

Life & Health

THE NATIONAL HEALTH JOURNAL



10
CENTS

H. A. ROBERTS

JUNE
1942

58th YEAR OF
PUBLICATION

- ★ Liquor and Traffic Accidents
- ★ Is Cancer Inherited?
- ★ First Aid for Wartime Injuries

- ★ Relief for Women in Middle Life
- ★ How Essential Are Vitamins?
- ★ How to Make Marriage a Success





MEATLESS DISHES

★ ★ ★ ★ ★ ★ ★ ★ ★ ★
NATIONAL DEFENSE
Demands
MANPOWER MEALS

Dip Stake-Lets into egg batter and then in flour. Brown in well-oiled skillet. Make a gravy in the usual manner from the sauce remaining in the Stake-Lets can. Additional meat-like seasoning, such as soy sauce, or Vegex, or Savita, may be added to the gravy. Serve in the place of meat.

1 30-oz. can Yum, or 2 14-oz. cans
 ½ cup tomato pulp or puree 1 tsp. salt
 1 cup chopped celery 1 medium onion

Cut a lengthwise cavity two inches in diameter in the Yum. Mix the Yum taken from the cavity with other ingredients and fill cavity with mixture. Bake in medium oven 45 minutes. Baste frequently.



STAKE-LETS



STUFFED YUM

Here's the Answer...

SERVE THEM
 Hot from the Pan or
 Cold from the Can

ZOYBURGERS

VIGOROST SALAD

1½ cups diced Vigorost
 1 cup diced celery
 1 cup cooked peas
 Salt and mayonnaise to taste

1 14-oz. can Zoyburger,
 ground in food chopper
 1 tsp. of soy sauce
 ¼ cup minced parsley
 1 medium onion, ground fine
 Salt and sage Cracker crumbs
 2 eggs
 2 tbs. tomato puree or thick canned tomato soup

Brown Vigorost in skillet. Mix into other ingredients. Serve on lettuce.

Mix all together to consistency of hamburger, form into patties, and brown. (Try to make this recipe resemble the patties shown on the Zoyburger label as much as possible.)

Free: Current issue of Madison Health Messenger, full of recipes, health news, etc., at your health-food store or specialty grocery.



In the above easy-to-prepare meatless recipes, Zoyburger, Stake-Lets, Yum, Vigorost, and Not-Meat may be used interchangeably or in combination; however, when using Stake-Lets in salads or other cold dishes, it is necessary to brown it until tender.

Madison meatless protein foods take the place of meat, and may be prepared in the same way as meat and used in the same proportion in the diet.

Available at health food stores and specialty groceries. If not obtainable locally, order direct from Madison College. Transportation charges paid on orders of \$1 and over to any place in the United States.

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In replying to advertisements, please mention LIFE AND HEALTH.

NEWS

in Small Doses

- ▶ **HARD** work is fatiguing, but emotional upsets also deplete our energy.
- ▶ **PROFESSOR E. L. PALMER**, of Cornell University, is offering a new course in living outdoors in any kind of weather and with the least amount of discomfort. This course is planned to meet just such an emergency as many Europeans have been forced to face in losing their homes. The course will take up the very practical problems of shelter, warmth, and obtaining food under adverse circumstances.
- ▶ **MORE** than one and one-half million bottles of fresh milk are supplied daily to U. S. soldiers.
- ▶ **THE** body needs food after fright, for during such an experience body fires burn more brightly and use up body reserves.
- ▶ **OUTBREAKS** of food poisoning investigated by the Food and Drug Administration and the U. S. Public Health Service were found to be caused by cadmium, a substitute for aluminum in plating cooking utensils and refrigerator containers. Symptoms of cadmium poisoning include gastritis, nausea, cramps, vomiting, diarrhea, and weakness.
- ▶ **ACCORDING** to the National Society for the Prevention of Blindness, syphilis and gonorrhea are responsible for 17 per cent of blindness.
- ▶ **A STUDY** of fifteen child stutterers revealed in the majority of cases a neurotic background on the part of the parents. Another study reveals that children who experience extreme fear have an unstable and neurotic family background.
- ▶ **A 100 per cent** increase in blood donations to the Army-Navy plasma supply during December and January, after the Pearl Harbor attack, is reported by the American Red Cross.
- ▶ **AN** ointment that contains sulfathiazole, a potent remedy for pneumonia, has been found efficacious in certain skin affections, such as impetigo, boils, acne, infected eczema.
- ▶ **BLACK-CURRENT** sirup is being given to children at some clinics in Britain. This is said to be very potent in vitamin C.
- ▶ **NATIVE** residents of Deaf Smith County in Texas, from two to middle age, have no decayed teeth! And people who move there from other States after living there awhile, find that dental caries ceases to develop. A study of the local food and water supply revealed that below the topsoil of Deaf Smith County is a clay high in calcium carbonate. Wheat grown there is high in protein and phosphorus. Drinking water contains abundant fluorine and calcium.
- ▶ **IT** is expected that 9,000,000 acres will be planted to soybeans this year. This versatile bean is used as food, and in the production of soap, paint, explosives, etc.

Vol. 57, No. 6, June, 1942. Issued monthly. Printed and published by Review and Herald Publishing Association, Takoma Park, Washington, D. C., U. S. A. Subscription rate, \$1 a year. Canada and Foreign higher. When change of address is desired, both old and new addresses must be given. Entered as second-class matter June 14, 1904, at the post office at Washington, D. C., under act of Congress, March 3, 1879. Member, Audit Bureau of Circulations.

"THIS IS EVERYONE'S WAR"

You've read that, and heard that, countless times since the war started.

And everyone's war finds America ready with . . . "everyone's food," bread . . . good, firm, wholesome loaves of white bread . . . each one bulging with the food-energy of the most beneficial carbohydrates.

But more! America at war finds ready a more fortifying loaf of white bread . . . Enriched Bread.

Besides useful food-energy, bread furnishes the following important essentials for America's daily diet:

Vitamin B₁ (thiamine)—frequently deficient in American diets—the vitamin required for normal appetite, normal intestinal activity, normal function of the nervous system, and for the best use of carbohydrate foods.

Another B vitamin—Niacin. The vitamin that aids in the prevention of pellagra.

Iron—the important food-mineral needed to make good red blood and prevent nutritional anemia.

So remember in this war, . . . this "everyone's war," the millers and bakers and your own store are ready to serve America with a better, more wholesome, more delicious loaf of bread than ever . . . Enriched White Bread . . . "Everyone's Food."



Department of Nutrition

AMERICAN INSTITUTE OF BAKING

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(Without Stimulants)



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A distinctive, mellow flavor, like the finest coffee . . . from a skillful blend of roasted soy beans, figs and grains, slightly sweetened with honey! Breakfast Cup is *good*, and it's *good for you* . . . no habit forming caffeine to affect your nerves or keep you awake. Brew it just like coffee . . . and *serve it to the whole family* . . . for breakfast, lunch or dinner, in fact whenever a tasty, wholesome and satisfying hot drink is in order. Try a package. See how much better you feel. You'll find that you won't *need* it, but you'll *want* Breakfast Cup every day. Sold at Health Food and Better Grocery Stores.

VITAMIZED RUSKETS
Loma Linda's popular prepared cereal—crisp, ovensweet whole grains of wheat . . . rich in vitamins and minerals. Perfect with Breakfast Cup for a "fresh-start."



LOMA LINDA FOOD COMPANY • ARLINGTON, CALIFORNIA

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Coming Next Month

WE are at war, but we cannot yet tell how our civilian population will react under the strain and stress of modern conflict. "What are the chances of nervous breakdown in wartime?" an encouraging article. . . . We can usually get our car batteries recharged when they are run down, but it is not wise to let our physical batteries run down if we would have a spark and zest for life. Keep them charged. How? An article will tell. . . . What about those "growing pains"? Are they serious? There is a distinction between pain in the muscles and pain in the joints. Those Growing Pains May Mean Rheumatic Heart Disease. . . . Third in the series of articles on Cancer, "Cancer in Animals." . . . Heed the danger signals as you travel the highway of life. Common symptoms you should understand are often the warning signs. These common symptoms are discussed. . . . One warm dish at a summertime meal might be soup. Cooking lesson No. 3 discusses soups and includes some new and interesting recipes (be sure to try Rivels, an accompaniment of soup). . . . The Treatment of Burns. . . . Cooking for Comfort in the Summertime. . . . You need a vacation, the sensible way to take a vacation to get the maximum value for you and your family.



How one Mother met her family's most troublesome "health problem"



"We're a pretty healthy family—Don, the children, Grandpa and I—but frequently some of us were bothered by constipation. Dr. Jones suggested that perhaps our diet lacked sufficient bulk.

"One day I read about a new form of bran put out by Nabisco, the folks that make Ritz crackers. It was said to have a tempting new flavor—and be made by an improved process called double-milling that made the bran fibers smaller and less likely to be irritating.

"Next morning everyone had a dish of

Nabisco 100% Bran at his place at the table. I didn't say anything. Just watched and listened.

"*'Wow! a new cereal! 'It's swell! 'If this is bran,' said Don, 'it is certainly the most delicious I ever tasted.'*

"Well, we've been Nabisco 100% Bran rooters ever since! Its wonderful flavor is one of the nicest things about breakfast. We appreciate its mild, gentle action. And last, but not least, I know that Nabisco 100% Bran is helping supply us with important food elements—iron, phosphorus, and Vitamin B₁. It certainly was a happy day that I discovered it."

NABISCO 100% BRAN MUFFINS

1 cup Nabisco Bran
1 cup milk
2 tbs. shortening
¼ cup sugar

2 eggs, well beaten
1 cup flour
¼ tsp. salt

Soak Nabisco Bran in milk 5 min. Cream shortening and sugar and add beaten egg yolks. Add to bran mixture. Sift flour and salt. Beat egg whites till stiff. Gradually fold alternately the bran and flour mixture into the stiffly beaten egg whites till well mixed. Fill greased muffin pans 2/3 full; bake in moderate oven (400° F.) about 35 min. Makes 10 large or 14 small muffins.



Your food dealer sells Nabisco 100% Bran in pound and half-pound packages. Eat it regularly. If your constipation is not helped in this simple manner, consult a competent physician.



BAKED BY NABISCO • NATIONAL BISCUIT COMPANY



AUTOMOBILE drivers must face complex traffic situations that demand accurate judgment and quick control. No one has the right to impair his ability and thus endanger the lives of others. "Liquor and Traffic Accidents," page 8.

"Is cancer inherited? Am I liable to develop the same thing that mother had?" These questions involve problems worthy of consideration for the members of the entire family of the cancerous patient. Page 10.

THE menopause is a natural process, but it is frequently attended by most unnatural and distressing symptoms. There is relief for the discomforts of this period. Page 14.

IN certain body symptoms it is well to check on our vitamin intake. Is it adequate? There are many conditions that can be relieved by vitamin therapy. Page 15.

VITAMIN requirements—some good menus and recipes are discussed in Cooking Lesson No. 2. Page 19.

WEDDING bells are ringing? Their friends are wishing the bride and groom happiness and a long life together. Will their marriage be a success? Read the very simple rules found on page 20.

CONSTIPATION is probably the most widespread ill of civilized man. In many cases it is entirely unnecessary, often self-inflicted. In other cases there are mechanical causes. "How to Relieve Constipation," page 22.

THE various departments this month contain much of interest—A discussion of superficial and fundamental virtues, page 24; the care of your washing machine, page 26; diet for young child, page 30; care of the skin, page 32; a garden with the minimum of effort, page 34; how to care for pets during an air raid, page 35.

ON page 25 is found the first of a series of advertisements of the Kellogg Company. We welcome to our columns this large and reputable maker of tasty breakfast foods.



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Fifty-eighth Year Begins for "Life and Health"

WITH this issue we begin the fifty-eighth year of LIFE AND HEALTH. In view of the heavy mortality that has decimated the ranks of special publications through the years, we believe we have just cause to feel gratified over the record that LIFE AND HEALTH presents. It has revealed a remarkable tenacity for life even in the darkest depression days. And now it enjoys a larger circulation than any other health journal published in America. We believe that such a circulation carries with it a responsibility. We shall endeavor faithfully to discharge that responsibility during the coming year. We shall seek always to provide you with the most helpful and authoritative of articles. We shall endeavor also to bring before you in the advertising pages only those products that can in every way be relied upon. Statements in the advertisements receive the same careful scrutiny as statements in the articles. We want LIFE AND HEALTH increasingly to become a guide to healthful living and healthful buying for American homes.

Enriching the Enrichment Program

A YEAR or more ago the country at large first became aware that something was being done to white bread to improve its nutritional qualities. We heard the word "enrichment" used to describe the program for incorporating into the dearly loved white bread of the American table certain needful vitamins and minerals. The procedure was based on absolutely sound nutritional research. But the soundness of scientific facts is not in itself an assurance of the success of a project. That has been the rather disappointing discovery that millers and bakers, along with Federal agencies, have made. The public did not proceed at once to devour avidly enriched bread and discard the unenriched. If John Q. Public had been able to bite a vitamin or munch a mineral so that its distinctive flavor could be discerned, that would have been something different. But these ingredients made their presence known only by a statement on the wrapper.

Now a renewed effort is being put forth by joint endeavor of Government and private industry to "sell" enrichment to the public. There are signs that it will succeed. As an indication of the seriousness with which the matter is being considered, there is the law just passed by the legislature of South Carolina requiring the enrichment of all white flour sold for human consumption.

On page 16 we present more in detail the matter of enrichment as it relates to the health of our bodies, and seek to answer certain objections.

An Age-Old Problem Rides in a Car

THE problem of drink is as old as history. But never has it been more perplexing than today. The reason is rather well-known to all—today we drive high-powered cars and operate complex machinery in factories. So great are the risks to life and limb inherent in this combination of alcohol and machinery that LIFE AND HEALTH frequently presents a study of the problem. We are keenly aware that the question of alcohol has often been made more complex by intense emotionalism. A generation ago pious women frequently sought to dissolve the problem by their tears. How successful they were is a matter of debate. But today there is an emotionalism of a different kind, and as many tears. But the emotions and the tears are often displayed by those who have imbibed—but who escaped alive out of an auto accident caused by drunken driving.

In our present study of this problem we give our readers the benefit of certain scientific study on liquor that has been carried on by the National Safety Council under the direction of Dr. Donald S. Berry, traffic engineer. For some time Doctor Berry has served as secretary to two of the Council's very important committees: the Committee on Tests for Intoxication, and the Committee on Speed Regulation. His extensive traffic surveys in various parts of the country peculiarly fit him to write on matters that have to do with traffic accidents. At the present time Doctor Berry is on leave of absence from the National Safety Council, having been borrowed by the Federal Bureau of Investigation as one of a group of special employees to train traffic policemen for air raids, blackouts, and other emergency work.



Look at Johnny eat...

THANKS TO SAVITA'S HELP!

No dawdling over meals for him—now that mother knows about Savita! This delicious food has a grand meat-like flavor most children love—yet it contains no meat. It is a concentrated blend of yeast and vegetable extracts, with added iron, and rich in vitamin B₁ to help stimulate appetites. Just as good for grownups, too!

SAVITA helps children eat more in these two important ways. One, by making tempting gravies and cream sauces which make other foods taste better, and by its use as a sandwich spread. Two, by providing vitamin B₁ to help build the genuine appetite growing children should have. There are 500 units of vitamin B₁ in a single teaspoonful of Savita, and 24 milligrams of iron. More than a growing child's whole daily requirement of these essential protective substances!

SAVITA is used extensively at one of America's largest sanitariums, The Battle Creek Sanitarium, at Battle Creek, Michigan.

SAVITA is economical to use. It is so highly concentrated that a teaspoonful flavors a pint of gravy.

Telephone or go to your nearest authorized Battle Creek dealer and get an inexpensive package of Savita today!

Use the coupon below to obtain an interesting booklet telling you all about Savita, with many recipes for delightful Savita dishes.

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LIQUOR

A Wartime Article

By DONALD S. BERRY, Ph. D.*

ILLUSTRATIONS
FROM THE NATIONAL
SAFETY COUNCIL



FORTY years ago, if a person imbibed too freely, he had little difficulty in getting home safely. He climbed into his buggy, or his friends loaded him in, and trusty Dobbin took him there safely. If he fell asleep on the way—well, Dobbin just trotted on down the road.

It is a different story in this present day of high-powered automobiles. There is no trusty Dobbin to take over when the driver's attention wanders from the road as a result of the influence of alcohol.

Drivers nowadays must face complex traffic situations, that demand accurate judgment and quick action. It is imperative that they maintain complete control of their normal faculties when on streets and highways. No one of us has the right to impair his ability and thus endanger the lives of others.

The 1941 toll of deaths due to traffic accidents reached 40,000—an all-time high that was 16 per cent greater than the toll for 1940!

Just how many of these accidents were caused by or involved drivers or pedestrians under the influence of alcohol cannot be determined exactly. We will not have even approximate figures for 1941 until records can be compiled from the States. However, let's look at what the figures for 1940 show us.

Traffic authorities generally believe that the officially reported figures understate the true importance of alcohol as a factor in accidents. For example, the State summaries for 1940 showed that only 11 per cent of the drivers involved in fatal acci-

dents were reported as having been drinking. Sixteen per cent of the pedestrian fatalities fell into the same category. On the basis of accidents, this would mean that a driver or a pedestrian who had been drinking was involved in one out of every five fatal traffic accidents during the year.

The reason these figures seem to understate the true situation is that careful research studies, on a small scale, indicate that alcohol is involved in a much higher proportion of the accidents.

These research studies involved chemical tests made of body fluids of drivers and pedestrians who were injured or killed in traffic accidents. Such studies have been made by coroners and other physicians in widely separated parts of the country.

The latest information on such a study comes from New York City. For more than thirteen years persons killed in traffic accidents in that city were tested to find out the content of alcohol in their brains. Those not tested were persons less than thirteen years of age, and those who did not die immediately, but lived for at least twenty-four hours before succumbing to their injuries.

Results from the years 1938, 1939, and 1940 have been compiled for drivers and pedestrians who were traffic-accident fatalities, and are shown in the accompany-

ing chart. Here is what the chart shows: Thirty-five per cent of the dead drivers tested were found to have had enough alcohol in their brain to place them definitely under the influence of alcohol! In addition, 16 per cent more showed enough alcohol to impair the ability of the average driver! A total of 58 per cent showed the presence of some alcohol!

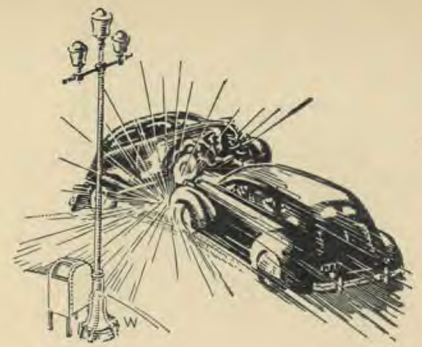
Tipsy pedestrians also did their part in contributing to New York's traffic-death toll. More than 25 per cent of the adult pedestrian fatalities who were tested showed enough alcohol to place them definitely under its influence and thus not in a condition to be walking on the streets!

Information for the earlier years in New York City is available in published form



*Traffic Engineer, National Safety Council. See also editorial, page 6.

and Traffic Accidents



Presenting a 14-point Program by the National Safety Council to Meet a Grave Emergency

in an article by Dr. Thomas A. Gonzales, chief medical examiner for New York City, and Alexander O. Gettler, toxicologist. (*Journal of the American Medical Association*, November 1, 1941.) This article presents the results of tests made on 3,471 persons killed in traffic accidents from 1928 through 1937. The article states that results indicated that 30.7 per cent of pedestrians tested were under the influence of alcohol.

Chemical-test surveys on a smaller scale also have been made in Cleveland, Ohio, Uniontown, Pennsylvania, Evanston, Illinois, and San Francisco, California. While the results of these surveys differ somewhat, every one of them shows a much higher influence of alcohol than that given on official accident reports.

Dr. John J. Kingston, coroner for the city and county of San Francisco, has blood-alcohol tests made on every auto fatality when the deceased is more than fifteen years of age and has died within twenty-four hours after the time of the accident. Seventy-seven pedestrians were killed during 1940, and forty-four were tested for alcohol. Of these forty-four, exactly half showed some alcohol present, while 34 per cent showed intoxicating concentrations.

Of the nine drivers killed, nine tests were made, and the results of seven showed alcohol present. Three of the drivers definitely were under the influence of alcohol, and four others were right on the border line.

TO STAY ALIVE — DON'T DRINK AND DRIVE

You may be arrested for "drunken driving" if a chemical test shows more than .05% alcohol in your blood.

Thus, considering all available special studies, we can say safely that at least a third of the drivers and pedestrians tested after being injured or killed in traffic accidents had enough alcohol in their systems to impair the ability of the average person to drive or walk safely.

Although these statistics give us a general picture, we must come back to the individual case, and consider just how alcohol affects each person. It is common knowledge that some people can drink more than others without becoming intoxicated. It is well known also that three or four drinks will render a person unsteady on his feet under some conditions, but on a different day, in a more favorable physical and mental condition, will not bother him appreciably.

From the standpoint of enforcing drunken-driving laws, the officials can get around the various provisions of different laws to quite an extent by testing body fluids and determining the per cent of alcohol.

Persons who can "hold their liquor" better than others just do not get as high a concentration of alcohol in their system as those who cannot take it as well. This has been verified by countless experiments,

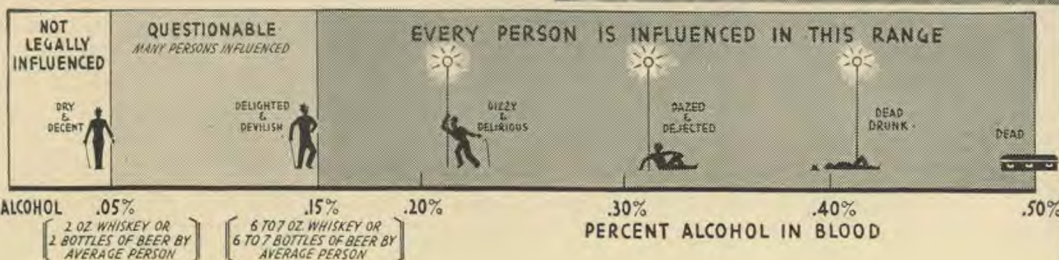
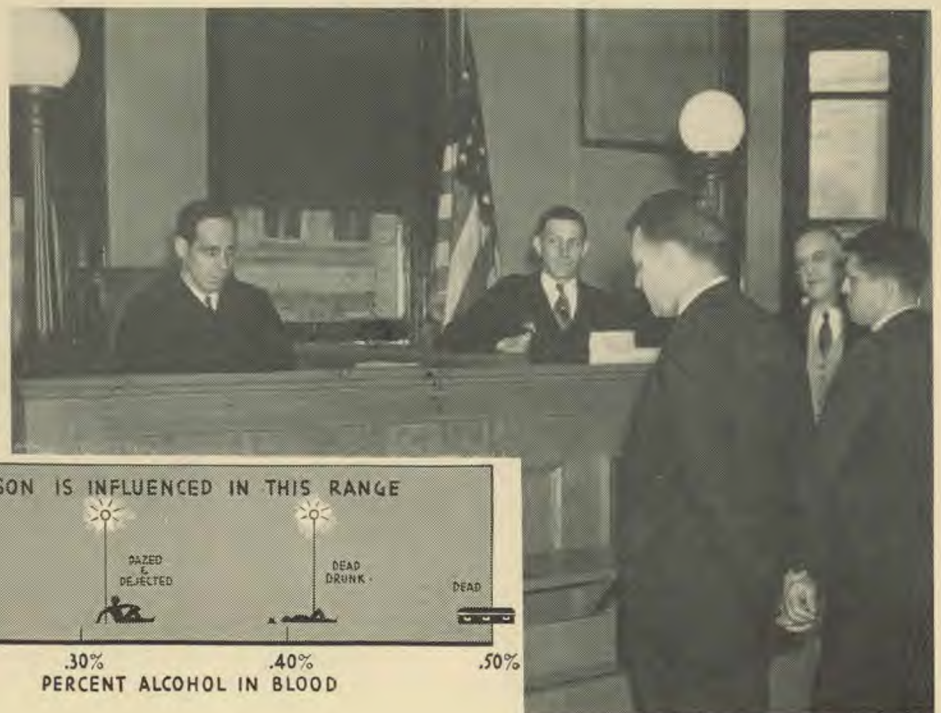
and it has been shown definitely that there is a good correlation between the per cent of alcohol in the blood and the degree of intoxication.

This correlation is not perfect, because there are some inherent differences in human beings and their resistance to a certain blood-alcohol concentration. Thus, scientists have set up a "twilight" zone to recognize this variation. The second chart shows the twilight zone as the questionable stage. In that zone, some persons are under the influence of alcohol. At a blood-alcohol concentration below .05 per cent, no person would be considered influenced. Similarly, every person above .15 per cent can be considered in that condition.

Chemical tests for intoxication are aiding police officers in more and more communities throughout the country. During 1940 better than a third of the cities of more than 50,000 population reported that they had been using such tests in enforcement of drunken-driving laws. Cities using such tests also showed about half again as many convictions for drunken driving as cities not using the tests.

Thus, chemical tests have made the punishment of drunken driving more certain, which should effectively act as a deterrent


(Continued on page 37)



Is **CANCER**

Inherited?

Part II—What Science Knows About Cancer

 WARREN G. HARDING, M. D.

IN the practice of medicine one sees no more pathetic picture than that of a devoted son or daughter who has ministered to the physical needs of a parent during the last agonizing stage of cancer. With a memory branded with the picture of rapid emaciation, untold suffering, and overwhelming weakness, these people approach their medical adviser with fear and misgivings to ask the question which torments them in every idle moment. "Is cancer inherited? Am I liable to develop the same thing mother had?" These questions are of importance to this particular individual, and also involve problems worthy of consideration for the members of the entire family of the cancerous patient.

In the study of the influence of heredity in the occurrence of cancer in man, the usual method until quite recently has been to compile statistics on the number of relatives of a cancerous patient who were affected by cancer, and to then compare this incidence with that occurring in the families of patients suffering from other types of disease. Very early in this field the investigators noticed certain families that contained an exceedingly large number of persons who died of cancer in one of its varied forms. The Bonaparte family may be cited to illustrate this phenomenon. Napoleon I, his father, his brother Lucien, and two of his sisters were thought to have died of cancer of the stomach. It is hardly necessary to state here that we are aware of the international controversy which has been waged over the actual cause of Napoleon's death. However, other families of less prominence than the Corsican family have furnished equally interesting statistics. One family consisting of a father, mother, six children, and one grandchild, died of cancer—an entire family of nine members wiped out by this dreaded scourge. Another group of four brothers died of cancer of the lip, and in a family of sixteen children, ten died of a comparatively rare cancer of the eye, known to doctors as retinal glioma.

A more hopeful and brighter aspect of this question was discussed by an American scientist who reported on his own family, in which cancer was quite uncommon. Nine thousand descendants of his eighth great-grandfather were known and

showed a remarkable resistance to this disease. Even when the disease was introduced into the family tree by marriage, the familial resistance was so great that the disease was soon eliminated.

In the first decade of this century, Pearson made a detailed study of the relative frequency of cancer in the families of cancerous and noncancerous patients at the Middlesex Hospital in London. He concluded that there was very little difference in the incidence, and because of his status and reputation as an investigator, his conclusions were accepted as at last giving a final answer to a long-vexed point. But the controversy was not to be so abruptly terminated, for further analysis revealed that the data upon which his precise mathematical calculations were based were not wholly reliable, as we will show.

In the study of inheritance, the entire life history of an individual must be known. If we select any group of so-called noncancerous individuals, what assurance do we have that members of the group will not subsequently develop the

disease? If the general incidence of malignant disease in our community is approximately one in eight, can we not expect a similar incidence in our cancer-free group? An error of one case in the data would vitiate the calculations in a study of Mendelian inheritance, and could lead to quite erroneous conclusions regarding the method of the transfer of the disease from one generation to the next.

Further consideration of the problem of statistical reliability brings forth more potent criticisms of this method of study in this problem. Due to the controversial nature of the cancer-heredity relationship, most patients who are suspicious that they might harbor a tumor have discussed the family history of tumor incidence prior to consulting their medical adviser, and hence recall with greater facility the occurrence of a cancerous relative. Aside from this stacking favoring the hereditary influence, the basis of such studies are supremely unreliable, owing to the gross ignorance of most of us in regard to the cause of death among members of other than our immediate family. Ask yourself the question, "What caused the death of my uncle A. or my cousin C., etc.?" Added to your lack of knowledge of the certified cause of death is a further source of error between the disease diagnosed clinically and that found by post-mortem examination. This may vary considerably.

When we consider the multitude of factors over which we cannot exert control in such statistics of human disease, we must conclude that the solution of the problem lies in active experimental work. We soon discover, however, that, desirable though it may be to the scientist, the human family refuses to be mated and to produce offspring according to the whims and fancies of some investigator. Faced by such human defiance, we have been forced to turn to our patient friends, the laboratory animals, as we have done in seeking the solution to so many other vexing problems.



Napoleon Bonaparte and Many of His Family Were Thought to Have Died of Cancer of the Stomach



EWING GALLOWAY, N. Y.

Heredity Plays an Important Part in the Appearance, Site, and Behavior of Cancer Under Ordinary Conditions of Life

In the study of inheritance by the comparative biologic method of approach, it is imperative that we establish certain general laws which apply with equal force to man as well as to the lower animals. Innumerable studies of heredity have been made since Mendel's epoch studies on the growth of peas. The isolation of unit characters which cannot be further subdivided or analyzed has been comparatively easy in most investigations. The color of the eyes, skin, hair, and similar physical characteristics have offered themselves for study. The difficulty, however, of selecting the unit character of a disease for study has baffled scientists for many years.

From all the researches in this field it has been shown that all organic behavior follows a definite biologic law. This is a natural law which is immutable and iron-clad. It may be briefly stated in the following manner: "All characteristics which go into the germ plasm must come out in

the offspring." Breeding experiments carried over many generations have substantiated this conclusion regardless of the species used. It applies to the pea plant, the fruit fly, and the mouse. Such a universal principle must also hold for man, for if it holds for such different types of organic life as a fly and a mouse, it is relatively easy to accept it as applying to other mammals.

The term "unit character" is used to designate any factor which segregates out and is incapable of analysis. Such characteristics as curly hair, color of hair, types of eyes and skeleton, may be cited as examples. These unit characters are further subdivided into two groups known as (a) dominant, and (b) recessive.

It is obvious that each individual receives biologic patterns from both the father and the mother. It is conceivable that the unit characters might clash and an adjustment would be necessary. To cite a practical example, one might have

a brown-eyed father and a blue-eyed mother. Now, brown eyes and blue eyes are genetically antagonistic. It has been demonstrated, however, that brown eyes dominate over the blue eyes in this case, and the offspring would appear with brown eyes and carry the blue-eye factor as a recessive character. The inherited tendency would be present and could be passed on to the next generation, but would not be apparent to observation. In other words, if two antagonistic characters are present in the same individual, one dominates and the other becomes recessive.

The individual who carries such a combination of hereditary influence is known as a heterozygote, and his generation is a hybrid generation. The question which next arises is, "What happens when two of the hybrid generation mate and propagate the species?" Each partner in this mating is capable of handing down the dominant characteristic of brown eyes, and in such a case the offspring would be a pure brown-eyed person. It is again possible for the dominant brown eyes to be passed on from one side and the recessive blue eyes from the other. In this case the offspring would have brown eyes, but would carry the recessive blue eyes. One other possibility exists; namely, both the father and the mother may pass on the recessive blue-eye determiner, and the child would thus have pure blue eyes. It is thus possible for the hybrid generation to produce a generation having individuals with pure brown eyes, heterozygote brown eyes, or pure blue eyes. These individuals appear in the case of chance mating with mathematical accuracy, and may be predicted with assurance. The analysis of this type of data forms the theory and laws of inheritance.

Maude Slye of Chicago began to study this aspect of the cancer problem about twenty-five years ago. She has raised mice under ideal environmental conditions, and has permitted them to live their entire life span without any type of abnormal stimulation or irritation. To date she has records of more than one hundred thousand mice the complete pedigree of which regarding the cause of death of ancestors is known. If compared with human pedigrees, these records would involve a period of about three thousand years, or, roughly, back to the dawn of history.

Out of her study have come many facts regarding the incidence and behavior of cancer. She has conclusively demonstrated that heredity plays a most important part in the appearance, site, and behavior of cancer under ordinary conditions of life. Miss Slye has been able to breed a strain of mice the derivatives of which have almost universally developed cancer of the breast. Another strain shows particular resistance to all forms of new growth, while others show great

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What to Do in Wartime

EMERGENCIES for

**SHOCK
BURNS
FRACTURES
and Other Injuries**

By D. Lois Burnett, R. N.

THE stoppage of breathing in the victim of bombing or of any accident ranks next to bleeding in importance among the conditions to receive care by the first aider. This is treated by alternately compressing and relaxing the chest wall by artificial means, thus producing an up-and-down, pistonlike action on the diaphragm. This is known as artificial respiration.

Breathing is normally controlled (1) by impulses sent out from the respiratory center in the medulla (lower portion of the brain), (2) by messages sent to the brain from the lungs, and (3) by the chemical composition of the blood. It is believed that when a victim fails to breathe, the production of an up-and-down, pistonlike action on the diaphragm by alternately expanding and contracting the chest wall may re-establish the impulses which are normally sent to the brain by the fact of inspiration and expiration. The respiratory center in the medulla may thus be reflexly stimulated to send out a message to the lungs, which will re-establish breathing. The amount of carbon dioxide which collects in the

blood between respirations stimulates the rate and depth of respiration.

The technique used for artificial respiration is one which approximates normal respiration. The operator must develop a regularity of movement which approximates the normal respiratory rate per minute. He must also make sufficient pressure on the victim's chest wall to compress it and expel the air from the lungs, and yet not exert too much pressure on the victim. He must study to assume a position which will reduce personal fatigue to a minimum, and thus enable him to carry on artificial respiration for hours if necessary. The operator should have some assistance, in order that external heat may be supplied to the victim's body, to assist if the victim should manifest symptoms of choking or restlessness, to relieve the operator in administering artificial respiration, and to go for additional help, if it is needed. It may be necessary to continue the procedure of artificial respiration for hours. It should

be kept up until the patient responds and normal respiration is instituted or until a physician pronounces him dead.

If artificial respiration has been successful and breathing is resumed, the patient must be kept quiet for some time to prevent further strain on the heart.

The services of a physician should be secured at the earliest possible moment. Artificial respiration requires intelligent care, endurance, co-operation, and a determination to win no matter how great the odds. The actual training in how to give artificial respiration should be secured, if possible, in the first-aid class.

The Emergency Call Comes Over the Wire. The Nurse Knows What to Do in Such Cases. Would You?



Shock is a condition which accompanies, to some degree, all types of injury to the body. It may also be produced by strong emotions. Sometimes it is only slight, and lasts but a brief period, and again it may be profound and prove fatal. It is characterized by a depression of all bodily activities. The nervous control of the blood vessels is lost, or partially lost, and the large blood vessels around the stomach, liver, and intestines relax and permit a large amount of the body's circulating blood to collect there. The heart attempts to keep the normal complement of blood supplied to all tissues of the body, and thus it beats faster. However, an insufficient amount of blood is supplied to the extremities and to the skin. The symptoms which are observed are the result of this, and are a weak, rapid pulse, pallor, a cold, moist skin, lowered blood pressure, lowered body temperature, irregular breathing, and mental sluggishness, which increases as the degree of shock increases. To treat shock, heat is applied to the body, the victim is kept lying down, so that more blood can be sent to the brain, and a stimulant is administered. Aromatic spirits of ammonia may be inhaled or taken internally (one teaspoonful well diluted), or other stimulants may be administered. The treatment for shock is important, but is secondary to the control of bleeding, artificial respiration, and treatment for poisoning.

Fractures can readily result in more extensive injuries if they are not wisely handled. Fractures may be thought of as falling into two general classes:

1. Simple fracture, where the bone is broken but there is no connecting wound between the break and the skin.

2. Compound fracture, where the bone is broken and there is a connecting wound from the break to the body surface.

The first aider should suspect the presence of a fracture when there is pain and tenderness directly over a specified area of the bone, accompanied by complete or partial loss of movement of the part, and particularly if the victim reports that he has felt or heard the bone snap. A further check may be made by examining for deformity of the part and comparing that part with the same area on the other side of the body.

Early treatment by a physician is important, and someone should be assigned to secure a physician at once. Meanwhile the first aider should concern himself with the prevention of further injury to the victim by improper handling, making the victim as comfortable as possible, and preventing shock or treating it as symptoms appear.

The prevention of any movement of the affected part after returning it to its

normal position, in so far as possible, is the basic principle of protection against further injury. When a fracture occurs, there usually is an overlapping of the fractured ends of the bone. Physicians have considered it advisable to teach the first aider how to apply traction to take up the slack which results from this overlapping. Traction properly applied and retained will reduce greatly the possibility of further damage to the surrounding tissues, and will materially increase the comfort of the victim until the services of a physician can be secured. Traction once applied must be continuously retained.

Sometimes it is not possible to apply traction to the affected arm or leg because of lack of necessary equipment or lack of information on the part of the one giving the first-aid care. In such cases the part is carefully returned to as normal a position as possible and protected against further movement by the application of well-padded splints which are long enough to extend beyond either end of the extremity. If boards of appropriate size for the area being treated are not available, heavy newspapers, pillows, cardboard, magazines, or wire netting may be used.

Swelling usually develops following a fracture. Therefore, it is important to examine the splinted area at least every thirty minutes, and, if necessary, to loosen the constricting ties to permit a free circulation of blood to be re-established in the part.

Fractures of the neck and back require most skillful handling. Only a slight additional movement may be required to produce permanent injury to the spinal cord, which will result in permanent paralysis of the lower or upper extremities, or both.

Victims who complain of pain in the back or the neck and who manifest inability to move the feet and toes or hands and fingers, or both, should be cared for by the first aider as if they have a fracture of the back or the neck.

If the services of a physician cannot be immediately secured, it may be necessary to transport the victim to the physician. In order to prevent any movement during transportation, the victim's body should be placed in a straight horizontal position and the position maintained while the

Nurses in the First Aid Department at the Airplane Division of the Curtiss-Wright Corporation Are Shown Treating Employees' Minor Injuries at Plant



PHOTOS BY SOBHELMAN



victim is turned on his back, with the face upward, and carefully slid onto a wide board (longer than the body), a door, shutter, or other large, rigid surface. The victim should be carefully transported. Sweaters, coats, and blankets may be placed on either side of the victim's head to prevent the slightest movement during transportation. The arms should be placed at the sides and the body also secured to the board so that there will be no movement. This may be done by tying bandages around the victim.

Physicians recommend that a victim who has a fracture of the neck always be transported on his back, and that when in doubt whether the fracture is in the back or the neck, the victim be placed on his back. However, physicians recommend that if it is certain that the fracture is in the back, and not the neck, the victim be placed on the board face downward (prone position). The same precautions are exercised in either case. Whenever in doubt what to do with the victim of an injury, keep him lying on his back. The one who gives first aid never sets a bone. He simply prevents

movement of the affected part by the application of splints before transporting the victim.

Bones which have been dislocated, but which have immediately sprung back into place, are called sprains. Sprains may be slight or severe. Pain, swelling, and impaired function accompany the sprain. First-aid care for sprains given before the services of a physician can be secured constitute elevation of the affected part (a sling for an arm, or elevating on pillows for a leg) and the application of cold to the area.

Burns may result in a simple reddening of the skin, a blister, or in actual destruction of the tissue. Much can be done toward preventing burns by more careful handling of fire and hot materials.

Extensive burns are likely to be followed by pain, shock, and infection. The first aider's duties are to relieve pain, treat for shock, and prevent infection. He should get the victim to the physician for further treatment in the best possible condition. Therefore it is not advisable to cover the burn with oils or grease.

All clothing should be removed from
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ovarian substance from the circulating blood stream. But a new day was dawning. Medical science and chemists, after forty years of experimentation in the laboratory and on animals, produced an ovarian hormone called estrogen. If this magic substance were injected hypodermically, her own dwindling supply of estrogen was replaced, and her harassing physical and mental torments disappeared.

The relief brought to womankind by this discovery is one of the most outstanding and appreciated triumphs of modern medicine. With the present knowledge and use of hormones, we have not only added length of days to the span of life, but have also restored the spirit of youth and hopefulness.

Listen to the echo from the army of relieved individuals:

"I am now looking at the world through rose-colored glasses."

"I know now my suspicions were all imaginary."

"I am sleeping so much better."

"No longer do I now feel like jumping off the bridge."

One obstacle, however, stood in the way of widespread use: the natural estrogenic substance was expensive. For the best results, it had to be given hypodermically. This meant many trips to the doctor's office, sometimes over a period of weeks, months, or even years.

But science was marching on. Recently the test tube has been substituted for the animal as a source of these hormones. The Federal Food and Drug Administration has released a synthetic hormone prepared in the laboratory, which has the same chemical formula as estrogen, called stilbestrol.

This hormone is five times as effective as the natural hormone, can be given by mouth, and costs the patient about one tenth as much as estrogen, or about one half a cent a day. When this substance is given either hypodermically or orally, the nervous symptoms of menopause disappear and the patient feels herself again.

This wonderful new hormone is not without some occasional side effects. There may be slight nausea, skin rash, or even increased nervousness. It is therefore sold only under the direction of the physician and given in very minute doses to begin with. The patient is examined to be sure there is no liver or gall-bladder disease or family history of genital or breast cancer. While the synthetic hormone, stilbestrol, is able to relieve the more vivid symptoms of the menopause, its use is not so often followed by the sense of well-being which the patient almost invariably obtains from the use of natural estrogens. One European journal remarks, "Natural estrogens are safe."

Only time will tell to what extent stilbestrol will be able to replace the natural hormone. We know that much has been gained by it, and can only look forward to its perfection in the days to come.

Science Provides Relief for

WOMEN in MIDDLE LIFE

R EDNA F. PATTERSON, M. D.

NATIONAL governments pass through their transitional periods. A time comes when shifts of power take place. Before the new political balance is established, there is a long period of unrest and readjustment. In womankind there is also a transition period. It is known as the menopause. Eight million women in America, between the ages of forty and fifty, must pass through this cycle every year. Just as surely as there comes a time in a young woman's life when the reproductive organs come into active duty—puberty—just so surely there comes a time when their functions have been completed and they decline into a quiescent state—the menopause.

While this is a natural process, yet it is frequently attended by most unnatural and distressing symptoms. Chief among these emotional upsets are hot flashes, nervousness, sleeplessness, despondency, and even the fear of insanity. The whole pattern of an otherwise healthy and happy individual suddenly changes, without her understanding or consent.

Until the last few years woman was left to her unhappy state or condemned by her family because she would not "snap


out of it." Because it was a natural process through which every woman had to pass, medical help was not solicited. Even a consultation brought little relief, for the doctor himself had nothing to offer.

These emotional storms were the result of the sudden withdrawal of a certain



How Important are VITAMINS?

And How Can We Know if We Don't Have Enough?

 LOLETA SIMPSON, M. D.

MR. Gonzales was a hard worker. He was more ambitious than many of the men who were working with him on the railroad. His children were kept clean and appeared well fed. The youngest was a plump, happy boy of nine months. They had always fed this baby a special brand of baby food which, they understood, contained all that the baby needed, and therefore, nothing else need be added to the diet. The baby was old enough to eat other foods, and the baby food was rather expensive; yet they were so proud of the way he had progressed on this formula that they decided to do without some of the comforts of life rather than change his diet.

Then the mother noticed that the baby was becoming more fretful, and acted as if he were really in pain every time she moved his legs. This condition, instead of being temporary, did not clear up, but became even worse; so they took the baby to the doctor with the explanation that the children had been playing with the baby and it was feared they had dropped him and injured his back. Examination showed that the baby cried whenever he was touched, but objected most to having his legs moved. It was also noticed that his gums were a bluish-red color and bled easily. When questioned, the mother remembered that although the baby seemed hungry when she gave him the bottle, after a moment he spit out the nipple and started crying—evidently it hurt him to suck on the nipple.

This baby had never been given any food that contained vitamin C. His condition was proved to be due to a lack of this vitamin, and not to an injury of



H. A. ROBERTS

Vitamins Are Important and Essential to Optimal Good Health

his spine. Here was a clear case of scurvy. The X-ray films of his bones showed typical changes. All the symptoms disappeared in a few days after the addition of orange juice to the diet. Almost a year later the father reported that his boy was growing fast and enjoying perfect health.

Symptoms due to lack of vitamin C are less common in adults, since their diet includes a greater variety of food. Adults who are found to be suffering from inadequate diets are often among the wealthy classes. In some cases necessary foods are omitted because the person does not like them, or because he does not believe these foods agree with him; still others follow faddist diets. An incongruous example was a case of scurvy that occurred in an adult—a wealthy man who owned a large orange grove.

Lack of vitamin C intake may produce the following symptoms: weakness, heaviness, pains in the legs and other parts of the body, dizziness, nausea, easy bruising, bleeding from the gums, hemorrhages from other parts of the body—for example, nosebleeds or blood in the urine. Other conditions can produce similar symptoms, but in their presence it is al-

ways well to check on the vitamin C intake.

How well can you see in the dark? A simple way to determine whether your vitamin A intake is adequate is to enter a dark room from a well-lighted one and notice how many minutes elapse before you can see clearly. If it takes much longer than three minutes, drink some carrot cocktails, or otherwise increase the vitamin A in your diet. After a few days try the test again and see if the time has been shortened. In deficiency of vitamin A, failure of dark adaptation is the earliest recognized symptom. The inability to adapt vision quickly when changing from good to poor illumination is not serious in itself, but may be dangerous when driving an automobile at night. The driver is practically blind after meeting a bright light.

If the deficiency is moderately severe, there may be redness and irritation of the eyes. There is the case of a baby whose eyes were inflamed. The mother had already tried the usual remedies for sore eyes before she brought him to the doctor, but without results. He was given vitamin A, and his eyes became normal.

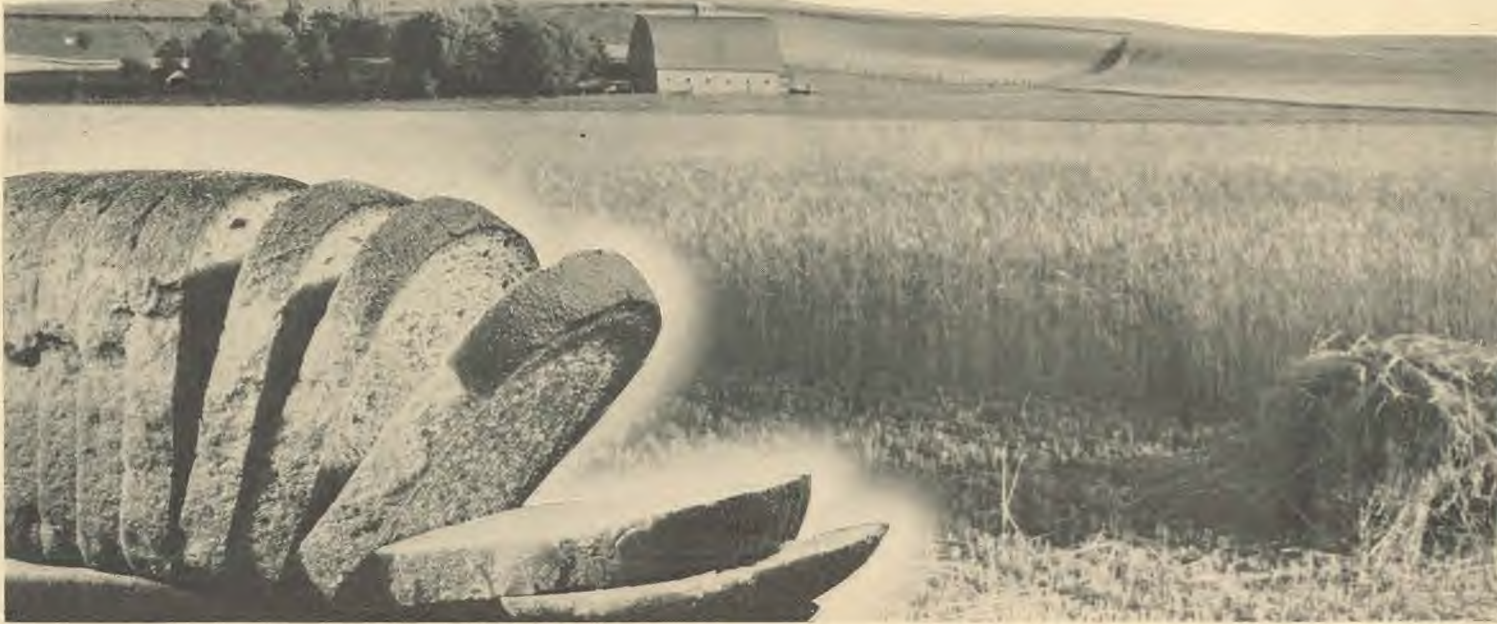
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Maybe You're HUNGRY

and Don't Know It

A Study of a Wartime Health Measure—Enrichment of Bread and Cereals

By THE EDITOR



GALLOWAY AND RESETTLEMENT ADMINISTRATION

When You Serve Bread, Be Sure It's Either Whole-Wheat or Enriched

WHEN Napoleon declared that an army moves on its stomach he was expressing a greater truth than he realized. He knew nothing about balanced diet or proteins or minerals. And he was wholly ignorant of vitamins and hidden hunger. He did not know that a man might have his stomach full and still be unknowingly hungry, so far as truly nourishing food is concerned.

Nor did anyone else for a century after the Corsican finished his musings on St. Helena. The science of nutrition is one of the youngest of the sciences. But its contributions have been out of all proportion to its age. Within the last few decades science has been discovering with amazing speed one after another of the mysteries of food in relationship to the health of mankind. Here is where vitamins and hidden hunger come into the picture.

The nutritionists have discovered that the absence of these elusive little things called vitamins can cause untold trouble for the delicately adjusted mechanism of

our bodies. They have proved that a person may in truth be hungry so far as bodily needs are concerned, when he thinks himself well fed, simply because he lacks sufficient of the vitamins. The same holds true to a certain degree of various minerals. From this discovery grew the picturesque name, "hidden hunger."

Further study of the eating habits of people revealed that the majority relied heavily on cereals, particularly bread, and on fats and sugar, for the calories required to keep the body furnace burning. The next fact that presented itself was this: That the modern trend toward refinement in foods resulted in a substantial reduction in the vitamin content of bread and of certain processed cereals, and likewise of shortenings and sugar.

All this presented a rather disquieting picture. The disquiet was only heightened by the evident fact that it is very difficult to change the eating habits of people. Some of the deepest ruts of habit are those we dig with our teeth. Our fathers began the excavation, and we fol-

low their tooth marks as readily as we do their footmarks. This is due in part to the inertia of habit—it's much easier to roll along in a rut than to climb out of it.

But besides inertia there is the skepticism of many as to the need of traveling a new path—a path along which grow green vegetables and fruits and whole grains. There is always a lag between the time of the discovery of an important scientific truth and its acceptance by the public at large. That is what the nutritionists have been realizing as they have sought to persuade people to change their eating habits to include more of the necessary vitamins and minerals.

Perhaps time, that solvent of many problems, would finally have brought the public to accept fully these scientific discoveries and to adjust their diets accordingly. But something dreadful suddenly happened. The second World War began—total war, in which every individual in every warring country found himself playing some part. And among the new

and deadly weapons of this conflict stood revealed the war of nerves.

Now quite patently the way to win the war of nerves is to go into the fight with good nerves. And the best weapon in total warfare is the weapon of rugged health. But how can one have steel nerves and an iron constitution if the body does not receive the right food! That was the dilemma that confronted nutritionists as war began to spread over the earth once more.

But it was not only nutritionists who were troubled in mind, officials in high Government positions were also concerned. At the same time the milling and baking industries set out to discover, if possible, a way to improve the nation's health through better food.

The story of what happened is now rather well known. Conferences of millers, bakers, Government men, and nutritionists, were held in the early part of last year. The most important was a conference called by the President of the United States, at which representative nutritionists and key physicians, besides representatives of business and Government were present. That was in May, 1941.

The reasoning at these sessions might be briefly summed up thus: Too large a fraction of the population do not have a truly adequate diet, particularly from the standpoint of vitamins and minerals, and thus suffer from hidden hunger. This is due largely to their eating habits and to the modern processes of milling and refining. Such a situation bodes no good for the country and must be remedied without delay. Why not put back in certain staple foods, like cereals, and particularly bread, the important elements that have been removed in the milling process?

This question was the logical climax to the discussions. It was a question that allowed of only one answer. And the answer is found in the enrichment program of which almost everyone has heard something, and of which all of us will hear much more in the days to come. There is now available enriched bread that provides essentially the same vital elements that whole-wheat bread does. There are enriched cereals that furnish our bodies with the same precious ingredients as the whole grains from which they came.

This, in brief, is the background of bread and cereal enrichment. And it is against this background that we can best see its vast importance. We believe it to be the greatest single step made in behalf of the health of the nation since the campaign for sanitation a generation ago.

But no aggressive advance move is made without certain opposition. The sanitation drive of health officers at the turn of the century met much resistance. Where active opposition did not exist, there was

at least apathy. Many felt that the germ theory was being taken too seriously. Pasteurization, drainage, sewage disposal, destruction of fly-breeding places—all these were viewed by our generally complacent fathers as rather newfangled; worth while, perhaps, but not nearly so important as health officers seemed to think. Even some of the learned shared this apathetic attitude.

Today, the move for enrichment, which promises so much for the nation's health, is also confronted with obstacles. Seeking to block the path stands a languorous old character, Apathy, in strange, unholy alliance with a fight-loving fellow called Active Opposition. The combination has always been hard to conquer. You are likely to be borne down by the sheer weight of drowsy Apathy while you are deploying your forces to strike at Active Opposition. The battle hymn of Apathy is a steady snore, while the taunting war cry of Active Opposition is sung on two notes: "There's not sufficient scientific proof," and "This is just a racket for the gain of some group." We wish to examine these war cries.

Take first the charge that there is not sufficient scientific evidence on which to base the enrichment program, in other words, that few people suffer from hidden hunger, which is malnutrition in its most deceptive and dangerous form. Those

who make this charge sometimes insinuate that the Government officials who are promoting enrichment are simply stirring up a great excitement to justify their pay checks. Such tactics, of course, carry weight with some people, especially if the one making the charge has a certain scientific standing.

Now this is an age of specialists, and nutrition is definitely a specialty today. The signs of malnutrition from hidden hunger may not be heard through the stethoscope, or perhaps not be observed on the patient's tongue as he obediently extends it far outward at the doctor's orders. Because of this and because the debate as to the prevalence of malnutrition is primary to the whole argument for enrichment, we wish to quote from an article that appeared recently in the *Journal of the American Medical Association*. This article is by Norman Jolliffe, M. D., James S. McLester, M. D., and H. C. Sherman, Ph. D., Sc. D. Probably no other trio is better prepared to write on questions of nutrition in relation to health. The opening sentence of their article explains: "Recent estimates of the prevalence of malnutrition in the United States have varied so greatly that the Food and Nutrition Board of the National Research Council has assigned to us, as a subcommittee, the task of evaluating ex-

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H. M. LAMBERT

Sturdy, Healthy Children Are Adequately Nourished. Their Diet Includes All Essential Elements

The DIETITIAN SAYS

CONDUCTED BY
LUCILLE J. GOTHAM, DIETITIAN

This department serves as an aid to our readers in their dietetic problems. For information regarding some particular food or diet, address: The Dietitian, LIFE AND HEALTH, Takoma Park, Washington, D. C. Enclose stamped, addressed envelope for reply. This service is available only to subscribers.

Egg White

We have heard that the white of an egg when eaten with the yolk is a detriment. Instead of giving more nourishment, it detracts from that of the yolk. Is this true?

Many years ago an eminent scientist noticed that egg whites have a toxic effect. More recently in animal experimental work it has been found that egg whites have an injurious effect when taken raw and in quantity. The white of egg is pure albuminous material, and therefore is a concentrated protein. There are some conditions in which physicians often restrict egg whites. Evidently the Creator intended the egg white to go with the yolk. When the yolk and the white are properly cooked and taken together, the egg is wholesome and valuable as a food. Two eggs as an omelet, for instance, make a more nourishing dish than the average serving of meat.

Cooking Methods

I cook some foods in a pressure cooker and am wondering if any of the minerals and vitamins are destroyed. Is the waterless method a better means of retaining these? Do some foods lend themselves better to one method and others to a different method? What method of cooking preserves the largest amounts of vitamins and minerals?

In deciding on the very best method for cooking a food it would seem to be wise to vary the method according to the type of food. The research work up to the present time shows that the baking process preserves the largest amount of vitamin C in the root vegetables. Hence many informed cooks are now baking carrots, onions, beets, squash, and rutabagas as well as potatoes. The vegetables should be baked in the skins, and care should be taken to avoid breaking the skins, as the entrance of air and the escape of the steam seem to destroy the vitamin C.

The greens such as kale and turnip greens should be quickly cooked, and only until tender. No soda or fat should be used in preparing them, as these additions lessen the vitamin values. It has been shown that adding soda to preserve the color of vegetables destroys vitamins B₁ and C. There is reason to believe that seasoning with fat lessens the amount

of vitamin G (riboflavin) that the body absorbs from the food. The cooking water should be carefully saved, since it contains a large amount of vitamins B and C as well as minerals. An ordinary saucepan or a waterless-cooking method would seem to be most appropriate for the cooking of green vegetables. Recently the *American Medical Association Journal* recommended the pressure saucepan. It was stated that cooking food at a low pressure preserves the vitamins. It is an approved method especially suitable for beans of all kinds.

Using soft water lessens the time of cooking and tends to preserve vitamin B₁. No soda should be added to legumes, and they should not be soaked overnight unless the water in which they are soaked is used. As far as cereals are concerned, the double boiler or the fireless cooker overnight method seems to preserve the largest amount of vitamins; in fact, if these methods are used, practically all the vitamin B₁ content of the grains is preserved. Fruits and vegetables should be eaten raw as often as possible. If they are cooked, the cooking time should be as short as possible. With cereals it is different. Thorough cooking increases their value.

Nonflesh Proteins

We are trying to eliminate meat from our diet. Will you please send me a list of what foods to substitute, where I can obtain recipes for roasts, etc.?

It is easy to replace meat in the diet, and many experience improved health at once from the change. Meat must not, however, be eliminated without making sure that its place is filled with other foods just as nourishing. Peanuts are very satisfactory as a meat substitute. They are rich, and so it is best to combine them with grains or vegetables. Potatoes, carrots, and onions mixed with ground peanuts make a nutritious meat-like roast. The legumes such as peas, beans, lentils, and garbanzos make a satisfactory protein ration if they are used along with whole wheat. Soybeans in all the different forms are adequate in protein. Cottage-cheese dishes are equal to beefsteak in protein, and it is surprising the many ways you will find to use cottage cheese. Egg dishes are satisfying and as nutritious as steak. Two eggs replace an average serving of steak in protein. You will enjoy omelets, soufflés, and es-

caloped dishes. Then there are the many expertly prepared meatlike but entirely vegetable seasonings and nutmeats. You will find many of the best advertised in this magazine. Upon writing to these companies you may obtain a large number of choice recipes.

Potatoes

Which is the more valuable food, Irish potatoes or sweet potatoes?

Sweet potatoes have a higher energy value, as they have more carbohydrate. They also have vitamin A in rich amounts. Sweet potatoes are not eaten as widely as white potatoes, probably because they are a little harder to keep in good condition. The sweet-potato crop is only about one fifth as great as the white-potato crop. As you would expect from the heart-shaped leaves, sweet potatoes are related to the morning-glory, and not to Irish potatoes. The white potato is nevertheless a very important food. Recently it has been stated that potatoes and butter will keep an adult in robust health. The food value of the white potato differs according to the soil, fertilization, climate, and the maturity of the potato. The green spots sometimes found on potatoes contain chlorophyll from the sun touching them. They should be avoided, as they also have a poisonous alkaloid called solanine. If these potatoes are eaten, they should be sliced and soaked in cold water a few hours and the water thrown away. Potatoes have 2 per cent of high-quality protein, and they supply a worth-while amount of minerals, including iron and phosphorus. Potatoes supply vitamin C in the most economical form, and they are more economical than oranges or tomatoes as a source of this vitamin. They must be carefully cooked, preferably baked, to save the vitamin C. They also supply vitamins B₁, G, or B₂, and nicotinic acid in significant amounts.

Food Values

Please list some of the most valuable foods that are in the economical class.

Many of the most worth-while foods are those in the lower price ranges. Some of the highest in food value are beans, potatoes, tomatoes, cabbage, whole grains, peanuts, dry peas, apples, dried fruits, evaporated milk, and certain fruits at the height of their season, such as melons and strawberries.

*An article for those
who contemplate marriage
and also for those who are
married*

EVERY maiden's mother in the land is hoping, praying, scheming, working, to the end that her daughter shall "marry well." And the maiden herself is not exactly quiescent. Every mother's son holds the lordly expectation that he will get for a wife the best girl in the world. At least he will not stand on one foot waiting for the other fellow to carry off the prize.

But what does it mean to "marry well"? Not to marry money. Not to marry fame. Not to marry position. For the most part this generation of youth has learned to look to brain and brawn or beauty rather than to trailing luggage. To marry well, they believe, means to marry someone who has personality that pleases and gumption that will get somewhere. They figure that with this ingratiating and dynamic equipment, life may flow smoothly as a millrace and turn the wheels of the world.

And 83 1/3 per cent of them succeed, more or less—which means that only one in six marriages in the United States of America ends in the divorce court. Let us give thanks for the five sixths out of which come the stable homes of America, homes in which peace reigns, the laughter of childhood rings, the cares and disappointments of life are sanitized in the sunshine of love, the deep values of society are cherished, maintained, and multiplied.

If only the picture were so bright! If only we might assume that every marriage which keeps out of the Reno courts is a successful and happy marriage, that every home with children is a school of virtue and democracy. No one is so innocent as to suppose that. If five sixths of our homes were so perfect, five sixths of the world would be at peace and would enforce peace. The truth, of course, is that there are all gradations of success in marriages, shelving off into partial or absolute failure. Divorce is but the spectacular answer of the impatient to the problems with which a majority of homes wrestle, many of them with dubious success. The couples hang together, but they hang.

It is a guess, but perhaps not far off the mark, that not more than half the mar-



Simple Rules to Make Marriage A Success

By

riages entered into show that degree of compatibility, co-operation, and affection which would mark them as truly successful. And the homes which, because of their perception of the great values of life and their success in implanting them in the matrimonial and parental relations, act as dynamos of virtue and power in the affairs of the world, are in much smaller number.

It is that scarcity of homes, not merely good but dynamic, which spells the woes of this age. Say what you will of remedies for the world's troubles and evils, multiply as you may political and civic and educational and religious organizations to cope with the problems, when you come down to base, you discover that the solution lies in the home. For there is where life begins, and where it receives the mold and direction and motivation

that determine what it shall be throughout time. The church and the school do indeed make their impress upon the home, as children have an influence upon parents; but as parents shape the characters of their children, so the home absolutely determines what the church and the school and the state shall be. Give us good homes, great homes, and we give you the golden age.

It may appeal more to the average man and woman if we recognize that the issue is not merely social, political, and cosmic;



life's purpose and not only be happy*but contribute to the welfare of the race.

Why should not every marriage be perfect? The ready answer is that the materials for successful marriage are all too scarce. Ann says that she has looked over the supply of eligible bachelors and found only one suitable swain, and Josephine grabbed him. John Patrick complains that while he was getting ready, another stepped in before him, and he can see no second Rosalind. Because she's all there is, there isn't any more. In process of time, of course, the heart bruises heal, but only second best is available, and then third, and so on, until the shipload is exhausted. "You can't make a silk purse out of a sow's ear."

Isn't it time that youth be taught how to *make* good husbands and good wives—that is, each of himself or herself? If you are a man, you can't train a girl from babyhood to be just the kind of wife you need; and if you are a woman, you can't train a boy from infancy to be just the sort of husband you require. But you can on the one hand make yourself the

kind of man and on the other hand make yourself the kind of woman who will be the best kind of husband and wife, and so increase the supply of good material. And training yourself is far more effective than training someone else.

I say youth should be taught how to do this. We are merely fiddling at education when we devote our efforts to making lawyers and engineers and secretaries and salespeople and even doctors and nurses and preachers, and fail to give that science and discipline which make life worth living. Out of that sort of lopsided education you get politicians who tangle the threads of international good will, technicians who invent something more horrible than TNT to blow humanity sky high, merchants who mine the public welfare for profit, and mere patchers up of bodies and souls. For you can't build a great nation upon a rubble heap of ruined homes.

It's the concern of you young men and you young women to get this education. If you can't get it in school, get it outside of school. You may not have had so favorable a start in your childhood home. Your parents may have been lacking in the ability or the devotion to train you in all admirable traits of character. You may be self-centered, peevish, irascible, sulky, sensitive. You may be rough, gruff, quarrelsome, provocative, a regular social porcupine. You may be lazy, dirty, committed to physical habits that defile and debase. You may be extravagant, improvident, tricky, dishonest. You may

(Continued on page 27)

THUR W. SPALDING *

it is intensely personal. The overall result does indeed affect the fortunes of the world; but the immediate problem and the immediate effect relate to this man and this woman who are husband and wife. Are they happy? Are they successful? The nerves of life's consciousness are in them, individually and unitedly. Only as their personal and conjugal lives are satisfied, vitalized, and implemented for service can they realize


PHOTOS BY ROBERTS,
HARLAN, AND LAMBERT

Compatibility, Co-operation,
and Affection Mark Mar-
riages as Truly Successful.
Successful Homes Act as Dy-
namos of Virtue and Power
in the Affairs of the World



* Director of Social Education, Madison College.

CONSTIPATION

 E. C. EHLERS, M. D.



OF all the ills which inflict suffering on civilized man, constipation is no doubt one of the most widespread and distressing. In many instances it is entirely unnecessary; it is more often, perhaps, than any other ailment man made and self-inflicted; furthermore, it is a most wretched condition, in that it neither lets one feel well enough to enjoy life, nor provides sufficient excuse to put him to bed. For many years medical authorities have told us, and in helpless submission we have accepted as unavoidable, that "there is no other land in which chronic costiveness is so prevalent as it is here."

And it is interesting to learn that those things precisely which are so commonly and frequently so injudiciously employed to cure this condition are cited by competent medical observers as the very cause responsible for the evil.

There are, of course, other causes of constipation. The bowels may become partially or totally obstructed by tumors in or adjacent to the gut, or by adhesions; and there may be gall-bladder, appendicial, pelvic, or rectal disease, the irritation from which, through reflex action, may interfere with the normal intestinal activity. The effect of our high-tensioned modern life on the muscles of the intestinal wall must also be mentioned, since our own experience teaches us that periods of nerve strain or excitement are often followed by hard stools. It often happens that during such periods cathartic addiction gets under way, whereas a proper understanding and judicious handling of the situation would have avoided lifelong grief.

Doctor Fantros of Rush Medical College describes the manner in which cathartics may produce constipation in this wise:

"Excessive evacuation does not leave enough residue to excite bowel movement the next day. The patient, believing or instructed that he ought to have a daily bowel movement, repeats the dose; and he is well started on the way to a drug habit. For now fatigue of the musculature from overstimulation, or muscular spasm from abnormal irritability of the mucosa, due to excessive irritation, is likely to assert itself, leading to the ne-

cessity of progressive increase in dosage and potency of the drug."

As long as the gut wall is in a normal condition, little absorption of poisonous (toxic) material can take place. When it is in a state of irritation, however, owing to excessive or long-continued use of cathartics, the matter is quite different; poisonous substances then may more readily pass through it and into the blood stream, and actually bring about a condition of "autointoxication."

It has also been suggested that the inner lining of the normal bowel is coated with a protective film which helps to make it impervious to bacterial invasion. This coating, some authorities hold, is removed by the excessive use of cathartics, the bowel thereby being rendered more vulnerable to bacterial insult. The same dangers, of course, exist to some extent in the case of the enema habit, but are considerably lessened by the fact that it is difficult to force the enema water beyond the colon; and if normal saline is used (approximately two level teaspoonfuls of table salt to a quart of water), the irritation is minimized.

Still another undesirable and distressing effect of cathartics is distention of the intestines by gas and fluid. The former is caused by irritation, while the latter is noticeable, especially when saline cathartics, as Epsom salts, are employed.

Of late unscrupulous exploiters of the gullible public have seized upon a clever trick to augment their income by offering saline cathartics, mostly under the name "crystals," as miraculous cures for obesity. They fail to tell us, however, that all the "crystals" can do is to hurry the food along the digestive tract before it is assimilated, and they either forget or neglect to inform us that in addition to their irritating effect, the liquid stools produced by the "crystals" furnish an admirable culture medium for bacterial growth in the intestines, and thus are a potential disseminator of infection if it exists in any part of the gut.

The confines of this paper do not permit a more extensive survey of the harmful effects of cathartics on the otherwise normal bowel. But one can hardly leave the point under discussion without at least a passing mention of the many disastrous and often fatal cases of intestinal perforation and gangrene of the bowel directly due to cathartics injudiciously administered to patients suffering from ap-

CV LA TOUR AND SON

Provision Should Be Made in the Daily Program for Definite Periods of Outdoor Activity and Relaxation

pendicitis, intestinal obstruction, and ulceration of the bowel.

Lest the reader gain the impression that all cathartics are always to be avoided, and are uniformly harmful, let me hasten to explain that there are certain well-defined conditions in which they are justified. The following is an attempt to list a few of the most common evacuants, and to suggest when and how they should be used.

Of rather recent years mineral oil, pure or in some modification, has been introduced as an aid to bowel elimination, and is now one of the most widely used medications. Mineral oil, or petrolatum, is a tasteless, odorless, colorless, indigestible, and bland liquid. It does not become rancid, is not assimilated, and hence cannot act as a poison. Granted that it is often used unwisely, and frequently gives rise to the baneful results named above, we must still consider it one of the most harmless substances administered for curative purposes. Its chief action is that of softening the feces and lubricating. If taken in excess, leakage of the oil results, and the dosage must then be reduced. In order to make this laxative more effective, combinations of mineral oil with agar-agar, cascara, sirup of figs, etc., are also widely used.

This softening of the feces must not be confused with the dissolving of hard lumps of fecal matter, for which water is much more effective than oil. All the oil does is facilitate the expulsion of hardened feces by acting as a lubricant. Owing to the fact that the fecal matter hardens as it descends to the lower portions of the digestive tract, an oil enema which takes the lubricant directly where most needed is often preferable to oil taken by the mouth. Finally, it must be stressed that whether taken by mouth or by rectum the oil, after it has become effective in overcoming constipation, should be used in decreasing dosage in order to train the bowel to natural action.

Olive oil, cottonseed oil, and, in fact, any other food oil or fat, can be used in the same way as petrolatum and have the additional advantage of being absorbed by, and hence furnishing nutrition to, the body. It must be remembered, however, that the amount of food oil taken for laxative purposes must be larger than that of the mineral oil, since much of its laxative effect is lost by absorption.

Yet another oil laxative, and one which in addition to being always effective has the glory of venerable age, is castor oil. Some of the objections formerly raised against this time-honored evacuant have of recent years been eliminated, not only by processing the oil to make it tasteless, but by flavoring it. However, with all the bias in favor of this purgative, we cannot avoid mentioning that its effectiveness is due to the production of an irritant—ricinoleic acid—the effect of digestion on castor oil. Then, too, it need

hardly be added that it is notorious for leaving the bowel sluggish and constipated. It is, therefore, a poor drug to be used in the cure of this condition.

Advancing civilization has brought about a refinement of food, and the attempt to leave out indigestible particles as cellulose has produced a concentrated dietary of minimal bulk. As a result the fecal matter has become small in quantity, and bowel movements have become less frequent. The effect of such a concentrated diet is not the same in all individuals. In some the evacuation is not affected thereby, while in the majority of individuals it tends to constipation. These latter will usually benefit from the addition of a little cellulose in the form of bran to their diet, just as bran mash is being used extensively for farm animals because of its laxative properties. It is to be noted here that the use of vegetables and fruits adds cellulose to the diet and increases bulk. If, however, as occurs in the case of some, there is excessive digestion of cellulose, with production of much flatulence and irritation, the evidence is that bran feeding is contraindicated. Lest the feeding of bran become distasteful, it must find its way into the kitchen and be made an ingredient in palatable and diversified dishes, so that one may never grow tired of it.

Cascara sagrada and the more powerfully active senna are also being used extensively, and if administered sparingly and judiciously have the advantage of not losing readily their laxative effect even on prolonged use. Since their effect is to stimulate intestinal motility, griping may result, and they should, therefore, not be given when the bowel is already spastic. Together with bile salts, phenolphthalein, aloes, podophyllin, etc., cascara sagrada and senna are favored ingredients in the manufacture of laxative pills.

They are often sold under the name of "bile salts" or its equivalent, a clever trick of the manufacturers, who take advantage of the layman's mistaken idea that the terms "constipation" and "sluggish liver" are identical.

The proper handling of constipation concerns itself with preventive and curative means. Regularity at going to stool would no doubt prevent most cases of constipation. The high-tensioned rush of modern life and the faulty mode of living are responsible for practically all but the organic causes of constipation. Granted that in the treatment of cases of secondary, or organic, constipation, cases in which an organic abnormality either directly or reflexively is responsible for the trouble, special treatment, including the cautious use of cathartics, may be justified, most cases of habitual and spastic constipation could be prevented by observing these four rules:

1. Regularity of going to stool at a certain fixed hour during the day.
2. A diet including an abundance of vegetables and fruits (including figs and prunes) and whole-grain cereals.
3. Provision in the daily program of a definite time for outdoor activity and relaxation.
4. Spiritual poise, the outgrowth of faith in God and trust in divine power, which can be developed and maintained by daily communion with God, and Bible study, and prayer. Nothing is more effective in reducing nerve tension.

For a curative program, the following tentative scheme may be given a trial:

1. Let the sufferer convince himself that constipation is merely a faulty habit which can be overcome by proper hygiene and diet without recourse to evacuants and enemas.
2. Go to stool at a regular time each day whether there be a desire or not, and, without straining, spend fifteen minutes in an attempt to have a passage. Punctual, patient perseverance usually brings results after three or four days.
3. Convince yourself of the scientific fact that if you do not succeed in your attempt

Allergic

By MARGARET BEIDLER

June, the month of perfect days,
Passing by in bleary haze;
Every gentle fragrant breeze
Wafting pollen for a sneeze;
Green and leafy paradise
Glimpsed through overflowing eyes.
Ah, the slow, unfolding rose,
Aw, the itchy, twitching nose.
Bird songs blithely trilled in twos,
Counterpointed by kerchoos!



to secure a passage, it does not matter. Frequently constipation is caused more by fear and hypochondria than anything else.

4. If the above proves unsuccessful, try the following: slowly instill into the rectum three to four ounces of warm cottonseed oil, and, if possible, retain the oil all night. If there is no desire to evacuate before the regular hour set for going to stool, attempt to secure a passage at the regular hour, as suggested above.

5. In some instances, when all these suggestions fail, at the discretion of the physician recourse may be had to the judicious administration of some of the more harmless evacuants listed above. As a rule the dosage should be decreased gradually, in an attempt at re-educating the bowel to perform naturally.

By a faithful, persevering adherence to these few simple rules, we believe most cases of habitual constipation with its attending distress would be solved.

+ + +

How Important Are Vitamins?

(Continued from page 15)

However, whenever the vitamin was discontinued, the condition returned.

Vitamin A is essential to the health of the skin and mucous membranes. In case of lack there is noticed an abnormal dryness or scaliness of the skin. The hair may also appear lifeless and fall out. Sometimes a skin eruption (a dry, goose-flesh type) appears. If you have any of these symptoms, do not expect them to disappear in the first few days after improving your diet. It may take four to fourteen weeks of dietary treatment to cure the condition.

Since vitamin A is essential to the health of skin and mucous membranes, and since infection usually enters the body through these channels, it was thought that the administration of this vitamin should raise the resistance of the individual to infection, and hence it was sometimes called the anti-infective vitamin. But the facts indicate that only in cases in which there is a deficiency is the giving of vitamin A an aid in establishing resistance to colds and other infections. An excess of the amount necessary for normal body function will not have any effect in building up the body resistance.

A simple test for adequacy of vitamin B in the diet is the breath-holding test. Take a long, full breath and see how long you can hold it. Be sure your diet is high in vitamin B for one week, and then repeat the test. It will be interesting to see whether the increased vitamin B has enabled you to surpass your former record. A similar test is to determine how long you can hold your arms horizontally. After one week of a diet rich in vitamin B try the test again, and you may be surprised to find that you can triple the former time. Of course, if your diet was already adequate, the increased vitamin will not enable you to better your record. In that case it would be interest-



By William G. Wirth, Ph. D.

A WHILE ago I fell to moralizing with some young men, and we turned to the subject of virtue. We all agreed that a virtuous man, a virtuous woman, really is a man, a woman, who is strong in meeting the varying situations of life, who keeps character in control, so that heart and head may ever be uplifted in the consciousness of duty well performed, of conduct rightly maintained. We found that the very word "virtue" itself suggests this, for it comes from the Latin *vir*, meaning man; and so we have "virile, virility," to be manly, strong. After all, is it not true that to be manly or womanly simply means to give a strong demonstration of manhood and womanhood, which is just what the virtuous individual does? How the idea ever came about that to be virtuous is to be namby-pamby or weak, it is difficult to understand. Anybody can be bad, the slave of some vice or evil practice. How well we know within the very citadel of our being that it is easy to let ourselves go in the path of wrongdoing. There is a down pull toward the wrong, an easy drift toward the unrighteous. Yes, it takes real courage and power in the life to resist the devilish drag, to hold off the pressing passion, the teasing temptation.

To go on, we divided the virtues into two kinds, the superficial and the fundamental, the external and the internal. The former are those that pertain to a man's relations largely to his fellows, in conduct and social adjustment, and they are necessary. Under these would come neatness, courtesy, good speech. How these adorn the individual, making him pleasing and acceptable to his associates! But there is more to life than being neat, courteous, and clean of tongue. We must be sincere in attitude, pure in motive, and right in action. To have these profound possessions is to display the fundamental virtues, those internal buttresses against the strains and stresses of a wicked environment. Without the superficial and ornamental virtues of life, the human edifice may be as uninviting as an unpainted house. The rooms that express our personality may be barren and bare, without the delightful furniture of those outer graces that make us attractive socially. But without the fundamental elements of sincerity, purity, and rightness, the very purpose of our human edifice loses its force, and the rooms offer no demands for tenants.

Shakespeare sets these two kinds of virtues over against each other with gripping power in the advice he makes Polonius give to his son Laertes. Sensing the young man's need of adjusting himself to the people of Paris, the father cautions him, as we remember it, "Give every man thy ear, but few thy voice." Regarding his appearance, he says, "Costly thy habit as thy purse can buy; . . . rich, not gaudy; for the apparel oft proclaims the man." Wisely he tells him to be guarded in his friendships: "These friends thou hast, and their adoption tried, grapple them to thy soul with hoops of steel." So Polonius goes to other superficial virtues; but then he comes to Laertes himself, to the life and soul of the young man, with whom Laertes must inescapably live, and live in the power of that self-respect which only character possession can give. The counsel he gives is:

"This above all: to thine own self be true,
And it must follow, as the night the day,
'Thou canst not then be false to any man.'"

Strong living is at a premium these days. With every external hope crumbling, and our living never so uncertain as now, with a dark future hanging over and about us as a heavy, impenetrable mist, we must be men and women of virtue, virtues that in their ornamental and superficial aspect make it comfortable and easier for our fellows to tolerate us in these trying times when so many of us are on nerve edge, virtues that reveal a social unselfishness that allows the other man fully to live out his life unhindered by our ways. Above all, we must have those fundamental virtues that make for the very fiber and tissue of character that alone can keep our heads above the clouds and our hearts warm with the fires of a friendly conscience in the cold, heartless world into which we have been plunged. Well did Pope sing in his "Essay on Man:"

"Know then this truth (enough for man to know)
'Virtue alone is happiness below.'"

ing to compare with others whose diet is not so good.

Probably the first symptom of a diet deficient in vitamin B is lack of appetite. Patients' appetites sometimes return, after the giving of vitamin B, to such an extent that it is difficult to satisfy their desire for food.

A severe and late manifestation of vitamin B deficiency is multiple neuritis. I have seen one case of intense suffering from this cause. The patient had been well and happy in her own home until the last of her children married and left her alone. It was arranged that she be cared for in a rest home. She could not adjust herself to this change, and was discontented. She ate less and less, but no one seemed to notice. Finally she was only drinking a little coffee. After a time multiple neuritis developed, and she was taken to a hospital. The pain, especially in her legs, was severe. It was finally relieved by vitamin B together with a well-balanced diet.

The early symptoms of deficiency of vitamin B are numerous. This is because the complex contains numerous factors, and also because the normal functioning of the nerves is influenced by vitamin B. Thus almost any organ or tissue in the body may be affected through disordered nervous control. Some of these early symptoms may be listed as follows: loss of appetite, which usually leads to loss of weight and strength, muscle cramps, digestive disturbances, palpitation of the heart, dizziness, headache, numbness and tingling sensations, nervousness, depression, irritability, distractibility, apprehension, and forgetfulness. Some cases diagnosed as neurasthenia are due to vitamin B deficiency.

One rather characteristic skin lesion due to a deficiency of one of these B components is a cracking of the skin and soreness seen at the corners of the mouth, which does not heal readily. This is usu-

ally associated with an abnormal, shiny redness of the mucous membranes of the lips. Not only are the lips and the mouth involved, but the entire gastrointestinal tract is affected. Such symptoms as constipation, gas, abdominal pain, and nausea sometimes disappear after adequate doses of vitamin B. Some investigators have suggested an antigay-hair factor, but this is not well established.

All of these vitamins so far discussed must be ingested. The body needs them, but is dependent upon an outside source to obtain them. However, there is one vitamin which the body can manufacture. Vitamin D is formed in the skin when the body is exposed to direct sunlight. This is the chief natural source of this vitamin. Fresh vegetables and fruits contain no appreciable amounts. We are all familiar with the fact that rickets is due to the lack of this vitamin. The first symptoms of rickets are head sweating, irritability, and restlessness. X-ray examination of the bones is helpful to the doctor in establishing the diagnosis and in following the progress of recovery under treatment.

Rickets is diagnosed only during infancy, but a similar condition is sometimes found in adults, especially in pregnant women, and is termed osteomalacia. Adults need vitamin D as well as infants, but they do not necessarily need to take cod-liver oil. If one receives adequate sunshine, there will be no lack.

Another condition associated with lack of vitamin D is tetany. In this condition there are intermittent muscular spasms, especially involving the hands and arms, but sometimes extending to other parts of the body. The muscular spasms occur in attacks that last minutes or hours, and recur at intervals of hours or days. The immediate symptoms of tetany can be relieved by calcium alone, but the effect is not long lasting unless vitamin D is supplied.

There is suggestive clinical evidence that the use of massive doses of vitamin D may cure arthritis and some cases of psoriasis, but this effect is not well established.

Vitamin deficiencies constitute an extremely important group of diseases. However, there is a tendency today to attribute most of the ills of the human race to a deficiency of this or that vitamin. Vitamins will not cure all ills. For example, a housewife who has not yet reached thirty years of age but who has borne seven children, who does all her own work, including cooking, washing, and ironing, without the use of modern conveniences, cannot expect relief from her chronic tiredness, nervousness, headache, abdominal distress, etc., by the administration of vitamins.

It has been shown by numerous observers that single vitamin deficiencies rarely, if ever, occur. A diet deficient in one vitamin is usually deficient in others. If

(Continued on page 34)

Just what are YOU doing with my breakfast?



THE LAMB: Pardon me, Madam. But I'm merely a symbol. The symbol of a gentler way to deal with that little difficulty of yours.

THE LADY: You mean that little matter of constipation?

THE LAMB: Precisely. If you are one of those people with normal intestines who suffer from constipation due to lack of "bulk" in the diet, this crisp and toasty cereal, KELLOGG'S ALL-BRAN, will not only correct the cause of the trouble, but by a way that is surprisingly pleasant, and gentle, too.

THE LADY: Gentle? Hmm!—that's interesting. Go on—tell me more!

THE LAMB: You see, many medicinal laxatives work by prodding your intestines into action or by drawing moisture into them from other parts of the body. But KELLOGG'S ALL-BRAN works principally on the contents of the colon—helping you to have easy and normal elimination.

THE LADY: Well, I never! And it does look crisp and delicious. Let's try it.

THE LAMB: Remember to eat it often, and drink plenty of water.



GENTLE AS A LAMB

for people with normal intestines who are troubled with constipation due to lack of "bulk" in the diet

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THE HOUSEWIFE'S CORNER

CONDUCTED BY
CAROLINE EELLS KEELER

Homemaking—A Career Packed Full of Adventure, Love, and Work

Gregg Shorthand

HAVE you been brushing up on your Gregg? I know many of you who read this page are Greggites, but if you aren't, why don't you take up the fascinating study of shorthand? It's as intriguing as a foreign language, and it helps you in a number of ways, not only in earning a livelihood, but in preserving helpful thoughts, poems, yes, and even recipes, you hear over the radio. You just can't write down these things in longhand while they are being given; so give some thought to Gregg and its possibilities.

Feathered Friends

How many birds do you actually know by sight or by song? You will have real joy getting acquainted with the birds, for they will do far more for you than you could ever hope to do for them. In February we enjoyed reading "Wings at My Window," by Ada Clapham Govan. Immediately our ten-year-old son began building birdhouses and feeding trays. Last spring we tied some suet on a tree near the house, and a pair of chickadees were constant visitors. They stayed with us practically the year round. We could hear their happy little song as they flew to eat, and also after they had eaten. These little morsels consist mainly of a cheerful chirp and a few gray feathers. It was this same bird that first attracted Mrs. Govan to the birds. I think there will always be etched in my memory a gorgeous sight one lovely spring morning. The rising sun shone brightly on a red-budded maple, and on the tipmost branch was a cardinal. Shut your eyes and see if you can't see it!

Your Washing Machine

It's a long flight from birds to washing machines, but here we are talking about this very valuable piece of household equipment. We are increasingly aware of its value because the output of washing machines is being curtailed by wartime production, for much of the material put into washing machines is needed for war equipment. So it behooves us housewives to take good care of the machine we have. Miss Lenore Sater, of the Bureau of Home Economics, Department of Agriculture, has these suggestions for getting the most out of your machine.

When You Wash

Save time, clothes, power, as well as your machine, by washing clothes the

right way. First of all, read the directions that came with the machine. These directions should tell you any special points that you may need to watch about the use of your particular washer.

Note the water line—it was put there by the manufacturer for a good reason. The water line shows the amount of water you need for most efficient washing. If you put in more water than this, you're wasting water, and you'll get a great deal of unnecessary splashing. That extra splashing may mean extra work on your part to wipe up the floor afterward.

Watch the temperature of the wash water. You can wash clothes most quickly and easily and get the best washing results if you suit the temperature of the water to the kind of clothes you are washing. For white clothes, have water so hot you can't hold your hand in it. For colored clothes, have water that's comfortably warm to the touch. For silks, synthetics, and woolens, use lukewarm water—water that feels neither hot nor cold to touch.

Use a mild, pure *soap* in the form of flakes, granules, beads, chips, or bar soap grated or shaved. Start the machine when you add the soap, in order to dissolve the soap quickly, and use enough soap to get about two inches of suds.

Don't overload the machine. It's hard on the motor of electric machines and taxes the energy of the operator of a hand machine to put too many clothes in the tub at once. Overloading also makes it impossible to get good washing results. For the moderate-sized washing machine, six to eight pounds is a safe average load. A sample six-pound load might be two large sheets, four shirts, and two bath towels. Never put in more clothes than will circulate easily.

Start motor before you add clothes. If you have an electric machine, starting the motor after the washer is loaded may throw too heavy a load on the motor—you may blow out a fuse. However, if your electric machine is the type that has a separate cylinder for the clothes, you'll have no trouble on this score.

Watch the time. Wash the clothes just long enough to get the dirt out. If you wash any longer, you're wasting power and may actually be putting the dirt right back into the clothes. Wash woolens no longer than two to three minutes. Wash silks and synthetics from three to five minutes. Wash slightly soiled clothes,

such as table and bed linens, from five to seven minutes. Wash moderately soiled clothes seven to ten minutes. And the most stubborn dirt usually can be removed in less than fifteen minutes.

Care for machine regularly. Follow the manufacturer's directions for oiling the motor, the wringer gears, or any part of the machine. But whatever you do, don't overoil any part.

Keep the washing machine clean. After you've washed the last load in each washing, rinse the machine with hot water. Drain well and wipe out any bits of lint that may not drain out. Wipe off any soapy marks with a damp cloth. Dry inside and out. If any of the inside parts of the machine—cylinders, agitators, vibrators—are made so they detach easily, take these out and dry them.

To keep the outside frame of a machine from rusting—if it's of steel or iron—rub it once in a while with a little oil.

Between washdays leave the drain faucet open and prop the lid up an inch or two, so that air can circulate. If you have to keep the machine out where it's likely to get dusty, put some sort of cover over it.

Never use harsh scouring powders on any part of the machine—especially not on the inside. If you have stubborn spots, use fine scouring powder. If that doesn't work, hot vinegar will remove the stain in some cases. Copper tubs often get a greenish compound on them called verdigris. This comes off with a paste made of soapsuds and household ammonia.

Wringers and spinner dryers. Now that rubber is scarce, be especially careful with the rubber rolls of your wringer. Before you use the wringer each washday, be sure pressure on the rolls is evenly distributed. In some wringers, this adjustment is made automatically, but in others you have to adjust it with hand screws.

Be sure you don't stall or strain the wringer rolls by putting too much clothing through them at one time. Fold buttons and buckles to the inside of the clothes before they go through the wringer. And every time you finish a washing, release the pressure on the wringer rolls. Hot rubber rolls under pressure sometimes stick to each other on cooling, and when you separate the rolls, the rubber may be damaged.

Wipe the rubber rolls clean and dry after you use them. You can take most discoloration off with a cloth dampened

with kerosene. But get every trace of kerosene off by washing with soapy water, rinsing, and drying. Kerosene left on rubber will soften it. Cover the wringer when you're not using it.

If your machine has a spinner type of dryer, always pack the clothes in it evenly. Uneven packing causes the basket to vibrate, and that's hard on the machine. After each washing, take out the spinner basket, dry it thoroughly, as well as the compartment in which it fits.

Safety First

Damp floors, wet hands, wet clothes, all spell danger when you are handling electrical cords and plugs. Check all cords and plugs periodically on electric machines. If they get worn, replace them or have them repaired. Keep cords dusted, and put them away coiled up loosely—not wrapped tightly or coiled around any sharp metal pieces.

Dry your hands before you handle cords or plugs. Some homemakers like to wear rubbers on their feet as an extra precaution in damp basements.



Simple Rules to Make Marriage a Success

(Continued from page 21)

be mean, penurious, grasping, overbearing, cruel, Uriah Heep and Blackbeard rolled into one. Oh, of course, you can't be all that; so pick your own. You may be only a Pharisee with whom no ordinary mortal can live.

But I say to you that you hold your fortunes in your own hands. You can be a man. You can be a woman. You have arrived at the golden age of adolescence, when you get a double gift of priceless value. First, you are given the gift of penetrating criticism. If you will, you can turn that microscope upon your own character and analyze it, classify it, and set it up for treatment. Second, you are given independence of action. It's the heritage of your age, and the law more or less ensures your right. You can choose your course. You can put yourself under the influences you want. You can call to your aid books, companions, teachers, and God. You can find the good qualities you have and set out to strengthen them. You can honestly recognize the bad traits you have and correct them. You can set your will to change your weak points into strong points. And if you ask Him, God will be your helper.

The God of battles is the God who fights with the men and women who would be, in all humility, the captains of their souls. Learn His laws, put yourself on His side, and you will win. The only world empire that will ever be, is the empire of men and women who have mastered themselves.

Favorite Recipes

Gluten Roast

- 2 cups Gluten-berger
- 1 cup walnuts or pecans
- 1 large onion
- 2 tablespoons vegetable shortening
- 2 eggs
- 1 teaspoon salt
- 1 teaspoon sage
- 1 teaspoon Savorex *

For gravy:

- 1 quart water
- 3 tablespoons flour
- 1 teaspoon Savorex
- 1 teaspoon salt
- 1 tablespoon shortening.

Mix Gluten-berger, ground walnuts, and minced onion thoroughly. Add whole eggs to mixture, and mix. Add one half teaspoon Savorex, one half teaspoon of salt, and mix.

To the boiling water add one-half teaspoon Savorex and one-half teaspoon salt, and pour over the mixture, which has been formed into a loaf and placed into an oiled pan. Cover and bake at 450° F. for one and a half hours; then lower to 275° F.

DELLA L. REISWIG, *Dietitian.*

Tampa Bay Soup

- 1 cup tomatoes
- 2½ tablespoons peanut butter
- ½ cup okra
- ½ cup sliced onions
- 1 tablespoon oil
- 1 tablespoon flour
- ½ tablespoon browned flour
- 2 teaspoons salt
- ½ cup dried Protene *
- ½ cup diced Nut-tene
- 1 tablespoon chopped parsley

Cook together the tomatoes, okra, onions, and peanut butter. Then rub the mixture through a colander.

Heat together the oil, plain flour, and browned flour, and stir into it one cup of boiling water. Cook till thickened. Add to the mixture that was rubbed through the colander. Add more water, if necessary, to make of proper consistency. Add the salt, Protene, Nut-tene, and parsley; and reheat.

GEORGE E. CORNFORTH, *Dietitian.*

Lemon Sponge Cups

- 1 cup sugar
- 4 tablespoons flour
- ½ teaspoon salt
- 2 tablespoons butter, melted
- 5 tablespoons lemon juice
- Grated rind of 1 lemon
- 3 well-beaten egg yolks
- 1½ cups milk
- 3 stiffly beaten egg whites

Add blended sugar, flour, and salt to butter; add lemon juice and rind and blend well. Add to egg yolks and milk, and stir well. Fold egg whites, pour into greased custard cups, and place in a pan of hot water. Bake in moderate oven (350° F.) for forty-five minutes. When baked, each dessert will have custard on the bottom with sponge cake on top. Serves eight.

MARY L. TURNER, *Dietitian.*

* Similar trade names are: Savorex, Flavex, Savita, Tastex, Vegex—Protene, Proast, Proteena, Protose, Vigorost—Nut-tene, Not-Meat, Numete, Nuteena, Nuttose.

Start in with an honest appraisal of your qualities. Don't spare yourself, but neither do yourself injustice. Lay siege to your castles of selfishness, and subjugate them to your will for benevolence. Try out your good qualities on your brother, your sister, your roommate, your best friend, and your most disagreeable acquaintance. Have no human enemy; discover virtues in him and exercise your own virtues to make him your friend.

Only as you prove your ability to manage all circumstances and all persons so as to gain and keep friendships among your acquaintances before marriage, can you have high hope of making a soul companion of your future wife or husband. Egoistic attitudes before marriage will become impossible obstacles to understanding, sympathy, and love in matrimony. "If thou hast run with the footmen, and they have wearied thee, then how canst thou contend with horses? and if in the land of peace, wherein thou trustedst, they wearied thee, then how wilt thou do in the swelling of Jordan?"

I quote Jeremiah, not to make a frightening picture of marriage, for I know marriage as the most glorious experience of life. But it takes something before it will give much. It is the most intimate, the most testing, relation in life. If you bring to it the factors that make for success, its rewards are incomparably greater than those of any other partnership; but if you fail to make the right investment, the loss will be immeasurably great. And you may as well realize that not beauty, nor strength, nor brilliance, nor wealth, nor power, makes marriage successful and glorious. What it takes is character, character of the highest type, character unselfish, ministrative, devoted. And what it takes is love, not the sordid, twisted love of egoistic popinjays, male or female, but love that comes from the throne of God and springs up in human experience as the pure water of life.

The education received by the vast majority of people does not favor this admirable conjugal attitude. Marriage is the supreme demonstration of unity and co-operation; but in the world's activities and teaching, not co-operation, but rivalry, is inculcated. In business, in society, in politics, in sports, and in scholastic endeavor, competition is made the great incentive. Out of that teaching, directed by personal, class, and national selfishness, come all the wars of the world, and all the wars of the house. The hairy biped who shouts hoarse insults at the girls' team in an extracurricular contest, and the sweet young thing who in response shrills maledictions upon all things masculine, are rehearsing for a hundred recriminatory scenes over as many future breakfast tables. Of course, some degree of love modifies the plot. Something of gallantry interferes with battle in youthful society, and something precious that

(Continued on page 31)

the FAMILY PHYSICIAN *Answers Questions*

We do not diagnose or treat disease by mail. Enclose stamped, addressed reply envelope. Services of Query Editor are restricted to bona fide subscribers. Because of the heavy volume of correspondence, we cannot assure an immediate reply. Address Query Editor, LIFE AND HEALTH, Takoma Park, Washington, D. C.

Aluminum Cooking Ware

"Should aluminum pots and pans be used for cooking foods?"

In the last few years there have been some who very ardently argue against the use of aluminum pots and pans in cooking. We have tried to investigate all the information available on this subject, but find nothing that shows a positive injury or harm from the use of this metal.

Hair Dyes

"Is there any hair dye less injurious than another?"

Hair dyes are not simple preparations. The danger of a dye depends somewhat upon the particular one being used, and the end result in color that is being worked for. We are not informed on the chemical composition of these dyes sufficiently to recommend any one by name.

The proprietor of a large hair-dressing organization in one of our Eastern cities recently remarked that people would act more wisely if they dyed their hair much less than they do.

Diet for Gallstones

"What is the diet for gallstones? Can they be dissolved?"

A diet for gallstones is one in which fats and rich sweetened foods are kept at a minimum. I am enclosing a suggestive outline. So far as we know, gallstones cannot be dissolved. What are often believed to be gallstones that are passed after taking oil, are not stones from the gall bladder at all, but concretions of a soapy nature which form from the oil and the digestive juices.

Dropsy

"Do you have any specific pamphlets on dropsy?"

Dropsy is a symptom, not a disease; hence it can be discussed only as an accompaniment of more far-reaching conditions, such as heart failure or kidney disease, and sometimes other less common ailments. Most cases are the result of a failing heart, or an inability of the heart to maintain a normal circulation.

Its treatment, then, would naturally be approached by treating the heart and improving its function. Because of the many aspects that may arise in treating this organ, we would recommend that one suffering from dropsy be guided by his physician. The use of medicine, the se-

lection of a proper diet, and regulation of exercise, may all find a place in the program chosen.

Gall Bladder and Ulcers

"Please send a diet for one who has stomach ulcers and also gall-bladder trouble."

Very frequently gall-bladder trouble and ulcers of the stomach are confused in diagnosis. It is not so common that both conditions are present in the same individual at the same time. I am enclosing a suggestive modified ulcer diet, which may prove beneficial to you. This type of diet generally is useful in treating gall-bladder conditions. However, since it contains cream and milk in fair quantities, it is sometimes annoying if the primary trouble is gall bladder. I would suggest that a very careful study of your case be made to determine which condition is actually the active one. Generally, in treating gall-bladder conditions we advise avoiding the free use of fats and sweetened foods.

Streptococcus Infection

"What causes streptococcus infection, and can anything be done to prevent it?"

Streptococcus is one form of bacteria. It is a type that is usually quite toxic to the human body. It appears in many different families or types, some of which are less hurtful than others.

Like other bacteria, it is found about us on objects of all kinds. When body resistance is low and weakened, then the organisms develop and reproduce more rapidly than the defensive mechanisms of the human body are able to overcome.

Streptococcus may invade the gums, the throat, the chest, the heart, the intestinal tract and other organs, and if the body is not able to resist it, the outcome is sometimes fatal or, at least, very great injury may be done to the special organ involved. Frequently streptococcus infection of the kidneys means a lifelong injury to these organs.

General good hygiene and the maintenance of body health are the only effective means of combating the infection in the first place. If it has once entered the human body, certain forms of it are susceptible to treatment by some of the newer drugs sometimes spoken of as the "sulfa" group. Other drugs, vaccines, and transfusions have been used with some degree of good results.

Eczema

"A friend has a breaking out on her hands, so that she can scarcely use them at all. It is worse in the morning, and itches terribly. The lesions burn until they ooze moisture. Someone said it is eczema. What can be done for it?"

The treatment of eczema is often a very complicated process. Since these symptoms have appeared in only the last few years, I would suggest that they may be associated with the change of life, or some of the adjustments in the body associated with that period. There may be a sensitiveness to some food. Which it is can be determined by continual trial and careful observation, omitting first one food and then another from the diet for a period of a week or ten days. Eczema may come, however, from contact with an article of clothing. Has this person been using, during the last few years, any type of clothing or color of clothing that is different from what she used previously? Has her occupation changed? Is she working at different work or does she come in contact with objects that are of a different kind from those she contacted previously?

These questions must all be considered in outlining a plan of treatment. So far as the local condition is concerned, we would recommend the use of a preparation such as calamine lotion, which is soothing to the skin of most people. It dries the skin and tends to harden it. It may not always be best, however, to use this continuously day after day, because of this drying tendency. Where there is redness and swelling about the cracks, probably a degree of infection has occurred. Sponging such areas with alcohol several times a day may reduce the irritation and destroy any infection that is present. If alcohol irritates, another disinfectant should be selected.

Bloating Abdomen

"My wife is troubled with bloating of the abdomen, due to lack of kidney action. Would hydrotherapy be of help?"

If the bloating of your wife's abdomen is due to a failure in kidney action, hydrotherapy would be of only incidental value. The probabilities are that special attention should be directed to the treatment of the kidneys and possibly the heart. Hydrotherapy which will produce mild perspiration is sometimes valuable.

Worthington Foods

"They live that they may eat,
but he himself [i. e., Socrates]
eats that he may live."
—Socrates.

The implication of the quotation at the right is that the individual who actually gets pleasure out of eating is the one who lives to eat, . . . and conversely, that the one who eats to live gets no pleasure out of eating.

**A Flavor
That Calls for
More!**

The makers of Worthington Foods frankly believe that eating for pleasure and eating for health are not at all incompatible. That is why you will find in Worthington Foods a flavor that calls for more—a flavor you will enjoy the first time and will continue to relish after repeated servings!

But we also believe in that other old proverb which says, "Eat and drink measurely and defy the mediciners." And that is why you will find in Worthington Foods such wholesome, body-building food values essential to good health! You can eat Worthington Foods regularly—you'll enjoy them, you'll be satisfied, and you'll thrive on them!

**You'll Enjoy Them
... And You'll Thrive
on Them**

But you are probably asking, "Will my pocketbook also thrive on that kind of diet?" An old Latin proverb covers this, "It is strange that you should live on tares when wheat is so cheap."—Plautus.

Worthington Foods are actually economical. Just think of getting more than a full pound of tender, juicy Choplets and gravy sauce for only 35 cents! Or a full pound of delicious Proast, enough for a family of six—for the same 35 cents. The large cans will provide for ten or a dozen persons at a meal!

If you have a special diet problem, perhaps Worthington Foods can provide the specific answer for it. For instance, many people who suffer from constipation because of lack of bulk in the diet have found E-Z-Lax to be just what they needed to relieve their condition. You, too, may find E-Z-Lax the answer to your problem.

**Vital
Vitamin B Complex,
Too . . .**

And Vitamins? Tastex and Beta Broth are just full of the natural B complex so essential to general well-being! And they impart a flavor to your gravies, soups, roasts, sandwiches, and many other dishes that just can't be surpassed!

Special Foods, Incorporated, was organized to meet special dietary problems by providing nutritious foods to replace harmful foods. But no food can accomplish its purpose unless it is eaten, and it will not be eaten unless it is enjoyed. Try Worthington Foods today and see how well this problem has been solved.

If a Health Food store is not convenient to your location, send direct to Worthington, and you will receive your supply promptly, postage prepaid on orders for two dollars or more.

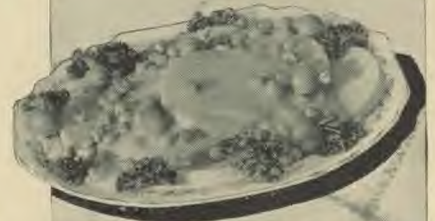
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**WORTHINGTON
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the MOTHER'S COUNSELOR

CONDUCTED BY
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Questions for this department should be addressed to the Mother's Counselor, LIFE AND HEALTH, Takoma Park, Washington, D. C. Always enclose stamped, addressed reply envelope.

Anemic Young Wife

I am eighteen years old and have been married for two years. For the last year I have been very nervous. Last year I went to a doctor who told me I was anemic and in a run-down condition. What can I do to build up my blood? I am very much underweight.

You are quite young to have been married so long, but sometimes marriages made at an early age are the happiest ones, and I hope this is the case with yours. I am sure it will tend to be if you have health, for good health is so important in the success of a home.

Now, regarding your nervousness, I would suggest that you take some vitamin B. Get one hundred capsules of vitamin B complex, put out by any standard house. Your druggist can advise you regarding this. Then I would also suggest that you take some Panteric capsules. Take one of the vitamin B complex capsules three times a day after each meal, and two of the Panteric capsules also after each meal. This combination, I feel sure, will help your nervousness. You are so young that no doubt you are not quite fully developed, but if you have good general health, nature should be able to correct the shortage in your growing-up process.

I am enclosing a diet list which will help you to gain weight and to overcome your anemia. When you have finished the vitamin B complex capsules, suppose you write me again, and I will tell you what to do next.

Diet Instruction for Five-Year-Old

I have a five-year-old daughter who weighs about forty pounds and is forty-four inches tall. She weighed six pounds and ten ounces at birth. Her appetite is very poor, and her color is not good. She is pale and has dark circles under her eyes. She is very tanned now, but in the winter when her skin bleaches out there is a streak about an inch wide at the hairline that always looks tanned.

She does not take a nap, but goes to sleep at about eight-thirty at night and wakes about seven in the morning. She drinks nearly a quart of raw milk every day, and seems to like everything. But

she does not feel hungry enough to eat. She has just lost her first front tooth on the lower jaw. Her bowels are normal if she eats fruit, such as prunes and apples.

If you could give me some suggestion in regard to how I could pep up her appetite, I would be grateful.

There are two principal reasons why children do not have an appetite. One is because they are fed too much concentrated food, which may be small as far as bulk is concerned, but high in caloric value. Another reason is that the anxiety of the mother, as evidenced by continual urging, develops a psychological antagonism toward food.

Most children are given a diet that has in it too much of concentrated fat and sweet. This will cloy the appetite and keep the child from taking a sufficient bulk of the more simple foods. And when the matter of eating becomes a controversial issue between parent and child, the natural spontaneity at mealtime is lost.

I would suggest the following simple diet program: Breakfast may consist of fruit, raw or if stewed not too sweet; milk from which some of the cream has been removed, and preferably boiled about one minute. At nine-thirty or ten, one half or two thirds of a glass of orange juice may be given. The dinner may consist of potato, baked or boiled with the jacket; one vegetable, something raw, as celery, grated carrot, fresh tomatoes, or any other raw vegetable that is practical. An egg or cottage cheese should be given if the child will eat it without overurging. Low-fat milk should be given to drink, and it is more easily assimilated if boiled. For

something in the way of a sweet the meal may be completed with a piece of whole-wheat bread and honey or a few dates or raisins. These dried fruits are not sufficiently bulky to interfere with vegetables. Bulky fruits and vegetables are best not eaten at the same meal. At two-thirty or three-thirty in the afternoon another half a glass or more of fruit or tomato juice should be given. Supper may consist of fruit, bread and milk or a cereal equivalent, flakes or rice and milk, with milk to drink.

With this basic diet the child may soon get hungry enough to ask for more. The ideal situation in child feeding is to work out a program on which the child will request second helpings rather than have the first helping overurged. As the child's appetite increases, she may have the full-cream milk, and cereal, or bread or toast, may be added to her breakfast. Other simple foods may be added to the other meals; for example, whole rice, corn bread, or an order of macaroni cooked with milk and egg or tomato. Remember that these starchy foods take the place of other starchy foods, and not the place of fruit or vegetables or protein, as cottage cheese, eggs, and milk.

In placing these simple foods before your little girl, do not appear to care whether she eats or not. Tell her a story, converse with her, and enjoy the few minutes with her as she eats. A happy social attitude at meal aids both appetite and digestion.

Then, it would be well to give her vitamin B. This may be given as a teaspoon of yeast powder two or three times a day, in water or tomato juice, or two yeast tablets two or three times a day. If necessary the tablets may be mashed and added to something, so that she will take them more easily. Or, you may buy vitamin B complex capsules that contain 333 units of vitamin B₁ to a capsule, and give her one of these capsules at two or three of her meals each day. The contents of the capsules may be emptied out and added to her food, to make them easier for her to take.

If your little girl does not respond satisfactorily to this program in a short time, then she should be taken to a doctor for a careful medical examination. This should be done anyway. Every child should be checked by a physician occasionally as a safeguard.



Simple Rules to Make Marriage a Success

(Continued from page 27)

marriage creates strives for expression in the later stage; but the habit of intersex strife is hard to lay aside at the marriage altar, and, as too many homes testify, often grows into a virulence to match interracial antagonisms. True homes cannot be built of such stuff.

There are few nominal Christians who recognize it, but the teaching of Christ is directly opposed to this type of motivation. Not rivalry but love, not competition but co-operation, not self-aggrandizement but unselfish ministry, is the spirit of the Master. And it is the spirit that makes true homes, blessed homes, successful homes. You will never find Jesus Christ presiding over a divorce court. In His philosophy marriage is inherently indissoluble. And the effects of marriage are ineffaceable, whatever a court or a couple may say. The Creator made it so, and no man can turn it back.

Fruitful marriage brings forth new life; that result can never be undone. Even if no children result from the union, marriage stamps upon the partners an ineffaceable seal. A man and a woman who have been united in the experiences of marriage can never go back and be what they were before. Their characters have made an irrevocable change, for better or for worse. And divorce, whatever it may do to relieve superficial irritations, cannot efface the deep soul evolution that has occurred. Marriage is irrevocable.

With what reverence, then, is every man and every woman called upon to approach this supreme sanctuary, where, as priests of the Most High God, they take upon themselves the vows of mediators between the Source of life and the life they pass to their children. Life and death are wrapped up in this experience: life not only mortal but immortal, or death not only immediate but eternal. The young man and the young woman who, passing over the desert of life, feeding their few sheep, come suddenly upon this burning bush that will not be consumed, must hear the voice of Almighty God calling to them: "Put off thy shoes from off thy feet, for the place whereon thou standest is holy ground."

When you come to the marriage altar and take there your vows to choose each the other, for better or for worse, in sickness and in health, in prosperity and in adversity, and, forsaking all other, keep husband to wife and wife to husband so long as you both shall live, know and sense that you have come to the Sinai of your lives. There are in every man's and in every woman's life three supreme events: birth, marriage, and death. Over the first we have no control, over the last but little, but marriage is absolutely within our power. And it is the most vital, for it is the control tower of human

destiny. What the race is to be is determined by the character of the marriages consummated.

Never say to yourself that you have made a mistake in the marriage you have contracted. They are few who, from the beginning, are perfectly mated; the majority of us have to make severe adjustments. Make them in the beginning of your married life, and you will have an early start to success. What if the yoke has little inequalities and roughnesses? Adjustments of temperament, including necessary changes of habits, will make the double yoke fit, and the team will pull together. Turn around. Get a new angle of vision. Find the beauty of life. Study God's created works—the birds, the flowers, the trees, the stars—for in them is healing. Take a daily thought from the Bible, from a poet, to be your guiding light. Do a good turn for a neighbor; go together on some mission of good. And in the fire of service you will burn out petty troubles.

This is the mental hygiene of marriage. It is not abstruse; it is not metaphysical.

It is more or less difficult according as the parties have gone far from or have remained close to normality, and according as they are unwilling or willing to reform, but there is no other remedy. Every formula that purports to give you success and happiness through maintenance of selfishness and force or punishment applied to the other party will but deepen your wretchedness. "Be ye transformed by the renewing of your mind."

And finally, don't any of you, young or old, resort to the border-line practitioners. There are true physicians of psyche as well as of mortal body, but they are not the ones who go probing into your subconscious with scalpels and catheters that lacerate and drain your soul of all secrets and all self-respect. The true physician of the soul, like the true physician of the body, puts you into condition to receive the healing power that learned men call nature but wise men call God. You may need a clear diagnosis of your mental or moral malady, but after that you need just one curative agent. That is love. And love is of God.

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By Veda S. Marsh, R. N.

The Little Jays' Beauty Lectures

MOTHER, where is the magnifying glass?" asked John.

"I believe you will find it in the library in the right-hand drawer of daddy's desk," said mother.

Away scampered the Little Jays, and soon they returned with it. They were whispering together, and mother could tell they were planning something very interesting.

"May we have a piece of dark cloth?" asked Joan. "Either dark blue or brown or black will do."

"You will find some in the piece box in the sewing room," answered mother.

Soon the twins returned and arranged their things on a chair near mother.

"Am I to have another physiology class?" asked Mother Monroe.

"No fair guessing yet," said John, and he seemed to be hiding something under a newspaper.

Mother Monroe pretended not to see what they were doing at all, and continued her mending. She knew they would soon let her know what it was all about.

Soon the twins stood before mother, appearing very dignified and important. Joan was the spokesman.

"Mother Monroe, we would like to have you attend this very important lecture which is to be given by Mr. John Monroe. He has been attending a series of classes conducted by Miss Russell, who is an authority on physiology. The lecture this evening is to be on the skin as the first line of defense."

Mother looked very interested as she replied, "I shall be very glad to attend this lecture, if I may sew as I listen. I assure you I can sew and listen attentively at the same time."

The Little Jays both agreed that that would be all right.

John remained standing, and Joan sat on a stool near the demonstration chair with the secrets on it.

Clearing his throat, John began his lecture:

"This evening we shall talk about the skin. The skin has two layers; the outer layer is called epidermis. This layer is really composed of four layers. The outer one is dry and keeps peeling off."

Then John nodded to Joan, and Joan took the dark cloth and rubbed the back of mother's hand firmly with it. As she showed mother the little white particles

which adhered to the cloth, John continued.

"You now see some of this dry outer skin that rubs off continually. The innermost layer of the epidermis contains the pigment, or coloring. This gives the skin the yellow, red, black, or white appearance, as we see it.

"Miss Joan will now hand you the magnifying glass. Please look at the back of your hand. You will see that the skin looks quite rough and bumpy under the microscope. There are tiny ridges and tiny pores in the skin. Please notice the tiny hairs. They are found all over the body except on the palms of the hands and the soles of the feet.

"Where the hair enters the skin are some glands. There are two kinds of glands in the skin, sweat glands and oil glands. They both may open near each hair. The sweat glands pour out about a pint of sweat even on a cold day. In very hot weather they may pour out a pint of sweat in an hour. The evaporation of this water helps to keep us cool.

"Miss Joan Monroe will now tell you about the care of the skin. Miss Monroe."

Joan stepped forward and continued: "The sweat and the oil poured out on the skin by the glands help to keep the skin soft and moist. But dust may collect. The best thing to use on the skin is good soap and warm water. Some papers advertise skin food, but the skin cannot eat, and many of these preparations are really harmful to the skin.

"To have a soft, clear skin, one needs to keep it clean, and to eat proper foods, as plenty of fruits and vegetables, each day. Good daily elimination helps to keep the skin in good condition.

"In the teen age you may get pimples. Eating rich ice cream, sundaes, and chocolate at that time will often make the pimples worse. The pimples are caused by glands inside the body, and the pimples will usually entirely disappear in a few years.

"A good brisk daily rub all over with a rough bath towel helps to bring the blood to the surface and make a healthy skin. We hope, dear madam, that if you follow these directions, you will have a very beautiful skin."

Mother kept her face very sober as she bowed and said, "I enjoyed your excellent

lecture very much, and I hope now to soon have a very lovely skin."

Then they all clapped.

Suggestions for Teachers

1. With a hand microscope or reading glass let the students note the ridges and hairs in the skin.

2. Compare appearance of skin on palm of hand and on back of hand in regard to smoothness, ridges, hair, etc.

3. Draw diagrams of sweat glands and oil glands on the board, and study and compare their structure.

4. Make thumb and finger prints of the students, and have them notice how different each one is.

5. Stress importance of cleanliness of hair, skin, and nails.

6. If students are at age of pimples, stress importance of cleanliness of skin, and hot and cold treatments to skin, to stimulate functioning of glands. Urge careful diet, avoiding chocolates and sweets.

7. If a large microscope is available, perform the following experiment: With the flat side of a toothpick gently scrape along inside of cheek. Put scrapings on a microscope and allow to dry. Stain with methylene blue or a drop of iodine. Put under microscope. Note epithelial cells. Note nuclei of cells and shapes.

8. Look at a hair under a microscope.

9. Draw diagram of a hair on the board. Note muscle that makes hair "stand on end."

Junior Life and Health League

Rules for School Year 1941-42

1. I take two baths each week.
2. I brush my teeth twice daily.
3. I drink milk every day. (Preferably 1 qt. daily.)
4. I wash my hands before eating.
5. I eat daily: Vegetables, fruits (fresh or dried), whole-wheat or dark bread, and nothing between meals.
6. I play or work out of doors six days a week when weather permits.
7. I try to be courteous and cheerful at all times, and do one good deed for someone each day.

Pledge

I have read the rules of the Junior Life and Health League, and have been observing them for two weeks. I shall continue to observe them, and will read the Boys and Girls' page each month. Please enroll me as a member of the Junior Life and Health League for the school year 1941-42. I understand I am to receive a membership card, and a button to wear.

Directions

Copy the above pledge in your own handwriting, and sign your name (very plainly). Then write your address and the name of your father or mother. Mail this to: Aunt Sue, Life and Health, Takoma Park, Washington, D. C.

WEARERS of false teeth and bridge work will want to read the Polident ad on page 31. Polident removes tarnish stains, and makes your teeth look like new. The denture bath offered does away with the familiar give away of teeth-in-a-glass. It solves, too, the problem of denture breath. So try Polident.

Life & Health in the CLASSROOM

By Edyth Terrill James, R. N., M. S.

This material is prepared as an adjunct in high-school, college, and nurses' training classes in Health Education, Anatomy, Physiology, Hygiene, General Science, etc. The page reference at the end of each question, or a group of questions, indicates the page on which the article that contains the answer, begins.

Short-Answer Questions

- Check the correct answer.
- Prevention of driving when drinking is best brought about by—
 - making known to the public the increase in auto accidents.
 - increasing the conviction of drunken drivers by the use of chemical tests.
 - recording the alcohol involvement of accidents in the newspapers.
 - testing the blood of all accident victims. (P. 8.)
 - Of the following conditions the one most responsible for producing cancer is—
 - Injured tissue is putting forth an effort to regenerate.
 - A boy's mother dies of cancer, his father of diabetes.
 - Both parents die of cancer of the stomach.
 - Both parents die of tuberculosis.
 - Uncles and cousins have succumbed to cancer. (P. 10.)
 - Number in order of importance the conditions to receive attention by the first aider:
 - fracture
 - bleeding
 - shock
 - stoppage of breathing
 - poisoning
 - sprains (P. 12.)
 - (Fill in the blanks.) Shock would be recognized by the following symptoms: _____ (P. 12.)
 - To treat shock, apply _____; stimulate by _____ and _____. There are two general classes of fracture, _____ and _____. (P. 12.)
 - The following symptoms would suggest fracture:
 - pain over a bone
 - ability to use the part
 - hearing of bone snap
 - hemorrhage
 - stoppage of breathing
 - deformity of part (P. 12.)
 - What are the three duties of the first aider in case of a burn? _____ (P. 12.)
 - Vitamin B₁ in adequate amounts prevents—
 - night blindness.
 - constipation, neuritis, and some heart conditions.
 - anemia, sprue, and cataract.
 - underweight. (P. 15.)
 - Enriched flour must contain in each pound—
 - 6.16 milligrams of niacin.
 - 615 milligrams of iron.
 - 1,000 milligrams of calcium.
 - 1.22 milligrams of riboflavin.
 - 1.66 milligrams of thiamine.
 - 492 milligrams of phosphorus. (P. 15.)
 - The minimum daily requirement of thiamine is—
 - 100 international units.
 - 300 international units.
 - 1 milligram.
 - 15 milligrams. (P. 15.)
 - Associate the following numbered factors with their respective vitamins A, B, C, or D:
 - A _____
 - B _____
 - C _____
 - D _____
- tetany, muscular spasms
 - scurvy
 - carrot juice
 - tender, bluish, bleeding gums
 - blinded by the lights of a passing car
 - can hardly hold his breath at all
 - tender, painful, weak, heavy limbs
 - adaptation to dark takes seven minutes
 - orange juice
 - lack of appetite, weight, strength
 - manufactured by the body in the presence of sunlight.
 - eyes red and inflamed
 - dry, scaly skin and lifeless hair
 - disordered nervous control, numbness, tingling sensations, neuritis
 - lips, mouth, gastrointestinal tract affected
 - head sweating, irritability, restlessness, osteomalacia
 - partly destroyed by use of baking powder (Pp. 15, 19.)
- Most powerful in producing a good world is—
 - religious educational institutions.
 - politics free from graft.
 - active churches.
 - good dynamic homes. (P. 20.)

- Marriage is important because—
 - about half of the marriages are unsatisfactory.
 - individually its materials can be improved.
 - science and discipline do not apply to it.
 - on it is built the nation. (P. 20.)

Discussion Questions

- Compare the findings of the New York City research study on the involvement of alcohol in fatal traffic accidents with the officially reported figures. (P. 8.)
- Explain the application of the Mendelian theory to cancer in mice. (P. 10.)
- Describe in detail the handling of an individual with a fractured neck or back. (P. 12.)
- Differentiate a sprain from a dislocation and tell how to treat a sprain. (P. 12.)
- How may the emotional stress of middle life be relieved? (P. 14.)
- Why are vitamins considered so important now? (P. 15.)
- Why is it important to use either whole-grain or enriched bread and cereals? (P. 16.)
- Why is the use of baking powder questioned as a health-promoting food? (P. 19.)
- What is a happy and successful marriage? (P. 20.)
- What should be included in education for successful marriage? (P. 20.)
- Why is constipation more common here than in other countries? (P. 22.)

Projects and Problems

- A very large defense plant is not far from your home. Several very serious automobile accidents have occurred in the vicinity. Outline a community program of activity to lessen or eliminate this hazard. (P. 8.)
- Look up Mendel's studies on the growth of peas. What contribution did this scientist make to the study of human inheritance? (P. 10.)
- You, with two school friends, have hiked away out into the woods. One of the boys falls over a sharp precipice. His back strikes a large stone. One leg appears to be paralyzed. Everything must be improvised. Tell how you care for him and get him to the nearest doctor. Give reasons for each step. (P. 12.)
- Four-year-old Mary mistakes a bottle of iodine for a bottle of pop. You can't get a doctor in less than half an hour. Give details of care for Mary. (P. 12.)
- Make a collection of human-interest stories which illustrate the value and functions of the vitamins. (P. 15.)
- Visit the bakeries in your community. Give attention to all points noted in promoting the health of the public. Report your findings to the class. (Pp. 16, 19.)
- Visit a flour mill if available. Find out what you can about the vitamin content of each variety of flour milled. Obtain charts and posters. (Pp. 16, 19.)
- Using the recipe on page 19, make some whole-wheat bread. Bring samples to class in your lunch. Plan the lunch as suggested in the article. (P. 19.)
- Write a word picture of what you consider an ideal wife or an ideal husband. (P. 20.)
- Plan a two-week program for overcoming chronic constipation. Outline activities for each day. (P. 22.)

True and False

- Circle the T if true, and F if false.
- Safety education resulted in fewer automobile accidents during 1941. (P. 8.)
 - Research studies indicate that alcohol is responsible for less automobile accidents than statistics record. (P. 8.)
 - Any intelligent individual understands the meaning of being "under the influence of intoxicating liquor." (P. 8.)
 - If either great grandparent has had cancer the chances for developing it are much greater than in the general population. (P. 10.)
 - Resistance to cancer is a recessive Mendelian characteristic. (P. 10.)
 - Lack of oxygen in the blood stimulates respiration. (P. 12.)
 - Increase of carbon dioxide stimulates the rate of respiration. (P. 12.)
 - Specific vitamins replace natural foods in the diet. (P. 15.)
 - Education does not help in the making of better husbands and wives. (P. 20.)
 - Our nation is great because of its successful homes. (P. 20.)

Vocabulary

- | | | |
|-------------------|------------------|-----------------|
| 1. inbibe | 9. recessive | 17. compressing |
| 2. prosecutor | 10. genetically | 18. depression |
| 3. unpounded | 11. hybrid | 19. traction |
| 4. mandatory | 12. determiner | 20. quiescent |
| 5. revocation | 13. heterozygote | 21. synthetic |
| 6. immutable | 14. regeneration | 22. hormone |
| 7. unit character | 15. eugenic | 23. costiveness |
| 8. dominant | 16. shock | 24. evacuates |

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How Important Are Vitamins?

(Continued from page 25)

a vitamin deficiency is suspected, certainly treatment should be instituted. By far the best treatment is a full, nutritious diet of natural, unrefined foods, specific vitamins being used only as supplementary treatment. The solution of the problem does not lie so much in the cure of the deficiency as in its prevention, not so much in the administration of pills as in an educational program.

Vitamins should not be classed as drugs, and overdoses are not believed to be harmful, with the possible exception of vitamin D.

+ + +

What to Do in Wartime Emergencies

(Continued from page 14)

the burn, except where it is stuck. In that case the clothing should be cut away from around the stuck area. Sterile dressings which have been moistened with baking soda, Epsom salts, or picric acid should be applied, and the body should be covered with warm blankets to prevent the development or extension of shock. Iodine is never used on burns. The first aider should not attempt to open the large blisters which form.

Poisoning is a very serious condition. This is because the poison is rapidly absorbed by the body after it is introduced. The immediate concern of the first aider is to send for a physician. While waiting for him to come, he should attempt to dilute the poison and to wash it out from the victim's stomach. Poisons diluted in a large amount of solution are not as rapidly absorbed as they are in concentrated form. Vomiting is also much easier to produce from a full stomach. The first aider can therefore give the victim large quantities of water to drink. Salt water, weak soapsuds solution, baking-soda solution, and lukewarm water are particularly helpful in inducing vomiting. Lukewarm water is usually the most available. After several glassfuls have been given, vomiting may be induced by tickling the back of the throat with the finger. This process should be repeated until the solution returns clear. Give soapsuds or Epsom-salts solution following carbolic-acid poisoning, and a soothing drink, such as milk, or milk and eggs beaten together, following a corrosive poisoning, such as one from acid, alkali, or bichloride of mercury.

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By Merwin R. Thurber

What is so rare as a day in July,
Or August or April, September or May,
Just any old month from snowflakes to hay,
If I can be out where the free breezes fly?

Let me dig in the earth before dawn,
Pick the buds, scatter seeds,
Shovel snow, or pull weeds,
Or snooze in the shade on the lawn.

Takes them all to make happiness, flowers,
or grain,
Love or toil, shine or snow,
Cold or heat, still or blow,
Clouds may rise in the sky, let it rain.

I'll go out when I can, dream or shirk,
Hear the birds in the trees,
Love the flowers and bees,
And I'll grow to full strength in my work.

PERHAPS the average gardener derives more real satisfaction from those inhabitants of his outdoor domain which give large returns in beauty or fruitage for a minimum of labor than from those tender or stubborn individuals which require constant care, protection, or special consideration. Of course, there are hardy souls who love work, and there are special rewards vouchsafed to those who are unusually diligent at their business—or hobby. But the majority of us would like to have a beautiful garden or a large harvest with the least possible effort. We recognize the law of life that one must work for what he gets, but so often we amateurs work and get nothing. We really deserve a reward.

If your grounds are capacious enough to allow space for some of the larger flowering shrubs and small trees, we believe you will find in them the object of your quest. The ideal would seem to be a shrub that comes into bloom at the first breath of spring and supplies a profusion of beautiful flowers until the frost puts an end to summer finery. Perhaps that is asking too much of nature. But we believe you will find in crape myrtle a shrub that approaches the ideal closer than many of its garden neighbors.

Crape myrtle is familiar in the South, and as far north as Washington, D. C., it is perfectly hardy. Farther north winter kills the tops, but the roots may be protected with suitable mulching, and will send new sprouts to bloom for months. Where the tops are hardy, the shrub reaches sizable proportions. Specimens around Washington are sometimes as high as eight or ten feet, and farther south twenty-one-foot plants are not uncommon. Crape myrtle is another plant that came to us from China. Its long bloom-

ing period, its variety of colors, and its shapely growth make it popular with those who want a great deal for their effort.

Speaking of a lazy man's garden reminds us that there are really many vigorous-blooming plants that reward us handsomely for our work. Daffodils and narcissus, which return year after year to brighten the early spring, once they become established, are well worth the simple preparation necessary, even though they bloom for only a short period. Several of the commoner annuals have a long blooming period—petunias, zinnias, marigolds, being prime favorites with the unsophisticated (that ought to include most of us in the gardening fraternity).

Is Cancer Inherited?

(Continued from page 11)

susceptibility to tumors in various organs. She is able to predict for mice generations of the future just what type of new growth, and its location, will cause their death.

Miss Slye does not believe that the actual tumor is inherited. Such a view would be untenable in face of the work done in the field of experimental cancer production, as discussed in the chapter on the cause of cancer. She declares that in her mice a resistance to cancer behaves as a dominant Mendelian character. The susceptibility to cancer behaves as a recessive unit character. She further explains that when a cancer mouse, derived from the crossing of cancer mice, is crossed with a cancer-free mouse, derived from generations of cancer-free ancestors, the first hybrid generation never shows cancer. If such hybrids are bred together, cancer will appear in the offspring in Mendelian proportions. There will be (1) strains of pure cancer mice, (2) pure cancer-resistant strains, and (3) heterozygous strains that can be extracted exactly as with any other inheritable "unit character."

These observations can be harmonized with other recorded data by the following theory: All tissue reacts to injury by an effort at regeneration. The process of regeneration is closely related to growth, and if the regeneration becomes excessive, we have the development of a growth. This growth is the hereditary pattern which the tissue will make to any given stimulus. In other words, the same stimulus which causes cancer in one person might fail to cause it in another. It is also possible that given a sufficiently active stimulus, every individual might develop a tumor.

These factors are of the greatest interest to biologists, but how do they aid us in getting an accurate concept of the situation that faces the anxious, agitated son or daughter of the cancer patient? What

practical steps are suggested by these facts? If both parents have had similar tumors in corresponding organs or locations, the outlook is particularly discouraging. On the other hand, if such is not the case, the possibility of cancer's developing in the offspring is not greater than its probability in the population at large. In selecting a mate, it would be wise for a heterozygote-cancer individual to seek a family who are relatively free from cancer, in an effort to practice family improvement via the eugenic pathway.

+ + +

Cooking School Lessons

(Continued from page 19)

it in very heavy waxed paper, and put the slices in the sandwiches when you add the rest of the filling.

These sandwiches are really nourishing, for they give you the whole grain, have good supplies of protein, and carry a number of calories. Better plan two moderately thin slices of bread for yourself, and twice that for Danny, for he needs those extra pounds that they will help to put on, and you do not.

As you remember (or do you?) from the last time that I wrote about diet, tomatoes and oranges are good sources of vitamin C, and carrots and green leaves of lettuce are high in vitamin A.

If you have a milk supply at school, so much the better, but if not, take it with you. Be sure that the milk, from whatever source, tests with a high rating, has a low bacterial count, and is clean. In addition to that, know that it is pasteurized. If your locality is too small to afford means of pasteurization, put your milk in a double boiler, and keep just below the boiling point for twenty minutes, and then cool as rapidly as possible and put in the refrigerator.

I think the afternoon classes will go better if you do not fill up at the noon hour on cake, pie, candy bars, or cookies. Fresh fruits are much better desserts.

Remember that it is the constant, regular balanced dietary program that will build and keep good health for you, not the spasmodic attempts at balanced meals.

Please forgive me if this sounds like a lecture, but I will try to write more of the local news the next time I have a few minutes to spare.

Love,

MYRTLE.

+ + +

SHOULD food ever be left in a can?

"Food may be left in a tin can after it is opened, provided it is covered and kept cold just as any other cooked food. Acid foods and tomatoes may dissolve minute quantities of iron from the can and acquire a slightly metallic flavor, but this is harmless."—*Farmers' Bulletin, No. 1762.*



By Thomas B. Bruce, II, D. V. M.

THIS month I think that the most appropriate subject that could be discussed is that of caring for pets during air raids, and, of course, at all times, so that the pet can be most easily corralled at the first alarm. In the following paragraphs, therefore, we will list and discuss the more effective methods of control and care during wartime.

1. Be sure that your dog's license tag, name plate, and rabies-vaccination tag are worn at all times.

2. Make arrangements immediately for strict control of your dog during all air-raid alerts. For example: Yard dogs should be placed under cover, and shut in, with openings provided for ventilation; house dogs should be confined to one room, and that room be separate from the one chosen for family shelter. Dogs should not be allowed to roam at any time, day or night, because of the danger of alerts any minute. Keep your dog on leash when outside your own premises. *Do not just turn small animals out of doors!*

3. Keep drinking water available for the pet, wherever he may be sheltered.

4. During the war emergency, your cat, as well as your dog, should be tagged with your name and address.

5. A box of ashes, sand, or even shredded paper kept in the house or pet shelter and changed daily will help meet the sanitary needs of the pet while it is necessary to keep him closely confined.

6. Dogs, when taken outside, may become frantic because of the noise of exploding bombs and possibly try to rush back into burning homes. Therefore, they should be restrained with a leash, if such a situation arises.

7. Take all unwanted or stray animals to a local animal-welfare organization for disposal or care.

8. Animals will not be permitted in air-raid shelters; so please do not cause more confusion by trying to carry yours into a public shelter.

9. Take injured or sick animals to your veterinarian as soon as possible, but if the raid alarm prevents, here are some suggestions for care until the all-clear has sounded:

a. An injured animal in great pain should be handled very carefully with heavy gloves, or be wrapped in a blanket, so that it cannot bite. An animal in pain will bite unintentionally, subconsciously trying to ward off further hurt.

b. Burns must be treated promptly. Strong, cold tea will suffice in minor cases. Cover the burned area with tannic-acid jelly, carron oil, or plain vaseline, to keep out the air, and take the animal to a veterinarian as soon as possible.

c. An injury that involves loss of a great deal of blood must have first aid. Application of pressure until bleeding is slowed or stopped may be necessary. A tourniquet may be applied if bleeding is from an extremity (leg or tail), but must be relaxed at least once every twenty minutes. Relax pressure for a few seconds and then reapply.

10. Some apartment buildings and hotels in larger towns and cities are setting aside a room on a "safe floor"—neither top nor bottom—to which small animals may be carried in closed baskets or hampers. This may not be true in your own community, but

your local Civilian Defense Organization will be glad to assist in enlisting the aid of hotel and apartment-house management in setting aside such rooms.

11. If you have one or more large dogs in your collection of pets, you should provide for their restraint during alerts by placing large screw eyes firmly in the floor at spaced intervals in the room you set aside in your home for them. The dogs should be tied far enough apart so that they cannot reach one another.

Maybe You're Hungry and Don't Know It

(Continued from page 17)

isting evidence on this question."—*J. A. M. A., March 21, 1942.* Their credentials are the best and their work as revealed by this article, is very thorough. Here is the conclusion they reach:

"Malnutrition is accompanied by manifold signs and symptoms, diverse in nature, and to the casual observer their origin and significance are not always apparent. Some types of malnutrition are strikingly obvious to everyone, some are apparent only to the physician who looks for them, and some are vague and elusive even to the careful observer using the most accurate specialized technics. If the first group alone is counted, the prevalence of malnutrition will be recorded as low, almost negligible. If the second group is counted, it will be recorded as high. If the third group is included, then the rate will be sufficiently high to occasion genuine concern.

"The evidence at our disposal warrants the conclusion that dietary inadequacies and malnutrition of varying degrees are of frequent occurrence in the United States, and that the nutritional status of an appreciable part of the population can be distinctly improved. If optimal nutrition is sought, not mere adequacy, then widespread improvement is possible."

No comment is needed on this. It answers fully, for every open-minded individual, the charge that all the talk about malnutrition is much ado about nothing.

But another charge immediately presents itself. An extreme group among those who have sought to teach Americans better health, chiefly through diet, are militant in their indictment of enrichment. They do not question that there is much malnutrition, they are sure there is. And accordingly they have sought to promote the use of whole grains, whole-wheat bread, and the like. So far so good. This journal has advocated the nutritional superiority of such foods for more than half a century.

The charge that this group brings is really a double charge; first that enrichment is a dark plot of the milling and baking industry to check the movement toward whole-wheat bread; secondly, that enriched bread is much inferior to whole wheat. Are not the vitamins synthetic creations of the laboratory, and how can

such laboratory products compare in quality with what nature put into the wheat?

The dark-plot part of the charge provides the glamour. There must always be a villain, even if he must be invented. But the facts are that the millers and bakers adopted enrichment at the request of the Government authorities. Though it should be said to their credit that they did so willingly. We say to their credit, for enrichment meant added production cost, and that cost was absorbed, not by the housewife, but by the baker. The same credit belongs to the makers of various enriched breakfast foods.

There is no movement toward whole wheat. The facts permit of no debate. After all the educational work that has been done—and some of it has been excellent—less than two per cent of the flour milled in this country is whole wheat. And less than one per cent of the bread consumed is 100 per cent whole wheat. Nor is the trend upward but rather downward. These are the sober statistical facts. Nothing is to be gained by blinking them. This journal is not embarrassed by these facts. We know we have made many people aware of their dietary deficiencies even though we frequently failed to persuade them to turn, for example, to whole-grain products. We are happy that the educational work in which we have pioneered can now be capitalized in behalf of the enrichment program. People must at least become intelligent concerning diet before they will even ask for enriched products.

But no such calm view is taken by those whose charges we are now considering. They are sure there is an evil plot to obscure the importance of whole wheat, and that's that. But they ought to inform themselves better before they wax too earnest in their charges about synthetic vitamins and the inferiority of enriched bread. The facts are that a very large part, about 85 per cent, of the enriched bread owes its enrichment, not to synthetic vitamins added by "malevolent" millers, but to high vitamin yeast, a natural source of the vitamins of the B complex, with added iron.

The stakes are high in the fight for enrichment—the betterment of the nation's health. Every person who is intelligent regarding nutritional facts should lend his strongest support to the program. The greatest need right now is to create a demand for enriched bread, and also for other properly enriched products. Too large a percentage of the public are still just as happy to buy merely a loaf of bread. This fact has led some bakers to waver or even fall back from their support of enrichment. Why spend the extra money for enriching our bread if the customers don't even call for it? That has been the bakers' plaint of late. But the Government has given a new impetus to the program which should strengthen the hesitating bakers by creating greater consumer demand.

We lend our wholehearted support to this educational endeavor. We see in it no dark scheme to eliminate dark bread from the dietary of those who like it, or who might be persuaded to like it. We see in the enrichment campaign only a militant endeavor in an hour of grave national emergency to make people stronger by providing them with vital vitamins and much-needed minerals in a product they regularly buy—white bread. This journal believes that the food value lies in the content and not in the color of the bread. That is why we now expand our admonition to read: Eat whole-grain products or enriched bread and flour.

BOOK REVIEWS

[The broad subject of health involves many points on which differences of opinion are held. A generally commendatory review of a book in the columns of LIFE AND HEALTH does not mean, necessarily, that this journal agrees with every position taken by the author.—EDITORS.]

Everyday Nursing for the Everyday Home, Norlin and Donaldson. Published by Macmillan Company, New York. Illustrated. Cloth, 306 pages. \$2.50.

This comprehensive little volume answers two questions often asked: How can I keep from getting sick? and, What shall I do when sickness comes to my home? Written in everyday language, this book gives practical counsel concerning the health of everyone in the home, from baby to grandparents. Such instruction includes the needs of the sickroom, the patient's bed, sickroom equipment, keeping records, detecting symptoms, the care of the patient, simple measures for relief. The authors are registered nurses with long experience in teaching home nursing and public-health nursing.

Modern Bread From the Viewpoint of Nutrition. By Henry C. Sherman and Constance S. Pearson. Published by the Macmillan Company, New York. Cloth, 118 pages. \$1.75.

Much is being said about enriched bread, which restores to white bread most of the nutrients lost in the milling of the white flour. This enriched bread is not intended to take the place of whole-wheat bread, for in a leaflet distributed by the Nutrition Division of the Office of the Federal Co-ordinator of Health, Welfare, and Related Defense Activities, the question, "Should 'enriched' bread be used in place of whole wheat?" is answered thus, "No. If you prefer white bread, be sure it is enriched." It is because the majority of people seem to prefer white bread that so much serious attention and consideration has been given to its enrichment. And when we consider that a large share of the diets of a large percentage of peo-

ple is made up of breadstuffs, including cereals, we can see how important it is that something be done about white bread.

As to calories, whole wheat and white bread compare favorably, but as to vitamins, minerals, protein, they differ. Whole-wheat bread or bread made with skim-milk powder contains more protein and is much more nutritious than bread made with white flour and water. Enriched bread is made more nutritious by the addition of thiamine, calcium, riboflavin, niacin, and iron. With this enrichment nutritionists believe that bread which must supply a large proportion of the diets of people in the lower income bracket, may safely contribute 40 per cent of the calories.

Reading this volume will inform us just what is accomplished by the addition of these substances to white bread. However, we should not conclude that the addition of, say, thiamine, to bread will provide all we need of this part of vitamin B, but that bread will carry its share.

PHYSICAL-ABILITY tests for males can be obtained from the New York University Bookstore, 18 Washington Place, New York City, ten tests for \$1. These tests are designed to measure speed and skill in handling objects, the control of one's body and strength. They enable boys from twelve up to young men to compare themselves with others in physical ability.

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A Bill of Rights for Children

1. EVERY home should have a safe water supply.
2. Sanitary sewage disposal is essential for every home.
3. Boil all questionable milk and water before offering it to children, especially those under two years of age.
4. Be sure that foods are prepared clean, kept clean, and served clean. The hands should be washed with soap and water before and after preparing food for children.
5. Flyproof every home by proper screening.
6. Provide a clean play place for children, either in the house or out in the yard.
7. Keep the babies away from places where people congregate.
8. Be sure that playmates are free from disease.
9. The child should be under the guidance of a physician regularly throughout his life.
10. At the first sign of illness call your physician, and don't trust home remedies or neighbors' or friends' advice.—*The New Mexico Health Officer*.

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WHERE TO GO FOR

REST and HEALTH



Throughout the United States, and in many other countries, is found a distinctive chain of medical institutions known as Sanitariums. To the many thousands who have been guests in these unique health institutions, the name Sanitarium describes not merely a hospital, though the best of medical care is given; nor does it describe simply a rest home, though many come primarily for rest. Rather, it denotes a unique combination of both. The word Sanitarium also carries with it the idea of health education and disease prevention, for those who come to these health centers receive instruction in the principles of healthful living.

In addition to the Sanitariums whose announcements appear here, the following belong to this distinctive chain of health institutions:

Boulder-Colorado Sanitarium, Boulder, Colorado
Florida Sanitarium, Orlando, Florida
Glendale Sanitarium, Glendale, California
Iowa Sanitarium, Nevada, Iowa
Loma Linda Sanitarium, Loma Linda, California
Madison Rural Sanitarium, Madison College, Tennessee
Mount Vernon Sanitarium, Mount Vernon, Ohio
Paradise Valley Sanitarium, National City, California
Pisgah Sanitarium, Box 1331, Asheville, North Carolina
Porter Sanitarium, 2525 S. Downing Street, Denver, Colorado
Portland Sanitarium, 932 S. E. 60th Avenue, Portland, Oregon
Resthaven Sanitarium, Sidney, British Columbia, Canada
St. Helena Sanitarium, Sanitarium, California
Walla Walla Sanitarium, Walla Walla, Washington
White Memorial Hospital, 312 N. Boyle Avenue, Los Angeles, California

Liquor and Traffic Accidents

(Continued from page 9)

to keep more drivers from drinking before operating their cars.

Now that the country is at war, there is an even greater need to adhere to the old slogan, "When you drink, don't drive—when you drive, don't drink." Times are abnormal, with boom conditions existing in the vicinity of many defense areas. Traffic volume has increased, and there are many new drivers. More money is available to buy liquor, especially in the vicinity of centers of defense production where driving already is more hazardous because of congestion.

During the time of war emergency, it is likely that quite stringent measures may be taken to enforce drunken-driving laws. Some of these include establishment of road-blockade stations to check drivers' conditions, and the stationing of officers and military police at taverns and similar places. There also will be a tightening down on the handling of cases, with fewer delays and continuances in court.

Newspaper headlines already reflect the emergency nature of the traffic problem: "FOUR SOLDIERS DIE IN CRASH;" "TWO PLANT WORKERS KILLED;"

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The Best of Hospital Service Combined With Special Sanitarium Features

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Send for Free Booklet H describing the Sanitarium



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QUALITY ALLOWS

"SEVEN KILLED WHEN DRUNK DRIVER SIDESWIPE BUS."

To meet these emergency conditions, there must be emergency measures, and the National Safety Council recommends the following:

1. Conditions in the vicinity of defense plants and military posts should be investigated, to determine the extent of driving and walking "while under the influence" by workers and by service men, and the frequency and severity of accidents involving drinking drivers and pedestrians.

2. Meetings of tavern owners and others selling intoxicating liquor should be held, to develop a co-operative program designed to stop driving or walking on public roads while under the influence of intoxicating liquor.

3. Liquor-control laws should be enforced strictly, including those on selling liquor to intoxicated persons. . . .

4. A system of road-blockade stations should be established and necessary plans made for periodic inspection of blockade squads at these locations. Where such a system of blockade stations is installed, the National Safety Council makes additional specific recommendations for establishing and operating them.

5. Police patrols should be instructed to check the condition of every person driving in a questionable manner. This should apply particularly to night patrols and to those assigned to high-accident sections of road. Military police stationed at entrances to camps and stations should be instructed to check the conditions of drivers entering and leaving.

6. All police officers should be instructed to pick up intoxicated pedestrians who are on streets and highways, for disciplinary action.

7. Persons suspected of being under the influence of intoxicating liquor should be questioned and examined immediately. Answers to questions and results from the examination should be recorded.

8. Whenever facilities are available, chemical tests of blood, urine, or breath should be used to determine whether each suspected driver or pedestrian is under the influence of alcohol.

9. Whenever there is good evidence that a driver is under the influence of intoxicating liquor, he should be arrested for the charge, regardless of his position or influence. The case should be handled promptly in court. Enforcement of this type of case must be impartial and positive to impress motorists with the need for staying away from the wheel after drinking.

10. Prosecutors should give special attention to proper preparation of evidence in cases involving charges of driving while under the influence of intoxicating liquor. Judges should give due recognition to modern scientific methods for determining intoxication, and in jury trials should instruct the jury on the meaning of the

PARK-VIEW HOSPITAL

::

CHATTANOOGA
TENNESSEE

phrase, "under the influence of intoxicating liquor."

11. Military and naval establishments should be urged to set up a chemical testing system for use in giving tests to drivers suspected of being under the influence of intoxicating liquor.

12. Industrial plants, working in co-operation with the Federal Labor authorities, should consider the use of chemical tests to discourage drinking by drivers and workers in their employ.

13. Military and naval personnel found driving while under the influence of intoxicating liquor in areas under Government control, should be prohibited from driving and should have their cars impounded for various periods, depending upon the individual case.

14. Those with administrative authority for suspending drivers' licenses should give special attention to cases involving driving while under the influence of intoxicating liquor. If the State law does not require mandatory revocation in such instances, licenses should be suspended through administrative authority. (The National Safety Council will supply information and material and offer co-operation to any proper group which may undertake to establish an emergency traffic-control program aimed at the drinking driver and pedestrian.)

Everyone can do his part during this wartime emergency by remembering that alcohol and gasoline do not mix, and adhering to that slogan, "When you drive, don't drink—when you drink, don't drive."

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THERE is hardly a recipe that does not call for a pinch of salt. Doctor Riley, of the Maryland Department of Health, suggests a pinch of salt as a pickup against heat exhaustion when one perspires excessively and feels exhausted on hot, muggy days. You can drop the salt into a glass of cool water and drink it slowly, or obtain it in the form of tablets. Excessive perspiration drains the system of some of the salt so necessary to comfort and well-being.

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