto-intoxication does not exist. If it did, their form of treatment might make them considerably worse.

Cathartics Sometimes Fatal

Cathartics do not produce bowel movements by occult means; they usually contain something that irritates the bowel. The irritation stimulates it to greater activity, hastens the passage of the intestinal contents, prevents the absorption of food and water, and results in their loss to the body. All of these effects are of significance.

Usually the irritation is very mild, and an individual with a healthy bowel need not worry about it. However, large doses, or sometimes small doses in individuals with diseased intestinal tracts, can cause serious intestinal irritation and damage. The presence of cramps following the use of cathartics is an indication of their irritant action. Ordinarily these cramps are not very severe, but they may be quite disturbing to one who is ill, who is suffering sufficiently without this added symptom, and who requires as much rest as possible.

The amount of food and water lost through the action of purgatives is of no importance to a normal healthy person who takes a cathartic only occasionally. However, a person who is ill usually eats little, and what he does eat he should be allowed to utilize completely. In many disease conditions the fluid in the body must be conserved, and when cathartics carry away the much needed water the results may be serious. It is because cathartics carry away food and water from the body before they can be truly utilized that such preparations as *Crazy Crystals* and *Kruschen Salts* are used in weight reducing. These products are simply cathartics.

Individuals who are ill require all the rest they can get. Cathartics often rob them of

much needed repose by keeping them awake a greater part of the night with cramps and frequent trips to the toilet.

In some disease conditions the use of cathartics is fatal. In acute appendicitis, an appendix which might be removed by a rather simple operation may be ruptured by the rather violent movements of the intestine induced by the cathartic. When an inflamed appendix ruptures peritonitis (inflammation of the lining of the abdomen) sets in, and this often results in death. In a condition known as intestinal obstruction cathartics also spell death. The unfortunate habit of taking cathartics at the first sign of abdominal pain has caused many needless deaths in both of these conditions. One should play safe and never take cathartics in the presence of abdominal pain or persistent vomiting.

Rules to be Observed

In spite of all that has been said above, cathartics form a useful and dependable group of drugs, and they are neither harmful nor dangerous when used with a certain amount of discretion. Most individuals have learned something about their own intestinal idiosyncrasies and what to do for them. They also discover a cathartic which appears to be reliable and does not cause cramps. However, it is not possible to list the conditions for which cathartics may be taken safely, because this would imply a capacity for diagnosis beyond the scope of the layman. It may be said that the layman should never use a cathartic for any condition which he has never experienced before. He should never take a cathartic when he feels that he will call a physician in any event, for in such cases it is better to allow the physician to prescribe the cathartic.

When a cathartic is used it should be taken in the morning rather than at night, so that sleep will not be disturbed. Cathartics should be taken with, or followed by, a glass of water, so that the water lost will be compensated for. In many instances the liberal use of water with a cathartic hastens its action. Cathartics work more rapidly if taken on an empty stomach.

Under no circumstances should a cathartic be taken regularly unless it has been determined by a physician that changes in hygiene and diet cannot correct the condition, and that drugs must be used.

In choosing a cathartic there is a wide variety to be considered. Cathartics may be divided into two main groups: (1) those which stimulate the bowel by distending it with material



If you had X-Ray Eyes

you'd never again take a harsh, quick-acting cathartic!

Be sure the laxative you take is correctly timed

You don't need to be a professor of physiology to figure this out. When you take a harsh, quick-acting cathartic that races through your alimentary tract in a couple of hours, you're shocking your system. No wonder its violent action leaves you weak and exhausted.

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Drastic purgative action should be employed only upon the advice of a doctor.

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When we say that Ex-Lax is a correctly timed laxative, this is what we mean: Ex-Lax takes from 6 to 8 hours to accomplish its purpose. You take one or two of the tablets when you go to bed. You sleep through the night... *undisturbed!* In the morning, Ex-Lax takes effect. And the effects are thorough and complete, yet so gentle and mild you hardly know you've taken a laxative.

No stomach pains. No nausea. No "upset" feeling. No embarrassment during the day. And you haven't had to put up with some bitter remedy. Ex-Lax tastes just like delicious chocolate.

Good for all ages

Ex-Lax is equally good for grown-ups and children... for every member of the family. It is used by more people than any other laxative in the whole world. The next time you need a laxative ask your druggist for a box of Ex-Lax. *And refuse to accept a substitute.* Ex-Lax costs only 10c—unless you want the big family size, and that's a quarter.

When Nature forgets—remember

EX-LAX
THE ORIGINAL CHOCOLATED LAXATIVE

Typical of the pseudo science in cathartic advertising. Ex-Lax is neither mild nor non-irritant.

that it cannot absorb, and (2) those which stimulate it by irritating it. The first group includes agar-agar, bran, mineral oil, and a variety of seeds which swell up in the intestinal tract. It also includes the indigestible cellulose in vegetables, the so-called roughage of foods. This group may be more properly considered as laxatives, since their effect is milder than the ef-

fects of the second group which comprises the true cathartics. The second group consists of a wide collection of drugs. Some of these are vegetable cathartics, that is, they are vegetable substances such as cascara, senna, and aloes, which contain an active drug. Either the crude vegetable product or an extract of the active ingredient can be used with the same effect. Castor oil is the most important oil belonging to this group. There is a large group of cathartic salts of which Epsom salts is perhaps the best known. Also in this group are the cathartics including phenolphthalein (found in many patent medicine cathartics, especially those in the form of candy) and calomel, a mercury compound which should never be used except in conjunction with another cathartic, and preferably never without the advice of a physician, since in certain conditions calomel can induce poisoning.

Don't Buy Ballyhoo

There is, then, a long list of substances which are fairly dependable cathartics. Used wisely they can do no harm and may even be beneficial; used indiscriminately they can cause irreparable harm. There are so many dependable cathartics of known composition that it is not necessary to use advertised mixtures or take cathartics in special forms such as chocolate tablets or chewing gum. All advertised cathartics contain ingredients which can be purchased more economically by their correct pharmaceutical names. Remember, when you buy advertised cathartics you are paying heavily for the ballyhoo necessary to sell the product.

Mineral Spring Waters

Bottled mineral waters have no advantage except for the manufacturer. They very rarely come from natural springs, but are made up by dissolving cathartic salts in water, bottled and labeled with an impressive label, and sold at an exorbitant price. Thus it is necessary to pay for the bottle, the process of bottling, the transportation, the label, and the advertising, when powdered salts dissolved in a glass of water would produce the same effect. Even cathartic waters coming from natural springs have no great medicinal advantages over the ordinary salts.

Mineral oil is sold under a number of names ranging from "Extra Special Pure White Russian Mineral or Paraffin Oil" to simply "Mineral Oil U.S.P." There is no essential differ-

ence between the most expensive and the least expensive. Usually they come from the same source, almost never from Russia. Always purchase the cheapest mineral oil that is marked U.S.P. (United States Pharmacopea). The U.S.P. mark insures that the mineral oil is of medicinal quality.

Suppositories and Enemas

The layman should not forget that the suppository and the enema also offer an effective means of emptying the bowel, and that these methods do not present many of the dangers associated with cathartics that are taken by mouth. The suppository produces its action by swelling and distending the lowest portion of the intestine. It does not work in obstinate cases of constipation, but it is frequently an effective mild means of achieving a bowel movement.

The enema has a distinct advantage over the drugs taken by mouth in that it works almost immediately instead of in from three to twelve hours. There are a number of formulas for making up the fluid to be used in an enema, but salt water is as effective as any. One teaspoonful of table salt may be used for every two glasses of warm water. About six glasses of water are usually sufficient for effective evacuation. The fluid should be introduced slowly in small quantities. If this is done over a period of about fifteen minutes the entire bagful (about one quart) can be introduced into the intestine without causing great discomfort. Used in this manner the enema empties the bowel very effectively.

In conclusion it cannot be overemphasized that regular daily bowel movements, although desirable, are not as important to health and happiness as is generally believed. Bowel movements can be missed without any serious or even minor effects. Poisoning by the stagnation of the intestinal contents is an exceedingly rare occurrence and is not the grave danger to American civilization that the advertisers of cathartics would have us believe. On the other hand the habitual reliance on a cathartic or an enema for a bowel movement is bound to result in utter dependence on them, and eventually in the irrevocable loss of the ability of the bowel to empty itself normally and without assistance. Again it should be stressed that cathartics should never be taken for pain in the stomach or abdomen, and that the choice and details of administration of cathartics may best be left to the judgment of a physician.

What happens to a man who loses his job? Often nervousness and anxiety give rise to physical symptoms. An article telling how the situation may be met.

Unemployment Breeds Neuroses

NO marriage is wholly satisfactory, no child is perfect, and no parent ideal, but as long as the economic situation is secure and the work regular, the different members of the family manage to digest the usual annoyances that are bound to arise when any group of people live together. The husband with a steady job knows that he is keeping his end up, that he is doing what a husband and father should do. He has self respect and is respected by the rest of the family. Of course, now and then his wife gets upset about something, or one of the older boys gets a little fresh, but he doesn't let it get under his skin for more than a few moments. He knows that even if his wife is upset she really cares about him, and that all boys have to fight the old man a little—it was that way when he was a boy, and didn't mean that the members of the family had no use for each other. Anyhow, after a few hours' work with the other fellows most such irritations wear off, if, indeed, they last that long.

When a Man Goes Haywire

But it is different when men begin to lose jobs and can't seem to find others. The man who hasn't lost his job begins to feel he may be the next one. An uneasy feeling appears, and though he keeps trying to throw it off it comes right back. He doesn't sleep so well, then little things at home get under his skin. He finds that he's snapping at every one in the family, and soon they are snapping back. Then he actually does lose his job. For a while he kids himself that he can find another in a few weeks, but sooner or later he begins to know that the chances are pretty slim. If he hangs around the house he finds that his wife's sharp tongue is being used more than he thought possible. In the old days he used to laugh it off or maybe wisecrack back. Now just as

he's about to wisecrack he stops; how can he say anything? he asks himself. Maybe it's his own fault he's out of work. He is a sort of failure—he isn't bringing home the bacon any more. He begins to think of little mistakes he made years ago. A few months ago if he had thought of them he would have shrugged his shoulders and passed them off with, "All in the day's work," "Everyone makes a few mistakes," or "Did the best I could." Now he thinks, "How could I have done that?" "Nothing but a fool," "Never did have any sense," "Really always a failure." Or perhaps instead of blaming himself he blames his wife or the children; he gets ugly and bursts out with things he never would have said in the old days. The children can't be managed. While he had his self confidence and self respect they had confidence and respect for him. Now it's all changed; he feels useless, and sometimes they act as if they too thought he was useless. At other times they lean over backwards to act the other way, and that just seems to rub it in worse.

Physical Symptoms of Economic Worry

He finds he is keeping his thoughts more to himself, and pretty lucky, too, considering what some of them are. Then there are a lot of feelings he hates to admit he has at all. For instance, the time the oldest boy made a fresh remark he had nearly hauled off and fatted him; and once when he was poking up the fire and his wife had grumbled that he "might have sense enough to open the draft before he fixed the fire," he had felt for a moment like beating her over the head with the poker he had in his hand. He hadn't answered her but had felt dizzy, with the blood pounding in his head, and he had gone out for a walk. Even when he came back he hadn't been able to eat any supper. He doesn't have a thought like that

again, but for some reason or other his stomach doesn't act right and he has a lot of headaches. Moreover, his sleep is bothered by long, endless dreams that never seem to get anywhere, or else by short, terrifying ones from which he wakes up with his mouth dry, his hands wringing wet, and his heart pounding.

What has happened to a man in this situation? Why does he get angry at those he cares for most? Why does he have headaches, stomach trouble, insomnia? What makes him lost his interest in sex, as so often happens? Why does he blame himself far more than he needs to? We all grant that actual worry over food, clothing, and education of children is enough to make anyone upset, but it is not enough to cause the details of this individual's illness; it doesn't explain why he blames himself so much, or why he blames his wife and children. The economic trouble seems to set in motion a train of events that, once it is started, keeps going of its own momentum. In fact, it happens not infrequently that once a serious nervous condition has been precipitated by economic trouble, the illness remains after the economic trouble has disappeared.

The Nervous Personality

Last month we discussed the development of the human personality or character. We stated that the driving force behind all human activity is instinctive, and showed how the instincts have to be "tamed," or directed into the proper paths. We pointed out that no one can ever permit himself perfectly free expression of his instincts, that direct instinctual outlets are limited, and that the surplus instinctual energy has to be sublimated, that is, turned into some form of socially constructive activity. If this process is successful, that is, if the individual finds enough direct outlets for his instinctual drives, and satisfactory sublimations for the rest, he remains healthy; otherwise nervous illness results. Of all the many possible sublimations the most important one is work.

The role of fear and anxiety in bringing about repression and sublimation was not discussed. It is, however, an important factor—the fear of the loss of the parent's love, which to the child means security, and the fear of punishment are among the forces that make the child renounce many direct instinctual outlets. We noted in last month's article that repression of an instinctive drive without any adequate sub-

limination being offered to take its place results in the instinctual energy finding its outlet in nervous illnesses, anxiety, and crime.

This process of education in the control and sublimation of instincts is, in our society, rarely or never wholly successful, with the result that most individuals are neurotic to a certain extent, or, if they have no actual neurotic symptoms, at least exhibit certain neurotic character traits. In spite of this partial failure, under ordinary circumstances these nervous characteristics cause relatively little trouble. The instincts are easily gratified; a fair amount of direct satisfaction is enough to relieve the tension even if complete satisfaction is not obtained. Complete satisfaction is denied partly by the circumstances of life, partly by the inhibiting, unreasonable fears which remain from faulty childhood training. But the surplus energy is adequately cared for by sublimation.

The Role of Fear

Now let us return to our man who has lost his job. Can we explain his symptoms on the basis of what we have learned of personality development? What has happened to his opportunities for sublimation? He lost the most important of them when he lost his job. What happens to the instinctual energy which used to find its outlet in work? It has no outlet.

Is he subject to real fear? Yes.

He can see that the time is not remote when his family may not have enough to eat, if that time has not already arrived. He can see his dependents getting sick from lack of proper food, from ever more cramped and unhealthful living quarters, from lack of warm clothes in cold weather. This haunting, ever present fear has a direct effect on his instinctual drives. We recall that in childhood, fear was one of the things which forced the abandonment of direct instinctual outlets, either sexual or aggressive, and encouraged the sublimation of the instinctual energy. Although most people do not recognize the reason for it, since it is hidden in the unconscious part of the mind, everyone knows that in a state of constant anxiety about the conditions of life sexual interest and activity fall off. The reason this happens is that the present fear impresses the subject as a repetition of the earlier fear in childhood which forced him to give up certain instinctual activities. Therefore, his direct instinctual activity is cut down, but the drive remains the



The sense of inferiority and futile bitterness so often felt by the unemployed man is aggravated when he shuns contact with others.

same since it arises from the living processes going on in the body. When this happened during childhood the energy went into sublimation, but now this path is also removed by the economic conditions.

Basis of Neurotic Behavior

What is the result of this cutting off of instinctual activity due to fear and the loss of the usual sublimatory outlets?

The result is a tremendous piling up of instinctual energy or tension. This energy is often likened to a stream of water flowing from an inexhaustible spring; if you put a dam across the stream, the water backs up behind it and as soon as it gets high enough it begins to overflow the banks, making all kinds of trouble. The trouble in this case is the nervousness; the energy is dissipated in neurotic symptoms. Every time our jobless man gets angry, now that he has no way to work it off, something has to happen to the restrained instinctual energy and it finds its outlet in stomach trouble,

headaches, and insomnia. If we extend the analogy with the dammed-up stream further, we could say that if the water overflowed the banks in one or two spots long enough, it would, before very long, wash a new channel so that perhaps if the dam were removed, the stream might not even then return to the previous channel. This is what happens with so many neuroses of this kind. After prolonged unemployment the energy may have been going in neurotic channels so long that it keeps right on even when unemployment comes to an end, and the result may be a nervous invalid. Fortunately, severe cases of this kind are not too common. However, they are common enough, and once they have occurred it may take considerable psychiatric help before the person can overcome his neurotic symptoms and return to his former state of health.

We have considered the psychological effects of unemployment on the adult worker, but there are others who are also seriously affected. What happens to the wife of such an unem-

ployed man? What happens to children who are reared in such a home? The wife is also oppressed by the same insecurity and the consequent fear and anxiety. She has enough to do trying to make an inadequate relief allowance feed the family, but in addition to this she has an irritable, nervous husband. Often her life and health are equally disturbed. The effect of this on young children is naturally very bad. Irritable, nervous parents are not usually good parents. They make mountains out of molehills. Their patience and tempers are short. Their judgment is often poor because of their preoccupation with their nervous symptoms and anxieties. The child grows up in an atmosphere of constant anxiety and tension. It is obvious what a harmful effect this has on character development.

In addition, of course, to the bad fortune of having nervous parents, the older child particularly is faced with real deficiencies in the other things every child needs—food, education, amusement, and the chance to look forward with confidence towards finding a good job when he is ready. He is necessarily blocked in developing normal sublimations, for the opportunities are lacking. The psychological results of all this on children are often not seen so much at the time it happens, as some years later when the older youth breaks down with nervous or mental illness, or becomes delinquent.

The Right to Security

There are some obvious lessons to be learned from the foregoing. We have found that the psychological difficulties of the unemployed individual and his family are due to two factors—first, the anxiety caused by lack of security and the real dangers from the privations he and his family suffer; second, the piling up of instinctual energy because of the loss of the normal opportunities for sublimation.

The attack on the problem should therefore be directed at these two factors. How can we increase the worker's security? When he is employed this depends on his relation to his job. Has he earned a right to his job with years of labor, or is his job the property of his employer who can fire him at will? If in years of work he earns a right to his job—he earns security and need fear less. One of the ideas behind the present sit-down strikes is that the job—the place at the bench—does not belong exclusively to the employer, but rather that the worker has earned an ownership interest in it, and that

the employer, as one link in the chain of the present productive process, has a responsibility not only to his stockholders but to the worker as well. Naturally, this right of the worker to his job will be of practical importance only if he is well enough organized with his fellows to enforce it.

Unemployment insurance is another factor which increases the worker's real security. Such insurance, however, should be adequate for his and his family's needs, and payments should start at the beginning of the period of unemployment as a right and not as a kind of charity, grudgingly extended after the worker has been economically and emotionally crushed by the exhaustion of his meager reserves.

What a Man Can Do

In order to attack the second factor—the loss of adequate sublimations—it is important for the unemployed person to find things to do, things in which he can take a real satisfaction, and which are socially constructive undertakings—in other words, adequate sublimations to take the place of those he lost with his job. Thus, work in the trade union movement, or in the organization of the unemployed, is an outlet for some of his energy, and is at the same time a socially useful kind of activity. It gives him social contacts, helps to dispel the feeling of isolation which is so often present, and is work for his own interest as well as for the interests of others in the same predicament. The feeling of inferiority which so many unemployed men develop is unjustified, but as long as they keep off by themselves and shun contact with their fellows, the feelings of futile bitterness and inferiority and the nervous symptoms increase. On the other hand, when men can get busy with their fellows they can then see conditions in better perspective, can learn to place responsibility where it belongs, and can engage in action. Such activity is constructive for the personality of the individual and also for the society in which he lives. By participation in trade union activity the man who has lost his job not only helps himself, but also helps to change the conditions responsible for his plight.

We have noted earlier that an individual who becomes nervously ill due to unemployment may need psychiatric treatment, but it is obvious that the solution of this problem—nervousness due to unemployment—lies not in treating the sick individual, but in treating the sick society which is responsible for the economic situation.

Venereal diseases can be prevented by the use of proper precautions. Practical information such as this is needed to reduce the toll of these diseases.

Why Syphilis and Gonorrhea?

IN the Spanish-American war a plague called yellow fever took more lives than did all the hazards of battle, and now, less than forty years later, a whole generation of doctors has grown up in this country who have never seen an instance of the disease. It is altogether likely that forty years from now diphtheria, a scourge against which the doctors of today wage daily battle, will likewise have been completely conquered. The same death-blow could be dealt venereal disease if the same methods were allowed to be applied unhindered. It is not the fault of medicine that in this country there are half a million new cases of syphilis every year, and two million cases of gonorrhea. Medicine offers for venereal diseases what it can for very few others: practically certain means of prevention, diagnosis, and cure. They continue to flourish in spite of this unique power over them because there are factors which hinder or render futile at every turn, the application of the knowledge concerning them.

Insidiousness of Puritanism

The two principal venereal diseases are very different from each other in their history. Gonorrhea we have always had with us, and it has been handed down in an unbroken chain from the very dawn of history. Many ancient legislative codes, including the Mosaic, laid down specific rules for its control. But syphilis, for the vast majority of the races of mankind, is a relatively new acquisition. Along with tobacco and the potato, it is a gift of the New World to the Old.

Let us dispose first of that now happily diminishing race of reformers who airily propose "complete continence" as the answer to the problem of venereal disease. No one denies that if there were no sexual intercourse before marriage, and complete faithfulness afterwards, the number of infections would be

greatly reduced. However, even then it would not be completely abolished, for innocent infections form a considerable percentage of the total. There is a case on record in which a large proportion of children who were playing a kissing game acquired syphilis in one afternoon from a somewhat older participant who had the sores of the secondary eruption in his mouth. It is also true that if there were no houses there would be no arson, and that if there were no automobiles there would be no automobile accidents. But there are houses, and there are automobiles, and there is the sexual urge. It is true that one of Christ's disciples said, wisely enough, "Tis better to marry than to burn." But the choice of marriage is not possible in many instances. Many of our young people, through no fault of their own, are not free to marry, and they rightly refuse to burn. They did not create the economic and social conditions in which they are compelled to live, and they cannot be blamed if they refuse to pay worship to the extent of committing emotional suicide. Let us recognize the advocates of continence for the foolish King Canutes they are. They must be disposed of because in the past they have made it extremely difficult to institute or administer proper measures of public control over the venereal infections. As long as people accept their theory that venereal disease is not a misfortune but a punishment for sin, it is impossible to secure the public funds necessary to wipe out the scourge. The advocates of the punishment theory are the intellectual descendants of Cotton Mather, who said of syphilis, "It is a punishment which the just judgment of God has preserved for our later ages." This was the same Cotton Mather who drowned helpless old women for "witchcraft." There are modern Cotton Mathers, who, in their anxiety to have their punishment fit the supposed crime, overlook the fact that

among women over half of venereal infections are acquired in marriage, and that in this country thousands of babies are born syphilitic every year.

Prostitution and Disease

Let us frankly recognize the existence of another potent factor in the maintenance and spread of venereal disease, a factor which does not now lend itself to easy eradication. It is undeniable that a large proportion of public prostitutes suffer from gonorrhea or syphilis, or both, and that according to the very complete Norwegian statistics, about 75 per cent of all venereal infections are acquired from this source. Reports from the U.S.S.R. show that with the practical abolition of prostitution, there has been a sharp drop in the incidence of the diseases of which it is the chief cause. But in this country we are far from the abolition of prostitution; in fact, it seems that the factors which serve to recruit new prostitutes have of late been more, rather than less, evident. Various European nations have long been deluding themselves that they are mitigating the evil effects of the prostitute by various measures of registration, segregation, and medical control. All these measures have been outstanding failures. They have served only to give a false sense of security to the patrons. Registration has succeeded only in permanently degrading the prostitute and shutting her off completely from any hope of rehabilitation. The creation of "red-light" districts has served only to give an air of respectability to the bordellos that flourish outside of them. Medical examination reaches only a small percentage of the women involved, and then only in a slipshod and perfunctory way. The fact that a prostitute is free from venereal disease today is no guarantee that she will be free from it tomorrow. So long as we have joblessness and insecurity, the gonococcus (gonorrhea germ) and the spirocheta pallida (syphilis germ) will have a permanent base of operations.

Prevention Is Possible

Having admitted these difficulties, let us nevertheless see what can be done. There is much that can be done. Here and now, with the proper application of the knowledge we have, probably 75 per cent or more of the cases of gonorrhea and syphilis could be avoided. The first of our potent means to this end is publicity. The public must be permitted to

learn what these diseases are, what damage they do, and how they can be prevented. Records indicate that only a small proportion of syphilitics apply for treatment during the early stage of the disease, when cure is most easily effected. Of what value is the cure for syphilis if patients do not appear for it until the time when its greatest effectiveness is past? Yet, only last year in New York State, a great radio chain refused to allow the Surgeon-General of the State to mention the word "syphilis" over the air. We shall describe below a system of personal prevention of the venereal diseases both during and after exposure. It is a system that has been perfected by many workers over years of patient and careful research, application, and gathering of statistics. Its value is nil, however, unless it is permitted to reach those who may use it, and hitherto dissemination of such information has been incredibly difficult. There is no healthier sign than the recent tendency among our newspapers and magazines to permit information about the social diseases to go forth.

More Clinics Needed

The second requirement for social control is that adequate means for diagnosis and treatment be placed within the reach of all. Much has been accomplished in this respect in recent years, but not enough. In the last fifteen years the number of venereal disease clinics, either free or charging nominal fees, has risen from about one hundred to about one thousand. The trouble is that these clinics are neither sufficient in number nor wisely distributed geographically. Thirty per cent of infections occur in small towns and rural areas, and in these there are no clinics. As a result the patients are left to shift for themselves, or to seek aid from the family doctor, whom, due to the stigma attached to the diseases, they are usually ashamed to face. Moreover, clinic hours are designed to suit everybody but the patient. The clinics are usually conducted in the morning or the afternoon, when the man or woman with a job cannot attend them. Therefore, the patient is often left with the choice of foregoing treatment or seeking it from a private physician. The cost of a complete course of treatment for syphilis in the hands of a private physician runs into much more money than the average person can afford. As a result, the disease is often permitted to run its course, the patient meanwhile promising himself that he will attend to it as

soon as he happens simultaneously to have the time and the money.

Before modern methods were perfected, mercury was the drug chiefly used in the treatment of syphilis, and it was said that all who spent "an hour with Venus" ran the risk of spending "years with Mercury." Today the risk of infection is much less, for the proverbial ounce of prevention is available to those who are willing and sober enough to use it.

Personal Methods of Prevention

This prevention consists essentially of the use of the rubber sheath, or condom, during intercourse, or the chemical prophylactics afterwards, or, better still, both of these precautions combined. Who invented the condom is not known—it is probably the product of long refinement from a crude beginning. In 1564, Fallopius, an Italian physician, invented a shield of linen cloth to prevent syphilis, and his report on its use is enthusiastic: "I tried the experiment on eleven hundred men, and I call immortal God to witness that not one of them was infected." Casanova, the "great lover" of the eighteenth century, wrote of "protective sheaths" and "assurance caps." Mr. Carl Warren, in his excellent book on the prevention of venereal diseases (*On Your Guard*) tells of a Mrs. Philips, of eighteenth century London, who offered to supply ship-captains, gentlemen going abroad, and apothecaries, with "machines, commonly called implements of safety, which secure the health of her customers." She filled orders from all parts of Europe. Her wares and others up until the time of the discovery of vulcanization of rubber, in 1840, were made of the appendixes of sheep and other animals. Since that time, great advances have been made in their construction.

If properly applied, and if not broken in use, the condom is a thoroughly effective guarantee against gonorrhea, and, combined with other measures, almost equally effective against syphilis. This is because the germ of gonorrhea cannot remain alive on the outer skin of the body—it must come in contact with a mucous membrane such as the lining of the urinary canal. This canal is entirely protected by the condom. The germ of syphilis, however, can infect those areas of the skin which the condom does not cover. How the skin of the scrotum, and other exposed areas can be protected will be discussed under the chemical prophylactics.

There are several rules that should be observed in the use of the condom: (1) *Buy them at reputable drug stores.* While this does not constitute an absolute guarantee that the article will be perfect, it is usually so. Condoms are obtainable from gas-station attendants, taxi drivers, barber shops, newsstands, and many other questionable sources. It has been found that a large proportion of such merchandise is defective. Among the condoms that are reported to be of good quality by Consumers Union of the United States are *Trojans* (No. 20, White), *Sheik*, *Ramses*, and *XXX* *Fourex*. (2) *Test the condom before you use it.* The presence of minute breaks that are not readily visible may make the condom useless. Any small imperfection may serve as the beginning of a break during use, and may provide an opening for the entrance of disease germs. Pus laden with germs can pass through a microscopic opening. The best way to test a condom before use is to distend it with cigarette smoke and watch for the escape of any smoke through minute openings. (3) *If possible, after it is on, use a lubricant on the outside.* An originally perfect condom on which a lubricant (any surgical jelly, obtainable at a drug store) has been applied, is practically assured against breaking. (4) *Remove it carefully.* If, on removing, the outside is permitted to touch the skin or the urethral opening, the condom may have been used in vain. (5) *Put it on early.* A certain proportion of infections which occur after a condom has been used, have been traced to "preliminary skirmishing," when the skin was permitted to come in contact with the infected area.

Calomel for Syphilis

For those who wish to take still further precautions a very effective means of preventing disease exists in the form of the chemical prophylactic. For hundreds of years, physicians have recommended the application of various lotions and ointments to the parts after sexual exposure. This method was put on a scientific basis in 1905 by Elie Metchnikoff, working in the Pasteur Institute in Paris. He first discovered that of all the lower animals, only the apes could be infected with syphilis. (No animal but man is capable of contracting gonorrhea.) This provided him with experimental animals on which he could work. He applied the pus from a syphilitic sore to the ear of an ape, and shortly afterwards cut off the ear. The animal

did not acquire the disease. This showed that the spread of the germs through the body was not instantaneous, and that there was time for their destruction. Metchnikoff then inoculated many animals with the disease, and then, after various waiting periods, applied test solutions. Most of them failed entirely, some failed most of the time, and only one was consistently efficient. This was calomel ointment, 33-1/3 per cent, in a lanolin base. He discovered, moreover, that the time allowed to elapse after the exposure of the body to the germ was all-important. Within an hour, efficiency was practically 100 per cent, but it declined rapidly thereafter, until after eight hours there was failure in about 5 per cent of the cases tried.

Prophylactic Tubes

These findings of Metchnikoff's received an extensive clinical tryout during the World War, and it was found that his faith in them was fully justified. Since that time they have gained wide recognition and use in civil life, so that now almost three million tubes of calomel ointment are sold annually to the civil population in this country. They are manufactured in the convenient form of small collapsible tubes with a nozzle for application into the urinary canal. It is important to note here that there is no proof that calomel ointment, useful as it is against syphilis, is at all efficient against the germ of gonorrhoea. There are various solutions which are effective against the germs of gonorrhoea, chief of which are the silver salts, argyrol, protargol, and neosilvol. A number of prophylactic tubes contain, in addition to the calomel ointment, some other substance that is supposed to act as a guarantee against gonorrhoea. However, since the substances that are a guarantee against gonorrhoea cannot be added to calomel ointments in sufficient concentrations to be effective, the prophylactic tubes should not be regarded as adequate protection against gonorrhoea. It is true, however, that 33-1/3 per cent calomel ointment is effective as protection against syphilis. Since 33-1/3 per cent calomel ointment can be supplied by any druggist, there is no need to buy the more expensive trade-marked prophylactics.

For those who want complete protection against both syphilis and gonorrhoea, the proper procedure, to be followed in addition to the use of a condom, is as follows: (1) Urinate immediately after intercourse. This removes from the canal any germs that may have entered.

(2) Wash the entire pubic region and all the parts that have been exposed with soap and water. In addition to his other contributions to the prevention of syphilis, Metchnikoff found that ordinary soap if lathered on for several minutes, is in itself a very efficient destroyer of the syphilis germ. (3) Inject into the urinary canal with an *Asepto* syringe (1/2 ounce capacity) about a teaspoonful of the silver solution (protargol, 1/2 per cent; argyrol, 5 per cent; or neosilvol, 10 per cent), and hold it in by pressure on the tip of the penis for four or five minutes by the clock. Then permit it to run out. (4) Anoint all the exposed parts with calomel ointment, inserting a pinch of it as far as possible into the canal. Leave the ointment on for several hours, or overnight if convenient. In order to protect the clothing, cover the anointed parts with a paper or cloth towel. Later, remove the ointment with soap and water. Following this routine, the chances of infection will vary from zero to an indefinite percentage, depending on the correctness of the technique and the promptness of the treatment. Immediate application of the above measures are desirable, for effectiveness diminishes rapidly after exposure. However, even though several hours are allowed to elapse the above precautions should be taken, for even then they may protect.

Advice to Women

For women, the problem of prevention is much more complicated, due to the multiplicity of possible areas of infection and the difficulty of administering self-treatment. When a woman suspects that she has exposed herself to venereal infection, it is probably best that she go immediately to the nearest doctor and tell him frankly what the situation is. The doctor will usually be able to apply the prophylaxis with a degree of efficiency approximating that in the male.

What we have said here is an outline of the best means now available for the eradication of the twin scourges of gonorrhoea and syphilis. At best it will not solve the problem completely. There are always those who are careless, lazy, callous, or wantonly cruel, who in spite of our best efforts will continue to acquire and spread the diseases. However, the dissemination of information such as that here given will aid considerably in reducing the appalling amount of suffering and economic waste now caused by these two preventable diseases.

Summer vacation should mean more to children than a chance to play in crowded city streets. A concerted drive for more outdoor camps is needed.

Camping Claims Your Child

ARE you one of the "fortunate" *one per cent* who can afford to send their children to a private camp? Maybe you are one of the "less fortunate" *five per cent* who send their children to an "institutional" camp. Or perhaps you are one of the "unfortunate" parents who neither have the means nor the opportunity to give their children the benefits of a vacation in a summer camp.

This series of articles on the organized summer camp movement will attempt to explain the camping situation in our country, with the view

of aiding the fight for more free camps and of helping parents who are looking for the solution to their problems concerning camps and camping.

Charles W. Eliot, former President of Harvard University, said, "The organized summer camp is the most important step in education which America has given the world." The ideal organized summer camp is a place away from the city, equipped with adequate facilities and staffed with the proper personnel, where the child spends his vacation (summer months)

Facts You Should Know About Camping*

1. A PRIVATE CAMP is one which is set up for the purpose of offering the child a camping experience as well as to make a profit for the owner. Private camps are usually conducted over the summer months for periods of from eight to ten weeks.

2. AN ORGANIZATION CAMP is one which is set up for the purpose of offering a camping experience to children from underprivileged and low income groups, the fee being based upon the paying ability of the clients. The organization camps are usually run for two week periods and are not supposed to make a profit. Money earned over and above expenses goes back to the camp rather than to individual owners.

3. There are about 5,500 organized children's camps in the United States.

4. Out of this number there are about 3,000 organization camps and 2,500 private camps.

5. How many children go to camp?

There are approximately 30,000,000 children of school age in this country. Of these, 2,000,000 (or 6 per cent) attended organized summer camps in 1936.

1,500,000 (or 5 per cent) attended the institutional camps.

300,000 (or 1 per cent) attended the private camps.

26,200,000 (or 82 per cent) attended no camp.

* For the purpose of these articles "camping" refers to "children's camps" and excludes such camps as adult camps, motor tourist camps, outdoor club camps, and commercial camps. Figures and statistics have been gathered by the Camp Research Bureau, Camping World Magazine.

under competent leadership and guidance. Camping can become a strong influential factor in the physical and psychological development of our youth—a device for broadening the experiences and increasing the educational opportunities of the children of America.

First Camps for Wealthy

Organized camping started in this country in 1861 and continued as a private venture, catering at first to the wealthy children. The children who "camped" in the latter part of the nineteenth century "were sent to some spot in the woodlands to enjoy a vacation away from school and their parents." Many leaders of American life recognized the values of camping and in the early part of the twentieth century we find the "institutional" and "charitable" camps appearing on the scene. Here we find the Boy Scouts, the Girl Scouts, the "Y's," and other organizations establishing camps. These camps were designed to take care of the "very underprivileged" and simply gave them a taste of how a summer vacation should be spent. The numbers of children falling in this classification were so overwhelming that the usual two-month period in camp dwindled to seven-day and fourteen-day "shifts."

In the late twenties of this century the third and most important development in organized camping came from California, in the form of community or municipal camps. These camps, at the outset, were organized to accommodate

whole families, and in their course of development they established camps exclusively for children. At the present time, a few legislators and educational administrators are coming to the realization that every child should have the opportunity to spend the summer months at a camp. This is a community responsibility and steps should be taken to establish such camps throughout the country. The recent development of government and municipal camps should be actively furthered.

Camping and Education

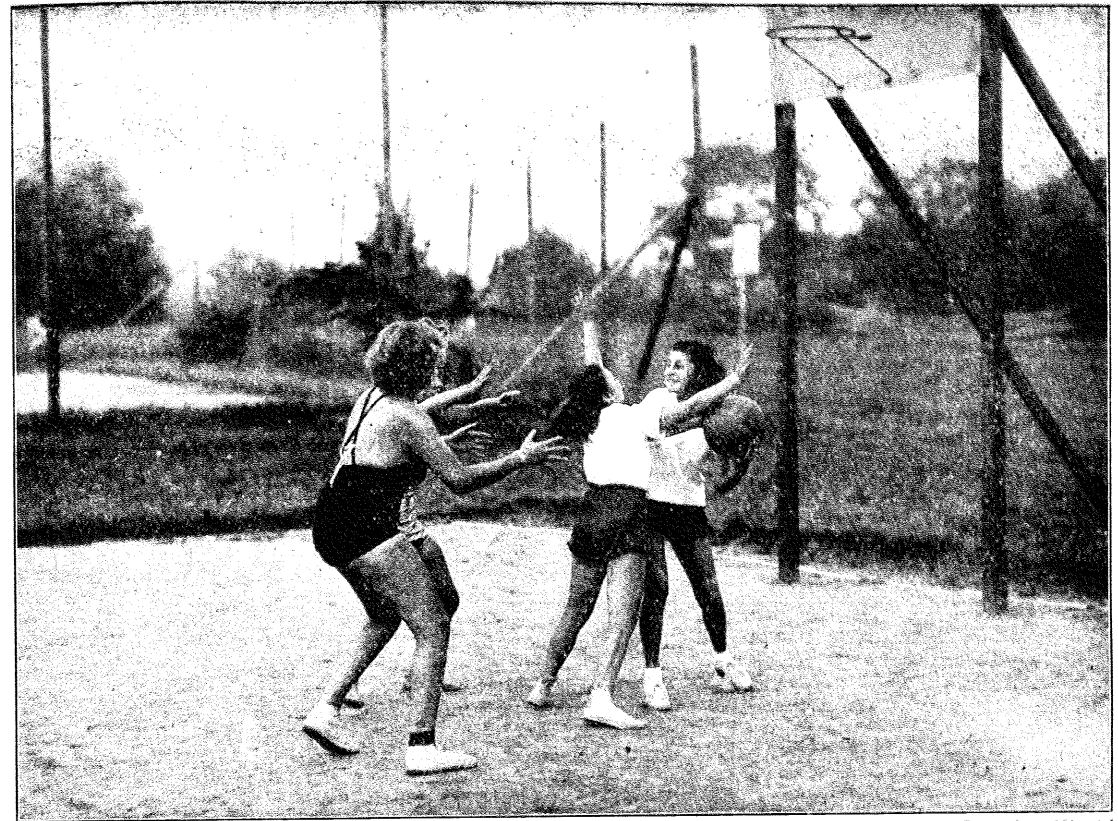
Our children need the benefits of the summer camp! The thought behind the camping movement is simply this: just as education was originally limited to those few who were fortunate in obtaining a private schooling, so is summer camping limited to the private and the few institutional camps. Since institutional camps charge a fee—although a small one—the fact remains that our children go to camp *when and if their parents can afford to pay.* Just as education has been broadened by a public school system and embraces all children, so must the camping movement be widened to a similar scope.

The importance of the camp as an educational influence may be determined by an examination of the time spent in the school as compared to the time spent in the summer camp. In a private camp conducted for a period of two months the child spends as many hours as

"Lucky kids." Today camping opportunities such as these youngsters are enjoying do not exist for the great majority of children.



Camping World



Camping World

Recreation and games play a large part in the summer camp. Such pastimes, when properly supervised, can be a potent educational force.

he does during the other ten months in school. In the school the child spends approximately 170 teaching days of five hours each, giving a total of 850 hours for the ten-month period. In a private camp the child spends 60 days with about fourteen waking hours in each day, giving a total of 840 hours. Since these 840 hours are continuous and in the same environment education can progress at its best. In a good camp there ought to be proper guidance, expert leadership, an atmosphere of freedom, joy, and self-expression. How many existing camps possess these characteristics? Few, to be sure, have all of them.

A Right, Not a Privilege

One step towards the solution of this camping problem—that of providing every child with a chance to spend his summer at a camp—lies in the establishment of more and better camps, and particularly the community-owned camps. Such camps should be freely available to all children, just as a public school education is available. We must get away from the present "charity camp" in which a small pro-

portion of children from the slums are favored with a couple of weeks in the country. Every child should go to camp as his right and not as a special privilege. The summer vacation should mean more to a child than the opportunity to dodge trucks while playing in crowded streets, or to sleep on a fire escape or roof during hot summer nights. Children need the fresh air, the sunshine, the rural recreational opportunities that a good camp provides. The less their parents earn, the more they need these things. Every American child should have the right to spend part of his summer vacation at a camp in the country. What are you doing in your community to aid in the campaign to make summer camps available to all children?

* * *

In our next issue we shall take up in greater detail the various types of camps in the country, describe their advantages and disadvantages, and list several camps with their rates, accommodations, etc. Send in your questions and your problems about camping. Our Camp Educational Advisory Bureau will be glad to answer or discuss your queries.

AIR-CONDITION THE FACTORIES!

Extreme temperatures in poorly ventilated factories exact heavy penalties on workers' health. Engineers have shown that air conditioned factories are possible.

ONE of the major health problems of our time is that of illness arising out of the kind of work a person is engaged in. More and more, people are becoming aware of the tremendous importance of industrial environment as a factor in the causation of illness in the working section of the population. They are learning, too, that occupational diseases could be almost entirely prevented through the application of existing knowledge of scientific chemistry, engineering, and medicine. Yet, new reports of mass poisoning of workers by silica, lead, radium, benzol, carbon monoxide and many other harmful substances keep appearing in the daily press. The problem of industrial disease is growing rapidly, and little has been done to put into effect a thoroughgoing preventive program which, experts agree, could completely wipe out this type of illness.

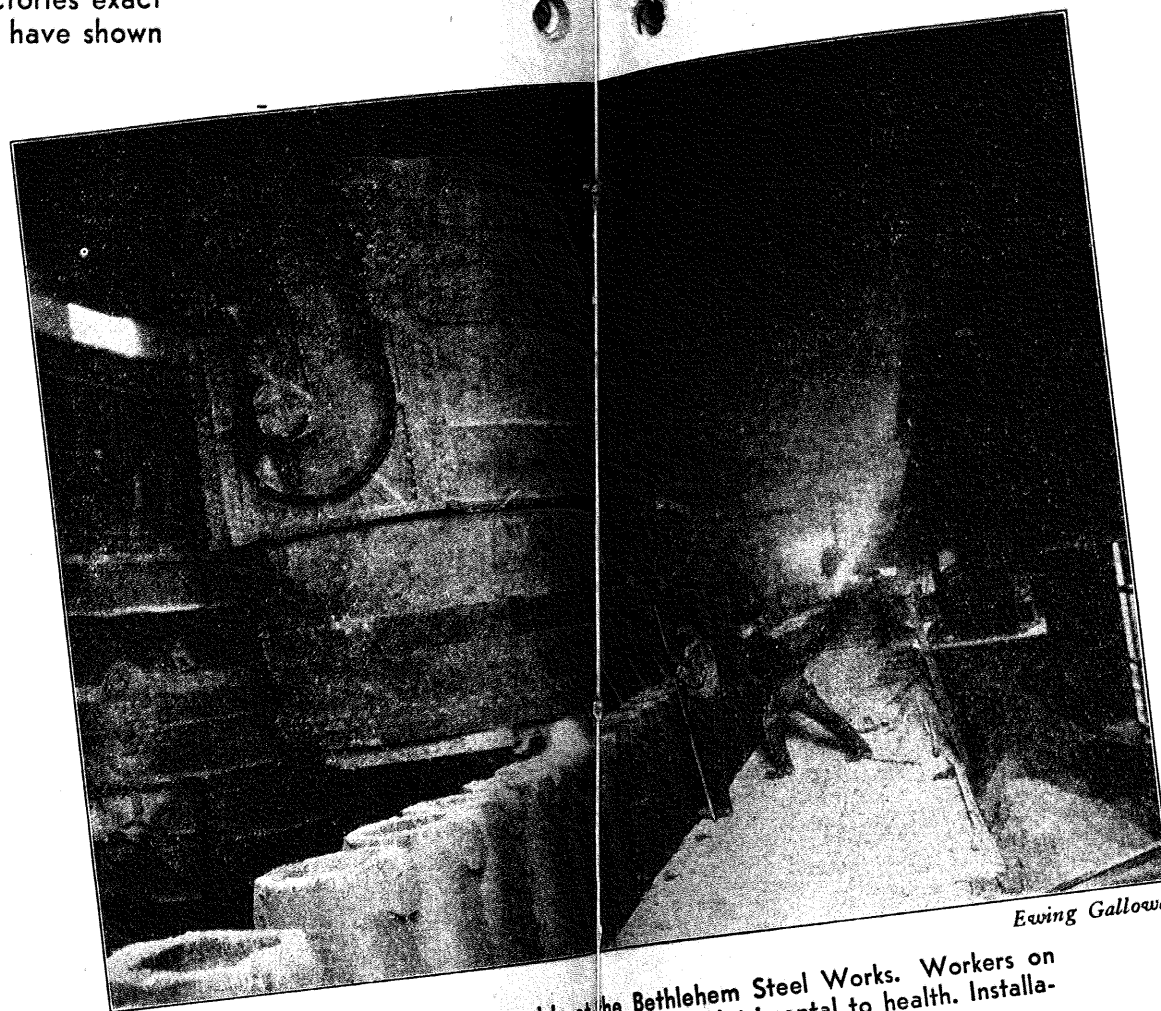
Illness in industry can be divided roughly into three categories: first, accidents, second, specific poisoning by dust, fumes, and chemicals, and, lastly, general or non-specific illnesses which cannot be ascribed to any specific poison but rather to an unhealthful working environment. In this last category fall the ailments which result from poor ventilation, heating, lighting, and sanitary conditions of the plant.

Worker Had No Recourse

Industrial accidents increased enormously with the introduction of machinery. Only a few decades ago maimed workers were considered as much a part of the industrial set-up as the machinery itself. The worker was expected to risk the possibility of being crippled when he took the job. If he lost an arm or a leg the employer shook his head and chalked it up to carelessness. The worker had no recourse, even when it was obvious that the accident arose not out of carelessness but out of the lack of safeguards around dangerously exposed parts of the machine. In the attempt to achieve increased productivity the machines were often

kept in poor repair, and this greatly contributed to the high accident rate.

These appalling conditions continued for years before the trade unions and progressive people fought for and won some protection for the worker. Workmen's Compensation Acts were passed in most states, and though inadequate for the most part, they do help to maintain a measure of care against accidents as well as to provide partial compensation to the injured worker. An important factor in gaining recognition of the workmen's compensation



Pouring molten steel into ingot moulds at the Bethlehem Steel Works. Workers on jobs such as this are subjected to extreme heat that is detrimental to health. Installation of proper safety devices would greatly reduce the risk.

Ewing Galloway

principle was the fact that accidents and the injuries resulting from them had a direct and obvious cause and effect relationship. A falling object strikes a worker who suffers a fractured skull. The relationship is a clear one and calls for immediate correction by obvious safety methods. This relationship is not so clear in the second category of industrial illness, namely, poisoning.

Slow Poisoning

Since in most instances the poisoning occurs very slowly and over a long period of time, the worker may have no other symptoms than a general feeling of being under par, and it is

therefore difficult for the worker to relate his illness to his working environment. When one considers that in silicosis the worker may not feel any of the symptoms of the disease for fifteen or more years after his first exposure to the silica dust, despite the fact that an x-ray of the lungs shows them to be decidedly affected long before this period, one can understand the difficulty he experiences in linking his illness with the slow-poisoning dust he breathes at work. Patent medicine manufacturers have capitalized upon this "run-down feeling" and have sold at a neat profit multitudes of worthless nostrums which are magically supposed to clear the "system of accumulated poisons." The fact that poor health is often based upon continuous exposure to industrial poisons is scrupulously avoided in the advertisements for such products.

Prevention of industrial poisoning has progressed at a much slower pace than accident prevention, but there is an increasing recognition by many trade unions of the insidious nature of industrial poisoning. Efforts are being made to force the employer to recognize his responsibility in the prevention of poisoning just as he has been made to accept responsibility for the prevention of accidents.

Some states have included certain types of industrial poisoning in the list of compensable diseases but, as yet these states are few and the lists are far from being all-inclusive.

Pneumonia and Chilling

The third category of industrial illness is associated with the physical conditions of the workroom. If a worker gets pneumonia his family and friends often attribute the onset of the illness to some single exposure to rainy or cold weather. The man spends eight or more hours a day at sweating labor in a damp and drafty workroom, leaves the shop without a change of clothes because there are no dressing rooms in the shop, and is chilled to the bone when he hits the cold air. Repeating this day in and day out slowly undermines his health, but this fact is almost always overlooked in the search for the cause of the pneumonia.

The human body is adaptable to a wide range of temperature and humidity, but continuous work under adverse conditions of cold

and heat can bring about increased susceptibility to a number of diseases.

The few industries in which extreme cold is encountered on the job (artificial ice-making, work in refrigerating plants and packing houses, and so forth) are not dangerous to health so much because of the cold itself as because of the sudden changes in temperature which the worker experiences at various periods of the work day. In order to work comfortably in the cold, the worker has to dress warmly. Leaving the ice-box or refrigerated room, he enters a warmer room where he begins to perspire. Before his body can adjust itself to this change he is back in the ice-room again and the sudden cold produces a chilling effect on the sweating body. Constant repetition of this undermines the health of the worker and brings on frequent colds, nose and throat affections, all diseases to which workers in the cold industries have been shown to be especially susceptible.

Outdoor Workers Affected

Outdoor workers such as stevedores, laborers, steel workers, bargemen, street vendors, and roofers, are similarly affected by frequent changes in temperature. A wealth of statistical data has been compiled to show that the rate of pneumonia among these workers varies with the amount of cold weather they have to endure. An interesting survey was made of the health of the men on the Chicago police force. These men are picked men and have to undergo a stringent medical examination before they are accepted on the force. A pneumonia death rate among these policemen considerably higher than normal can be traced directly to exposure to the elements.

The United States Department of Labor has published statistics which show that steel workers employed outdoors have a death rate from pneumonia three times as high as steel workers employed indoors. These facts are reflected in the high pneumonia death rates of such steel cities as Pittsburgh, Braddock, and East Youngstown.

Heat Prostration

The harmful effects of hot weather are well known. Last summer the newspapers were full of reports of deaths from heat-exhaustion during the heat wave that gripped the Middle West. In that area alone 4,000 deaths directly attributed to heat were recorded. Most of these deaths were among old people and those work-

ing in the hot trades. Boiler stokers, foundry men, steel workers, miners, and others were carried out on stretchers either writhing with hot-mill cramps or prostrated with heat stroke. But more important than the acute effects of excessive heat are the consequences of working while exposed to high temperature for months or years on end.

Heat combined with moisture is especially trying to workers in laundries, cotton mills, canneries, and similar trades. Irritations of the nose, throat, and eyes, dizziness and headaches, as well as a very high tuberculosis rate are the common findings according to a New York State Department of Labor survey.

Tuberculosis and Textiles

In cotton spinning and weaving processes an atmosphere of moist heat is encountered. The poorly paid workers in the cotton textile industry suffer from a high pneumonia, influenza, and tuberculosis rate. When we compare these high rates with the rates of wool weavers who do similar work under *normal* temperatures and humidities, we find that lung affections are two to three times as prevalent among cotton as among wool weavers. The United States Department of Labor illustrates this susceptibility of cotton workers to tuberculosis with figures gathered in the textile city of Fall River, Massachusetts, where the death rate from this disease among the women workers is 169 per cent above that of the general population.

Other workers showing similar susceptibility to lung affections include miners, brass foundry furnace men, glass workers, brick, tile and pottery kiln oven workers, brewers, workers in canneries and sugar refineries, and gas workers. All these are exposed to heat and abrupt temperature changes.

Excessive heat is definitely known to increase the poisonous action of harmful dusts and fumes because the worker is forced to breathe more deeply when he exerts himself in a hot atmosphere. It is obvious that control of air temperature is of especially great importance in those industries where poisonous dusts and fumes are encountered.

Statistics show, too, that accidents increase directly as the air temperature rises. In the Morro Velho mine in Brazil twenty fatal accidents were reported in sixteen months prior to the installation of a cooling apparatus, and

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One of man's most common foods is also the most severely condemned. The truth about the effects of meat on the body in health and disease.

Meat in the Diet

THERE are almost as many systems of dieting as there are kinds of foods. In almost every country there can be found road-to-health diet fads which claim thousands of devotees. The United States, however, takes the palm for the number of food faddists running loose within its borders. We don't mean the Southern share-croppers or textile workers who subsist on hog fat, molasses, and cheap starchy foods, and who end their days with the agony of pellagra. A below-subsistence standard of living makes a mockery of the word diet for these people. Neither do we mean the relief client who receives "scientific" demonstrations on how a relief check can be used to make flesh and bones hang together by skillful juggling of some milk, a few potatoes, and a brown egg.

The food faddists appear in other guises. Their propaganda appears in such pseudo-scientific books as those by Dr. Hay, between the covers of respectable home magazines such as *Harpers Bazaar*, in motion picture sheets that tell how Marlene Graubo lost twenty pounds and gained new health on the Hollywood Eighteen Day diet, and in "vital" food restaurants where pro-soya bread is dunked in potassium broth beneath oil paintings of the self-styled "Viennese health expert," Bengamin Gayelord Hauser.

It is astonishing how the fear of meat affects a considerable number of otherwise intelligent people. Strictly speaking there are few vegetarians, for in almost every vegetarian diet you will find eggs, milk, butter, and cheese—all products of animals.

Such a vegetarian diet (including eggs and dairy products) has much to commend it. It will furnish every vitamin, mineral, and food necessary for good health. It will enable one to work and play as efficiently as the person who includes meat in his diet. Anyone who is fond of such a vegetarian diet can continue to enjoy it without fearing loss of efficiency. Some people will even be benefited by the substitution

of such a diet for the mixed diet that they are accustomed to eating. This article is addressed, however, to those people who follow the vegetarian way because of certain fears and scruples about meat.

The history of man, his anatomical make up, the physiological and nutritional requirements of healthful living, and the experience of medical practice teach us that meat is a health giving, desirable food.

Early Man Was a Meat-Eater

The vegetarians can be answered on four different grounds: the history of man, his anatomical make up, the physiological and nutritional requirements of healthful living, and the experience of medical practice teach us that meat is a health giving, desirable food.

Primitive man was a hunter and fisherman for thousands of years before he became a herdsman. It is only in comparatively recent times that he learned to till the soil and raise cereals and vegetables. Darwin pointed out that the grains and fruits preserved in the Swiss Lake dwellings of neolithic times—a mere yesterday in the history of man—are so small and woody that they could not have been of much use as foods, and that the people then were still dependent on the results of their hunting and fishing.

Many vegetarians say that man was never designed to eat meat and that he should adopt the eating habits of the primates (monkeys and apes) from which he evolved and who live on fruit and nuts. Apparently these vegetarians are not aware that monkeys and apes add a good deal of proteins to their diet by eating such things as grubs, insects, lizards, eggs, and young birds. According to an eminent biologist, "some of the primates are strictly vegetarians, a few merely carnivorous, and the majority, like man, have adopted a mixed dietary."

Historically, therefore, man belongs to the class of omnivora—animals living on both vege-

table and animal food. A study of the comparative anatomy of the digestive tract also proves this.

The large intestine or colon of a meat eating animal is generally short as compared with the small intestine, and its walls are simply and stoutly built. The eaters of grass and grain (herbivora) such as birds, cows, and sheep must have large reservoirs in which their food can be broken down and fermented for days. Accordingly, in herbivora the stomach is either large and many-chambered or else the animal is supplied with a big, baggy large intestine with many pockets. In some of the birds, the colon is twice as long as the small intestine. That man is designed for an omnivorous (meat and vegetable) diet is shown by the nature and proportions of his digestive tract. The stomach is small and simple, and therefore of the carnivorous or omnivorous type. The small intestine is so short as compared with the body length that there can be no question about its being of the carnivorous type. In the herbivora the bowel (small and large intestines) is from twenty-five to one hundred times the body length, while in man it is only from four to five times the length of the body.

Meat Protein Most Valuable

The science of nutrition is about twenty-five years old—that is, in its infancy. But it has already taught us that meat is a food rich in valuable proteins. The main functions of proteins in the body are to repair worn out structures and to provide new tissues for the growing organism. Proteins also supply calories for energy but man derives most of his calories from fats and carbohydrate foods. The quality or biological value of the various kinds of proteins varies widely. The proteins of meat, milk, and eggs have a higher value than the proteins found in vegetable foods. The proteins of meat are surpassed in nutritive quality only by those of milk; they are equalled by the proteins of eggs. To replace meat entirely with milk and eggs would fulfil our nutritional requirements for proteins, but this is rarely possible. There are few adults who could be depended upon to drink enough milk fully to supply all the needed protein. Besides, milk and eggs do not have the pleasure value of meat. Meat fills the stomach and gives most people a greater sense of satisfaction than any other food. Meat also stimulates the appetite and digestion.

Enjoyment of eating should be one of the satisfactions that man requires for a full life. Denial and repression of the pleasure of eating is being exalted in fascist countries. The people are ordered to accept low wages and not ask for meats and fats, in order that "race" integrity can be preserved and more armaments manufactured. Meatless Sundays are dictated in Germany while Goering orders more and larger uniforms. In the United States, some dieticians in the employ of hospital clinics and welfare organizations are taking their cue from Wall Street and composing very "scientific" diets in which meat plays a negligible role. Working people and the unemployed are being told that meat is a luxury which can be replaced to a considerable extent by cheaper foods that are "just as good." It is the absence of meat and liver in the diets of Southern workers that is responsible for an incidence of about 250,000 cases of pellagra.

Experiment with Exclusive Meat Diet

We say that meat is a valuable food desirable for maintenance and growth, that it makes of eating more than the mechanical mastication of food, and that it cannot be supplanted by any other food.

The science and practice of medicine in the past half century have shown how baseless are the contentions of some individuals that meat is harmful. Meat in wholesome condition does not cause any disease known to medical science. Meat infected with germs or parasites will cause food poisoning, but so will any other infected food. Non-pasteurized, or raw infected milk is responsible for more deaths than perhaps any other food, and it has caused many epidemics of sore throat and diphtheria. It has also caused thousands of cases of tuberculosis. We denounce infected milk but not wholesome milk.

Meat does not cause high blood pressure, hardening of the arteries, diseases of the kidneys, or gout. We do not know the cause of these ailments. The physician forbids meat only when the kidneys are so severely damaged that they cannot excrete the waste products derived from meat. The physician forbids meat in gout because in this condition the body is unable to assimilate certain proteins. Meat may be forbidden because a person is allergic or sensitive to certain meats or meat extracts, but these are

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The lymph glands are reservoirs in which poisons due to infection are kept "out of circulation." An explanation of the disease known as "scrofula."

Swollen Glands

LITTLE Martha Smith had been sick for about a week with a painful swelling of the right side of her neck. Mrs. Smith was sure it was mumps, but since Martha's fever was quite high, Doctor Green was called in. Upon questioning, the doctor found that Martha had had lumps in her neck for some time. They had never bothered her much, but in the past week a larger swelling had appeared and become red and painful. Martha had been sickly for the past year, had had a poor appetite, and was not gaining weight. Because of all these things Doctor Green knew that little Martha would now be sick for many weeks—that the swollen glands would open and that pus would drain from them for months, leaving a disfiguring scar. Martha had tuberculous glands of the neck. A lack of proper food, little sunlight, and poor milk had prepared the way for the tuberculosis which had settled in the glands of the neck.

Another Circulatory System

What are these glands and what causes them to swell? Doctors are often confronted with patients who have noticed a small nut-like swelling under the skin in the region of the neck. Everyone has heard of the blood and its circulation through the arteries, veins, and capillaries, but few lay persons know of another circulatory system in the body, the lymphatic system. Lymph is a colorless fluid found in and around every microscopic cell throughout the body. In this lymphatic fluid are found waste products of the cells—dead parts of the cells themselves, foreign particles which may have entered the body, dead or live germs, toxic substances produced by germs, cancer cells, and so on. All these are collected from the cells by a system of vessels—the lymph vessels. Along the course of these vessels, at the points where the wastes are removed from the lymph fluid, are pea-sized glands known as the lymph glands, or lymph nodes. Under normal conditions these glands are soft. They

are usually found in groups and are as a rule located around the veins and arteries. Lymph glands must not be confused with the endocrine glands (the thyroid, pituitary, adrenals, and the sex glands), which have no connection with the lymphatic system. The endocrines secrete substances called hormones which serve different functions in the body development. As a matter of fact, the lymph glands are, strictly speaking, not glands at all. They are referred to as glands but they are really "nodes." A gland is an organ which secretes, and the lymph nodes or "glands" do not secrete.

Like the rest of the organs in the body, each group of lymph glands has a specific location. Anatomists and physiologists have made careful studies of the direction of the lymph flow in the various parts of the body. This is important, for with a knowledge of the location of various lymph glands and the parts of the body they serve, a doctor is enabled to trace an infection to its source and thus be in a better position to combat it. Some of us who have had an infected finger may recall having had pain in the armpit. This is the region where most of the lymph glands draining the hands are located. The poisons from the infected finger travel along the lymph vessels through the arm and reach the glands of the armpit, where they are removed from the lymph fluid. If the infection is not too virulent and the patient is strong enough to combat it, the swelling subsides, leaving the gland harder and larger than it was originally. If the infection is not checked, the gland gets larger, pus forms in it, and an abscess develops.

Many Causes of Enlarged Glands

Situated in the neck are lymph glands into which lymph vessels from every part of the head drain. Waste products of any kind, such as toxins, germs, or cancer cells, are brought to these glands. In proportion to its size, the head has many more different organs than any other part of the body, and for this reason enlarged

glands of the neck are quite common. The most frequent cause is infection of the nose, throat, tonsils, or larynx (voice box). Inflammation in any of these areas may cause enlargement of the lymph glands of the neck. If the inflammatory process is mild or controlled by the body's defense mechanism, there will probably only be soreness and stiffness in the neck. If the infection is more severe the glands may swell and go on to form an abscess which will require lancing.

Other common causes of swollen glands of the neck are gums infected with pyorrhea, or cavities of the teeth. Infections of the face, scalp, or ear canal are also among the causes. Diphtheria and scarlet fever are often complicated by swollen glands of the neck. This is due to the tonsillitis associated with these diseases. In German measles the lymph glands of many parts of the body swell, and this is one of the chief ways of recognizing the disease. A common but frequently overlooked cause of swollen glands of the neck among children is the head louse. The itching scalp is scratched and numerous small skin infections result. The waste products of these infections drain into the lymph stream and affect the glands.

Glandular fever is a condition about which little is known. The germ of the disease is still a mystery and there is no antitoxin or vaccine to prevent or cure it. The ailment usually attacks infants and children, and the initial symptoms are those of a cold in the throat. Later there is fever and sore throat followed by an enlargement of the glands of the neck. This condition is especially troublesome because of the high fever which refuses to respond to treatment for a long time. Complications, however, are not frequent, and most cases finally get well.

A Disease of the Poor

Tuberculosis, the cure of which is largely a matter of economics, is an important factor of enlarged glands. Tuberculosis of the glands of the neck is a disease of the poor. An acute inflammation of one of the neck glands can occur in anyone having an attack of tonsillitis, even under the best of medical attention, but tuberculous glands almost always affect the poor child who lives in stuffy, damp, unheated quarters, who gets insufficient food and sunlight, and who comes in frequent contact with tuberculosis germs, either from persons who have

the disease or from the milk of tuberculous cows. The course of the disease is a slow, chronic one. The child is pale, sickly, loses weight, and occasionally has an afternoon temperature. The swollen glands in the neck keep getting larger. They often undergo degeneration, and a chronically draining abscess forms. Very often a secondary infection invades the glands after a cold or sore throat, and an acute abscess forms. Tuberculous glands always drain for a long time, and in healing leave disfiguring scars. The presence of tuberculous glands generally means tuberculosis infection elsewhere in the body. A careful check-up will often reveal tuberculous infection in the tonsils, bones, or lungs.

Cancer of any part of the head will cause enlarged neck glands. The most common site of these growths are the tongue, lips, tonsils, or skin of the cheek. To complete the list of causes of enlarged glands of the neck, mention should be made of certain very serious diseases of the blood, such as leukemia, and diseases peculiar to the lymphatic system itself such as lymphosarcoma and Hodgkin's disease.

Finding the Cause

The obvious question is how is one to know which of all these causes is responsible in any particular case. The solution lies quite naturally in having a complete medical examination. The history of repeated attacks of sore throat or ear infection, the presence of dental cavities or pyorrhea, may solve the mystery. Finding lice of the scalp will often clear up the diagnosis. In children the use of the tuberculin skin test (Mantoux test) may be of great value in a case where swollen glands have been present for a long time in a pale, sickly child. A young child who has enlarged neck glands and who shows a positive tuberculin test requires very careful watching because in such instances tuberculosis is a possibility.

The presence of a previously innocent-looking sore of the face and hard glands of the neck in an adult may require surgical removal of one of these glands for microscopic search for cancer cells. Cancer of the tongue, lip, face, and mouth is quite readily curable if diagnosed early.

Finally, there are many of us who as children may have been victims of one of the offending causes and are now left with souvenirs of those days—a hard little gland of the neck which

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The paralysis of the brain due to syphilis can now be checked by artificial fever. New developments promise good results in other diseases as well.

Curing With Fever

THE recent international conference held in New York on the treatment of a number of diseases by artificially induced fever calls attention to the progress made with this interesting form of treatment.

During the 1880's, a number of isolated reports began to appear in medical literature telling of cases of paresis (partial paralysis of the brain due to syphilis) which did not end in death as most cases did, but which seemed to improve after the patient had recovered from some other infection. One doctor reported a case of paresis which improved after the patient got over an attack of erysipelas. Another reported a paretic who improved after he recovered from malaria, and so on with many acute infectious diseases.

At that time, the cause of paresis was unknown. It was known to be a mental disease which most often attacked men in the forties.

The patient would usually develop ideas of grandeur, imagine himself a very great person, and become extremely boastful and silly. He would begin to suffer severe loss of memory, become childish in his actions, and go steadily downhill until he had to be cared for like an infant. He would then develop convulsions and would almost always die of the disease. Little attention was paid to the exceptional cases, reported in medical literature, of paretics who recovered. For instance, two Austrian army doctors observed that officers who had developed diseases like malaria were less likely to have paresis than other officers.

Giving People Malaria

In 1891, Julius Wagner-Jauregg collected these reports and began to wonder if it might not be the second acute disease that was responsible for the improvement or cure of the paresis. It appeared from the literature that any disease which was accompanied by fever was of aid to the paretic patient. Wagner-Jauregg therefore decided to induce fever artificially in patients with paresis.

He began by giving paretic patients injections of tuberculin, an extract made from dead tuberculosis germs, which induced a moderate rise in temperature. The results were rather disappointing. When enough tuberculin was given to induce a high fever the patient became ill. When less tuberculin was used the temperature did not rise sufficiently to be effective.

Refusing to be discouraged, Wagner-Jauregg shifted to the use of dead typhoid germs, which he injected directly into the veins. Such a measure causes sharp rises of temperature to high levels for short periods of time. The results were better than with tuberculin but still not as good as when the paretic acquired the fever naturally in the course of a disease.

In 1917, Wagner-Jauregg made a dramatic decision. He decided to induce malaria artificially in patients with paresis and, then, after the fever had done its work, cure the malaria with quinine. He reasoned that since paresis almost always ended fatally such heroic measures were justified. This was particularly true because of what had been learned about paresis in the meantime.

Paresis Linked with Syphilis

In 1905, Schaudinn discovered the spirochete *treponema pallidum*, the germ which causes syphilis. In 1906, Wassermann devised the test for the detection of syphilis which bears his name. In 1910, Ehrlich produced the drug *arsphenamine* (salvarsan or 606) for the treatment of syphilis. It gave excellent results and was a great improvement over the older method of using mercury. In 1913, Noguchi discovered the spirochete of syphilis in the brains of patients with paresis and proved that paresis was a late stage of syphilis caused by the attack of the syphilis germ on the brain.

The newly discovered drug, arsphenamine, which was so successful in the treatment of early syphilis, was eagerly tried in paresis. Un-

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Questions and Answers

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

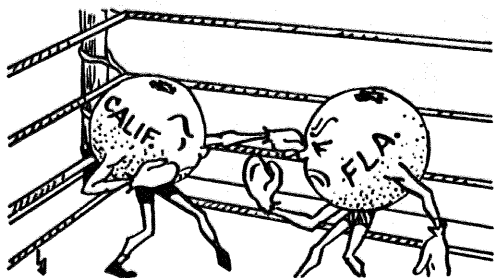
Vitamin Value of Canned Juices

Sudbury, Ont.

DEAR DOCTORS:

I have heard that the heat used in the canning process destroys the vitamin value of canned orange and tomato juice, and also that pasteurized milk does not have the vitamin content of raw milk. Are these claims correct? Will you please tell me whether canned tomato juice has more vitamin C than canned orange juice?—V. S.

Answer—Heat destroys vitamin C quickly, and therefore it is true that pasteurization destroys the vitamin C in milk. Milk, however, has never been recommended as a source of vitamin C. Even in the raw state it is a poor source of vitamin C. But the loss of a small amount of vitamin C by pasteurization is more than offset by the greater safety of pasteurized milk. The best source of vitamin C is fresh fruit juice, especially the juice of lemon, lime, orange, and grapefruit. Tomato juice ranks next as a source of vitamin C.



Canning unquestionably impairs the nutritional value of juices. The extent of impairment varies greatly with the different brands, and specimens of the same brand may even show marked differences in this respect. On the whole, it is better to depend upon fresh fruit rather than upon canned juice for vitamin content. Canned tomato juice appears to be as good a source of vitamin C as the fresh tomato. It should be remembered, however, that tomato juice is less rich in vitamin C than orange juice. Infants and children should therefore preferably obtain vitamin C from fresh, uncanned orange

juice. Tomato juice may also be given if it is tolerated, but it should not be the sole source of vitamin C. Adults will get all the vitamin C they need from a whole orange or half a grapefruit daily. A glass of tomato juice daily is probably also adequate.

In the February issue of HEALTH AND HYGIENE it was stated that canned orange juice is either very deficient or totally lacking in vitamin C. Canned juice may be watered and sweetened so that a glass of canned juice will contain only a very small amount of actual orange juice. For this reason and also because the canning process itself impairs the vitamin content of the juice we advise against the use of canned orange juice as a source of vitamin C.

According to the United States Department of Agriculture, canned grapefruit juice contains from 80 to 95 per cent of the original vitamin C. It may therefore be stated that fresh citrus fruits and tomatoes are the best sources of vitamin C, and that when canned juices are desired, canned grapefruit and tomato juices should be bought. The best brands of tomato juices are named in the December, 1936, issue of *Consumers Union Reports* (Consumers Union, 55 Vandam St., New York City).

In many regions of the country the fresh citrus fruits are very expensive, and canned juices may be much cheaper. Where price is an important factor the canned juices, in spite of their disadvantage, may be purchased as a source of vitamin C.

Recent advertisements of the California Fruit Growers' Exchange claim that *Sunkist* oranges are 22 per cent richer in vitamin C. Several recent investigations, including one by the United States Department of Agriculture, prove that this claim is false. Florida oranges are as rich a source of vitamin C as California oranges.

Protection Against Dust

Brooklyn, N. Y.

DEAR DOCTORS:

In a factory in which I used to work the workers would apply camphor ice to the mucous membrane because of the great dust always present. What effect

would the daily application of camphor ice have on the mucous membrane?—K. N.

Answer—Camphor ice contains vaseline, petrolatum, and a small amount of camphor. Most persons will not be harmed by the use of this preparation in the nose. (We assume that is what you mean by "mucous membrane"). However, some people may be sensitive to the camphor in the salve and get an irritation of the nose, resulting in swelling and discharge. Plain white vaseline would be just as effective and would not irritate the nose.

While the use of such salve preparations is of slight help in protecting the nose against dust, it does not prevent dust from being inhaled and reaching the lungs. The remedy for this is to obtain adequate protection against the dust by the use of proper methods of dust control. Such methods include frequent wetting of the air and floors, frequent and thorough wet sweeping of the working rooms, good ventilation and the avoidance of strong air currents which stir the dust, and, finally, the use of masks constructed to catch the dust before it is breathed in through the nose with the air.

Such protection is required by decent health standards and should be demanded by all workers in dusty trades. Adequate protection can best be obtained by the joint efforts of workers acting through their trade unions.

* * *

Hazards in Dry Cleaning—Carbon Tetrachloride

Schenectady, N. Y.

DEAR DOCTORS:

I have recently acquired a new job at which a chemical solution, carbon tetrachloride, is used constantly as a cleaning solution. The fumes of this solution have a tendency to upset the stomachs of all those who work with it. What can be done to overcome any danger? My druggist gave me a capsule of herb juices, saying it might possibly help me, although he promised nothing.—M. A.

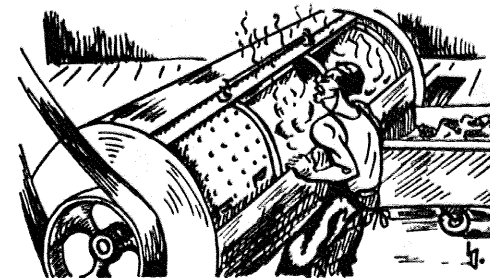
Answer—Carbon tetrachloride is a colorless, non-inflammable fluid, which is used commercially and in the home as a solvent in dry-cleaning to remove spots in clothing, as well as in many other occupations. It is used in fire extinguishers because it is non-inflammable. In medicine it is used as a vermifuge (a substance used in the treatment of intestinal worms). Insect collectors use it to kill insects. The fluid and its vapors are poisonous to man, animals, insects, and worms, and cases of human poisoning occur wherever it is used extensively.

Although it is administered internally with great caution, numerous cases of human poisoning, some of which have resulted in death, have occurred in connection with its use as a vermifuge.

When carbon tetrachloride is used to extinguish fires, or when it is exposed to heat in enclosed places, the fluid tends to decompose and to liberate

several extremely poisonous gases. These include phosgene gas and chlorine gas, which were used during the war because of their poisonous effects, and hydrogen chloride gas, which is very irritant and which when dissolved in water forms hydrochloric (muriatic) acid.

When a sufficient amount of carbon tetrachloride fumes are inhaled the poisoning which results is evidenced by a variety of symptoms. These include loss of appetite, nausea, vomiting (occasionally bloody), diarrhea, and smarting of the eyes or mouth. In severe cases, liver injury may occur, producing jaundice. Occasionally, the kidneys are damaged. Broncho-pneumonia has been reported as a result of the inhalation of the vapors. The liver



and the intestinal tract are the organs most commonly involved. Prolonged exposure to the vapors may cause serious and even fatal liver damage.

As a general rule, unless the poisoning is very severe, recovery is very rapid, taking place from several days to a week after the individual has ceased exposing himself to carbon tetrachloride fumes.

Persons working in an atmosphere containing carbon tetrachloride vapors can maintain as good a state of health as possible under the circumstances by eating a well-balanced diet, with large amounts of food containing calcium, and by abstaining from alcoholic beverages.

When there is a loss of appetite and intense nausea, it is difficult if not impossible to maintain a well-balanced diet and to get a sufficient amount of calcium in the diet (milk, cheese, egg yolk, beans, cauliflower, turnip greens, and asparagus are some of the foods with a high calcium content). In such cases it might be well to take a vacation for a week, and, during that week, after the symptoms have subsided, establish such a diet and maintain it when work is resumed.

The poisoning itself cannot be treated with herbs. It is best treated by the administration of calcium by vein—a procedure which can be carried out safely only by a physician—and by removal from the atmosphere containing the fumes for an extended period (at least a week or more if poisoning is severe).

The solution, however, does not lie in the use of drugs, because the only effective drug known, namely calcium, merely increases the tolerance to

the vapors. The vapors are nevertheless still poisonous. The only real solution of the problem lies in proper working conditions and proper provision for the elimination of the fumes from the air. The conditions under which carbon tetrachloride is handled are therefore very important. Either gas masks should be used at work or provisions should be made for proper ventilation. Gas masks are not practical because they impede work and are so uncomfortable that workers soon begin to discard them. A proper ventilating system, however, in no wise impedes work. Ventilation should be such that the air is completely changed every two or three minutes. There usually are laws in each state providing for ventilation under certain conditions. It would be well to look into the state regulations and see that they are enforced.

Poisoning due to carbon tetrachloride comes under the state provisions for workmen's compensation, so that poisoned individuals are in a position to demand adequate medical attention without any cost.

* * *

Filter for Hay Fever

Paterson, N. J.

DEAR DOCTORS:

Do you know of any air filter which can be made at home and where I can find directions for making it? Are the filters on the market (which sell for about \$100) a sufficient improvement on home-built filters to be worth the difference? I am sensi-



tive to ragweed. Would height have any effect on the symptoms? In other words, would it be worthwhile to move to an upper-story hotel room for the season?—T. O.

Answer—The principle involved in air filters for the treatment of hay fever is reduction in the amount of pollen in the air which comes into a room. The mechanism is a closed box with a motor blower which sucks air in from the outside through a filter. This filter may be made of felt, cotton, cellulose, cheese-cloth (several thicknesses), or other materials. The air is blown into the room after filtration. Aside from appearance and quietness, it should be possible to build a pollen filter at home which would be just as satisfactory as a ready-made model.

If you wish further details you may obtain them at a medical library. The *Journal of Laboratory and Clinical Medicine* (Vol. 13, p. 963, 1928, and Vol. 15, p. 643, 1930) gives minute descriptions of such devices.

You must realize that an air-filtered room has only a limited value in the treatment of hay fever and asthma. The patient will have relief only while he is in the air-filtered room; in other rooms or outdoors he will experience the usual symptoms.

Far better than filters is the injection treatment for hay fever. The results in general are good and the relief is obtained both outdoors and indoors.

There would be no advantage in moving to an upper-story hotel room during the hay fever season. Pollen can be found in large amounts up to altitudes of one mile.

* * *

Pfunder's Stomach Tablets

St. Paul, Minn.

DEAR DOCTORS:

Will you please inform me if F. H. Pfunder's tablets are harmful?—P. E.

Answer—In 1926, Frederick H. Pfunder, Minneapolis, Minnesota, maker of *Pfunder's Stomach Tablets*, wrote the Bureau of Investigation of the American Medical Association that he was willing to give any information "except to reveal the formula"!

Since the tablets were advertised as "a remedy for ulcers of the stomach," the public has the moral right to ask for the information which Pfunder refused.

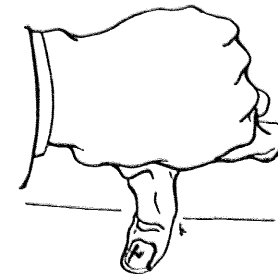
The American Medical Association's chemical laboratory then analyzed the tablets and reported that, apart from starch and talc, the preparation included bismuth subnitrate, magnesium oxide (used in milk of magnesia), and baking soda. These are prescribed, it is true, by reputable physicians for patients with stomach ulcers, but only under definite conditions for definite periods of time and after careful examination and diagnosis. Their use at exorbitant prices by the layman under the pressure of advertising and friends' recommendations is dangerous to health and damaging to the pocket-book.

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Thumbs Down!

Each month this department will inform readers concerning inferior and falsely advertised foods and drugs. P R refers to press releases issued by the Federal Trade Commission, a government bureau.



Kolynos Tooth Paste

A COMPLAINT has been lodged with the Federal Trade Commission against the makers of this well-known dentifrice. According to the Kolynos Company's advertising its tooth paste will remove stains and tartar, whiten teeth several shades in a few days, clean teeth down to the white enamel without injury, and kill almost instantly millions of germs which cause most ailments of the teeth and gums. The complaint alleges that the company's claims are misleading and untrue. (PR).

Unfortunately, the Kolynos Company spends a great deal of money for advertising, and consequently not many editors will see fit to mention the FTC press release containing the information about the complaint.

Tooth pastes will not remove stains or tartar, and according to Dr. Hermann Prinz, an outstanding authority on diseases of the mouth, no preparation which is strong enough to sterilize the mouth can be used with safety. A safe rule to use in buying tooth pastes is to avoid all products for which extravagant claims are made. No particular tooth paste possesses virtues superior to the general run of dentifrices.

Diabetes Remedies

THERE are a number of so-called "diabetes remedies" on the market which make wholly unwarranted claims concerning their curative effect in this serious disease. So far the only remedy which science has found to aid the diabetes victim is insulin, and yet concoctions of all sorts are sold for this purpose. The Food and Drug Administration has recently brought action against the Dia-Bet Laboratories Corporation of Detroit, for the misbranding of their product. Dia-Bet, upon analysis, was found to contain essentially water with small amounts of sodium benzoate and plant extrac-

tives, a combination that is utterly useless in the treatment of diabetes.

Another product called *Diatone*, which is sold as an effective aid in the control of diabetes, was seized by the government in February. The label on *Diatone* indicates that it is to be taken by mouth and that it will aid the diabetic without the use of a starvation diet. The product was found to contain a starch digestant, such as pancreatin, together with salt, and clay. As such it could be of no value in the treatment of diabetes.

Diabetic patients should be warned against reliance upon any of the popularly advertised "remedies" of the type of *Dia-Bet* and *Diatone*. In diabetes, insulin and a special diet supervised by a physician are the essentials of the treatment. Furthermore, the insulin must be injected into the patient with a needle. There are a number of diabetes "remedies" on the market which do contain insulin, but which are advertised for use by mouth. These have all been found to be valueless, and the fact that they *do contain* insulin should not be allowed to deceive patients.

Bunk Between Covers

PUBLISHERS sometimes rival patent medicine dealers in the falsity and preposterousness of their claims. The Hinman Publishing Company, 121 West 42nd St., New York City, has just entered into an agreement with the Federal Trade Commission to stop advertising that their pamphlet *The Secret of M.S.R.* contains the ultimate secret of every religious and philosophical system and is the key that opens the way to health and wealth. They also agree to stop advertising that study of the pamphlet will enable one to realize a desire to have a new car, go on a trip to Europe, get relief from pain, or solve business and domestic worries. Such claims, the FTC held, were unfair to competitors. How about the buyer?

Cosmetic Problems

Many readers write to us asking for information concerning the care of the skin and hair. Each month one of our skin specialists will discuss a particular problem in this field. For a personal reply, send a stamped and addressed envelope.

A MILLION DOLLAR SKIN GAME

THE two basic emotions upon which the drug and cosmetic industry capitalize are fear and hope. If the high-pressure health and beauty hawkers can't scare you into buying their useless products they try to get your cash by promising results for which no price would be too dear. Do you fail to bowl men over with the charm of your smile?—use *Kolynos* and watch them tumble. Did the man you thought so handsome neglect to ask you for a second dance?—rinse your scanties in *Lux* and you'll have him popping the question to you the next time you meet.

A great many men are persuaded to spend money for all sorts of "rejuvenating" rubbish that is guaranteed to bring back sexual powers of youth. For several reasons women have been spared this particular form of robbery, but they have been the victims of another rejuvenation racket that is just as absurd and probably, in the aggregate, a good deal more costly.

We refer to the sale of the countless "rejuvenating" creams and lotions, the "skin foods" and "nourishers," and the "wrinkle removers" with which the department store cosmetic counters are cluttered. It is estimated that several million dollars a year are spent on products of this sort.

The plain truth about all these preparations is that they are downright fakes. It is true that they may be put up in very handsome packages and advertised in a most persuasive manner, but they are fakes nevertheless. Regardless of whether they are sold by fly-by-night mail order houses or by the best Fifth Avenue shops, regardless of whether they are advertised in the cheap pulpwood magazines or in the most eminent metropolitan dailies—they are humbugs one and all.

Why?

For the simple reason that there is no known substance or combination of substances that will rejuvenate or nourish the skin when applied externally. Neither is there any such substance that will remove wrinkles. Your face is made up of living cells, and these cells are nourished by the blood, and only by the blood. A poor complexion may be due to a great number of factors including diseases of the heart, kidneys, liver, and stomach, glandular malfunction, anemia, and malnutrition. It is often true that an unattractive skin is poorly nourished, but the kind of nourishment that is lacking is the kind that is bought in a grocery store and butcher shop, and not the kind that comes in small but expensive jars or bottles. There is not any doubt that many women actually do their complexions harm because they spend their money for costly but useless concoctions instead of for food.

IT IS normal for the skin to become thin, wrinkled, and inelastic with age, and when this occurs there is nothing to be done about it. No amount of rubbing or patting with any known preparation will have the slightest effect in bringing back the life and luster of youthful skin. Massage may impart a temporary glow in such cases, but it will be only temporary.

What, then, should you use on your face? In most cases plain soap and water is the best cleanser, and this, provided you are in good health, will be as good a guarantee of a clear skin as you can get. If you find that soap and water leave your skin dry and subject to irritation plain cold cream may be used instead.

If you are not in good health and your skin is not as attractive as it might be, you should
(Continued on page 166)

PURELY PERSONAL

(Continued from page 133)

dyed-in-the-wool one track medical fascists. They worship the A.M.A., the worst and most reactionary medical organization in the world, and whenever anything comes from outside sources they immediately holler 'quack, quack.' Only blind men cannot see . . . that drugs, serum, and operations have destroyed the human race, and it is as far from healing as Franco, Mussolini, and Hitler are from being humanitarians. . . .

"Enclosed find one dollar."

WELL, N. H., we're glad you decided to bear with us for another year. Those are harsh words you used, though; we take strenuous exception to the charge of being fascists, medical or otherwise. As for the A.M.A., we certainly don't worship the organization. Insofar as the A.M.A. functions in the interest of scientific medicine it is to be commended; insofar as its official point of view on medical economics acts as a barrier to scientific and adequate medical care for the majority of the people it is to be severely criticized.

Regarding the effect of drugs, serums, and operations on the human race, we can only point out that before the use of quinine people died of malaria, that before the discovery of toxin-antitoxin countless children died needlessly of diphtheria, and that until the development of anesthesia permitted internal surgery, an attack of acute appendicitis generally meant death. We suggest that N. H. compare the death rates for these diseases today and in years past.

Finally, since N. H.'s stationery bears the title "Dental Surgeon," he apparently feels that operations on the teeth and oral cavity are quite permissible, while other operations are tabu.

THE PRIZE FOR the best letter on "Which Article I Liked Best and Why," goes this month to Mrs. B. S. of New York City, who chose "Milk Is Not Cancer's Ally" in the April issue. Mrs. S. writes:

"I, like thousands of other women, am obsessed in an underhand sort of way by this business of cancer. Hence, every alarmist report sends shivers down by spine and leaves me saying: 'Now what can we do about this?' First, some medico writes that cancer has something to do with meat

because dairy countries like the Scandinavian nations do not have cancer. Then someone else declares that cancer has absolutely nothing to do with diet. Swallowing a hair, we hear, will cause cancer. Or being bitten on the breast while nursing a baby. Then, after we have in bewilderment adopted a dairy diet, along comes this extremely slick-sounding article in *Coronet* which proves once and for all that milk, and only milk, is the real cause of cancer.

"What now? Thank heavens, I thought, I loathe milk anyway; now I won't have to drink it. But I made one mental reservation. I decided I would wait and see what **HEALTH AND HYGIENE** would have to say on the subject. Well, you've put me back where I was before, but at least I know that I *don't* know the cause of cancer, and that's something. . . .

"Some day—and that happy day, we pray, will not be too far off—a rumor will be spread abroad that the cure for cancer has finally been found, and **HEALTH AND HYGIENE** will substantiate it."

EACH MONTH WE will give a free autographed copy of either Arthur Kallet's *100,000,000 Guinea Pigs* or Carl Malmberg's *Diet and Die* to the reader who sends us the best letter telling us which of our articles are most interesting, and why. The articles chosen need not be from the current issue.

AS MOST OF OUR readers know, **HEALTH AND HYGIENE** is a voluntary, cooperative undertaking of a large number of socially-minded physicians. Many of our contributors began as subscribers. We invite any of our readers, either laymen or professionals, to send us articles, drawings, photographs for illustrations, criticism, comments, and suggestions. However, since we are not a profit-making institution, we cannot pay for contributions.

WE HAVE BEEN ASKED by a number of readers for more articles on the subject of child care and training. Several such articles are now being prepared, and will appear shortly. We have also been asked for articles on the consumers' movement and cooperative medicine, requests which we will attempt to comply with in the near future. The article on the prevention of venereal disease in this issue will be followed by another in which the emphasis will be placed upon methods of treatment after infection has taken place.

MEDICAL COOPERATIVES

Notice comes to us of the formation of several cooperative medical services, including one in Queens, New York. The purpose of these organizations is to offer a good quality of medical care at rates consistent with the average person's ability to pay. We will watch the development of these groups with interest, and we wish them success in their undertaking.

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AIR CONDITIONING

(Continued from page 152)

only six such accidents occurred in the sixteen months after the installation. Incidentally, the output of the workers increased 12 per cent after the installation of the apparatus.

How can these unhealthful conditions be eliminated from industry? Last year at the Harvard University Tercentenary Symposium, C. P. Yaglou of the Harvard School of Public Health offered a general program for control of excessive heat and cold in industry.

First, the manufacturing process should be altered or mechanized to correct unfavorable working conditions. An example of how this can be done is offered by the bottle manufacturing industry which used to be a very unhealthful one before the introduction of machine methods. The same holds true for the mechanization of malting and brewing processes in a few modern plants.

Secondly, the air conditions immediately around the process should be controlled. This can be effected by heat insulation screens, exhaust hoods, canopies, or enclosure of the entire hot process to isolate it from the general working-room atmosphere. This method of control is particularly needed in the hot and heavy industries such as iron and steel making and metal casting.

The temperature in the vicinity of the furnaces and red hot metals where the men work may be between 90 and 200 degrees Fahrenheit, while only a little distance away from the source of the heat, especially in open sheds, the temperature may be as low as 50 degrees.

Thus the front of the body may be covered with sweat, whereas the back may be subjected to cold drafts. The worker should be protected from this unhealthful situation by effective means of insulation from the main sources of heat, such as stationary and movable screens, fire chains in front of open furnaces, and masks with suitable goggles. Most important is the introduction of mechanical appliances which help protect the workers from undue heat exposure. "Man-cooling" fans and other ventilation devices have been found to be of aid. Where men work out of doors and are exposed to the elements, warm shelters should be provided where they can keep dry during rain and snow.

In order to prevent chills after leaving the hot plant, suitable working clothes, facilities for

(Continued on page 165)

AIR CONDITIONING

(Continued from page 164)

bathing and changing to dry street clothes, are among the most important aids in protecting the health of the worker, and should be supplied by the management. Of course, short working hours are of the greatest importance in maintaining health in the hot industries.

The third general method in the control of abnormal air conditions is proper ventilation or air conditioning. The need for such air conditioning is illustrated by the American textile mills in the South. For efficient production of textiles it is necessary that the workroom temperature stay between 70 and 75 degrees, and that the humidity be maintained between 80 and 85 per cent. Observations in these cotton mills, however, show that the temperature varies between 80 and 100 degrees, and that in the summer months the latter figure is constant and that the workroom air is stifling. This is wholly unnecessary and could be prevented by proper air conditioning and refrigeration. A similar problem, with the same possible solution, exists in the deep mines.

Air Conditioning Is Feasible

How can these appalling conditions be remedied? Some well-meaning health authorities have attempted to correct conditions by appealing to the employers on the basis of the increased efficiency of workers under healthful conditions. It is obvious that the most efficient worker is one who is protected from all unhealthful industrial conditions. The tremendous extent of industrial disease that is still in evidence is a good indication of how successful this appeal to the employers has been.

As for the cry so often raised by employers, namely, that the idea of air-conditioned factories is utopian and that the expense of installation would be ruinous to business, we might point out that this same cry was raised when workmen's compensation was first proposed. Engineering experts have gathered enough statistics to prove that this is no more true for air conditioning in industry than it was for the establishment of workmen's compensation.

The trade union movement, which has finally won the right of collective bargaining according to law, can accomplish a great deal in regard to proper air conditioning if they include it in their demands when they negotiate their agreements with employers.

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COSMETIC PROBLEMS

(Continued from page 162)

see a physician rather than a Helena Rubinstein or an Elizabeth Arden.

There is one rule to be guided by in the purchase of all cosmetics—avoid all those products for which extravagant claims of any kind are made. The next time you are tempted by some advertising genius's story of what a certain cream or paste can do for you, take the money you would spend for the cream and invest in a good dinner. It will do you more good, and you'll have the satisfaction of knowing that you haven't contributed to the million dollar annual swindle.

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MEAT IN THE DIET

(Continued from page 154)

the only circumstances in which meat is prohibited.

The average healthy person can eat meat daily without fearing any ill effects. The Eskimos and certain Pacific Islanders who of necessity feed exclusively on meat enjoy excellent health. They are probably less prone to diseases of the heart, blood vessels, and kidneys than people in the temperate climates. A crucial experiment proving the harmlessness of an all-meat diet was performed several years ago in New York under the direction of Dr. E. F. DuBois of the Cornell University Medical School, one of the world's leading experts on food metabolism. The arctic explorers, Stefansson and Anderson lived for one solid year on animal food alone, at the end of which time Dr. DuBois could find no trace of any disorder in them. In fact, their health had improved.

* * *

This is the first of a series of articles on the use of meat as a food. Should meat be eaten in combination with starchy foods? Must meat be chewed thoroughly? What is the difference between the various kinds of meat? These and other questions will be answered in the subsequent articles in this series.

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SWOLLEN GLANDS

(Continued from page 156)

has been there for years. This evidence of past trouble is a sort of harmless scar under the skin, which, like cutaneous scars, we never get rid of.

It is obvious from the foregoing how ludicrous and dangerous are some of the current methods of home treatment of swollen glands. Rubbing in *Iodex* or *Baume Bengué* will redden the skin over a swollen gland and probably spread the disease to an uninvolved area. Massage is useful in the treatment of muscle sprains and injuries; but lymph nodes are not composed of muscles, and massage with a patent-medicine salve can only have an effect opposite to that which it is intended to have. Hot or cold compresses will not reduce the size of swollen glands as long as there is an infection of the ear, nose, or throat. Compresses applied to the neck may help relieve the pain accompanying an acute infection, but the swelling of the glands will subside only when the infection has been overcome.

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CURING WITH FEVER

(Continued from page 157)

fortunately it had no effect whatever on the disease.

When Wagner-Jauregg first proposed to give malaria to his paretic patients, his colleagues were more than skeptical of the results. Some of them were afraid he might cause an epidemic of malaria in Vienna. This fear proved to be entirely unfounded, and the results of the malaria treatment were in many cases dramatic and amazingly successful. Patients previously doomed to die recovered and went back to work. About one-third of the patients treated showed excellent results. Another third improved considerably, while one-third were unaffected by the treatment. It must be remembered that paresis was previously an almost invariably fatal disease.

At St. Elizabeth's Hospital in Washington, for instance, before malarial treatment was started, out of 214 patients with paresis admitted to the hospital, 137 died within one year and 209 died within five years.

Fever Can Now Be Controlled

In 1922, Dr. William A. White introduced this form of treatment in the United States at St. Elizabeth's Hospital, and, soon afterwards, it was being used in mental hospitals throughout the country. In 1927, Wagner-Jauregg received the Nobel prize for his commendable work in his field.

There was much speculation about the way in which the fever helped the paretic patient. Some thought that the high fever killed the syphilis germs. It is now generally believed that the high temperature in some way stimulates the defense forces of the body and helps them to overcome the disease.

Since that time, many ways of inducing fever artificially have been discovered. W. R. Whitney, an American engineer, discovered that short-wave radio tubes could induce fever in a patient exposed to the waves.

Charles F. Kettering devised a "sweat-box" in which a patient can be heated by hot-air currents until his temperature rises to the desired point. Various other means have been devised, all for the same purpose.

Other diseases such as arthritis, gonorrhoea, and rheumatic fever have been treated by the fever method. The results have varied but the method shows great promise for the future.