

000 for vitamin preparations manufactured or sold through pharmaceutical channels, it is estimated. Maybe not all of this vast amount of vitamin-taking by the people was necessary to stave off vitamin famine or repair its ravages. The sum of \$26,000,000, however, was spent in 1937 on vitamins prescribed by physicians, Dr. Sebrell said.

"A figure of this magnitude," he explained, "must mean that physicians are becoming increasingly aware of the value

of the preparations in treatment and, conversely, that vitamin deficiency symptoms are widely prevalent."

The figures on vitamin consumption today are probably much higher, he said, because in 1937, latest year on which figures are available, neither nicotinic acid nor riboflavin were widely used.

"Prevention and proper treatment of the nutritional diseases," he declared, "constitute one of the greatest medical problems in this country today."

Science News Letter, June 22, 1940

MEDICINE

Pill Protects Children Against Scarlet Fever

Drug Which Aids in Battle Against Brain Syphilis And Preventive of Diabetes in Dogs Also Reported

A PILL or tablet that can be swallowed to give protection against scarlet fever was announced by Dr. George F. Dick and Dr. Gladys Henry Dick, Chicago, at the meeting of the American Medical Association in New York City.

The tablet contains purified scarlet fever toxin such as is now used to give immunity by injections under the skin. The tablet was designed for use in patients who cannot be given the injections. Such patients include those suffering from hemophilia, for which a hypodermic needle injection may mean dangerous bleeding; patients with severe heart injury; and persons in institutions under quarantine for scarlet fever when speed in immunization is a prime consideration.

Science News Letter, June 22, 1940

Drug Aids Against Paresis

SUCCESS of a new drug, thio-bismol, in helping the fight against brain syphilis, or paresis, was reported by Dr. Harold N. Cole, of Cleveland.

The new drug controls the fever of malaria which is now being widely used in treatment of this form of syphilis, Dr. Cole explained. By means of this bismuth compound, the chills and fever can be kept from becoming too severe without stopping the malaria treatment altogether. For terminating the malaria quinine must still be used.

Collaborating with Dr. Cole in trial of the new drug were Dr. Gerard A. De-Oreo, Dr. James A. Driver, Dr. Herbert

H. Johnson, of Cleveland, and Dr. Walter F. Schwartz, now of Pasadena, Calif.

Science News Letter, June 22, 1940

Prevent Diabetes in Dogs

THE FIRST steps toward prevention of diabetes have been made by medical scientists, among them Dr. C. H. Best of Toronto, declared Dr. H. F. Root of Boston, at the meeting of the American Medical Association.

The disease has actually been prevented in dogs, though not yet in humans, he explained. This prevention has been accomplished in two ways. It depends on the discovery that diabetes can be caused either by failure of the insulin-producing part of the pancreas or by overwork of this insulin factory in the pancreas. In dogs this overwork is due to stimulation of the insulin-producing cells by injections of an extract from the pituitary gland in the head.

Insulin given at the same time as the pituitary extract, however, prevents the diabetes. It can also be prevented by fasting the dog before the pituitary extract is given.

If the diabetes is allowed to develop under pituitary stimulation, giving insulin allows the overworked insulin factory in the body to rest and renew or regenerate itself. This regeneration of insulin-producing cells occurs in humans also, Dr. Root said. The star-shaped cells called mitotic figures, which are signs of rapid regeneration of body tissue, have been discovered in the insulin-producing

part of human pancreases. The question now, Dr. Root explained, is to learn how to favor this regeneration in humans.

Many people, he pointed out, are on the border of diabetes. If these persons get pneumonia or a bad tonsil infection, perhaps, they will be tipped over the border because the infection caused too much strain on their insulin factories. With the right treatment and diet, however, they can be helped to recover from their diabetes. Their insulin-producing cells may regenerate as do those of the dogs studied.

New synthetic sex hormones are helping women with diabetes to have babies successfully, Dr. Priscilla White of Boston reported. Loss of babies by diabetic mothers has been cut in half since treatment with these hormones was started two years ago, she announced.

The hormones used are called stilbestrol and pranon.

Not every expectant mother with diabetes needs this treatment. Blood tests can now be made, however, to show whether the diabetes is severe enough to upset the glandular balance of the mother's body and so cause her baby to be born so far ahead of time that it cannot live.

Science News Letter, June 22, 1940

Operation Saves Ulcerous

ONLY hope for saving the lives of one-third of the older patients having massive bleeding from stomach ulcers is prompt operation, Dr. John H. Blackford and Dr. Robert H. Williams, Seattle, conclude from a study of the grisly records in the city bureau of vital statistics of patients who died of stomach ulcer.

Among 23,965 deaths they found 116 which could be attributed to hemorrhage from ulcer. More than 97% of the group were over 45 years old and 78% of them died of the first hemorrhage. Late operations performed after other methods of treatment have proved unsuccessful have usually resulted in death, the Seattle doctors emphasized.

The risk of death from ulcer hemorrhage, grave hazard for the older person, is less than 1% for younger persons.

Science News Letter, June 22, 1940

Sulfanilamide for Impetigo

SULFANILAMIDE is an efficient remedy for one type of the distressing skin disease, impetigo, but not for the other, Dr. Stephan Epstein, Marsh-

field, Wis., said in announcing that there are two types of this malady.

One type is caused by streptococcus germs and for this sulfanilamide is an efficient remedy. The other type is caused by another germ, the staphylococcus against which sulfanilamide is less, if at all, effective.

The staphylococcus type predominates in the Middle West, Dr. Epstein finds, while the streptococcus type is more common in the East and in Western Europe.

Science News Letter, June 22, 1940

Immediate Operation Urged

PATIENTS with acute appendicitis should be given the benefit of immediate operation rather than be given the so-called delayed or expectant treatment, Dr. Edward S. Stafford, Baltimore, declared.

Analysis by himself and Dr. David H. Sprong, Jr., of the mortality among 1,317 patients operated on for acute appendicitis at the Johns Hopkins Hospital between Sept. 1, 1931 and Sept. 1, 1939, has convinced these surgeons that the patient has a better chance of surviving when operated immediately.

Surgeons know that death "seldom follows the competent removal of an acutely inflamed, but unperforated appendix," Dr. Stafford pointed out. At present, however, surgeons are not agreed as to the proper treatment of patients having acute appendicitis with complications such as perforation or rupture of the appendix. Those who favor delay argue this gives a better chance for the body mechanism for defense against infection.

Elimination of the source of the infection, which means removing the appendix, should be the first step in treatment, the Baltimore surgeons believe, although they agree that the principle of physiologic rest is important and that handling and operative injury should be kept to a minimum.

Arguments they presented against the delayed treatment are: 1. The most experienced surgeon cannot always tell accurately whether an appendix has ruptured; 2. Even if the patient recovers from the attack, he still has his appendix and is in danger of another attack.

More careful study and better treatment of complications, Drs. Stafford and Sprong conclude, will achieve better results than adopting the method of delayed treatment.

Science News Letter, June 22, 1940

(Turn to Page 398)



"My! How Handy!"

"A pump right in the kitchen! What'll they think of next? You're a lucky woman, Josephine."

LUCKY? Yes—compared with toting heavy pails of water from an outside well. But if Josephine was lucky, what about her granddaughter of today, with her modern electrified kitchen?

With electric lights, Josephine's granddaughter doesn't have to fill and clean lamps. With her electric refrigerator, she doesn't have to keep the butter in the cellar in summer. Her electric cleaner makes it unnecessary to lug the carpets out and beat them. With her electric range, she doesn't cook over a hot stove. And the furnace keeps the house temperature right without her going near the cellar.

Even if electricity stopped here, we'd still recognize it as one of the greatest benefits of our century. But in every branch of industry, electricity helps to make manufactured articles available at such low prices and in such quantity that more millions of people can enjoy them.

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MEDICINE

"Hit and Run Rheumatism," Makes Debut as New Disease

New Type "Strikes Fiercely and Leaves Shortly"; Hits Finger, Wrist, Shoulder, Knee, Toe, or Elbow

A NEW disease, "hit and run rheumatism," made its debut at the meeting of the American Rheumatism Association in New York City.

The disease, also termed "'phantom rheumatism'—now you see it, now you don't," was described by Dr. Philip S. Hench, of the Mayo Clinic, in his presidential address.

From six to nine new patients with this ailment are now appearing every year at the Mayo Clinic, but Dr. Hench believes there may be many more whose ailment has not yet been recognized.

Both sexes get this disease, although there were a few more women than men among the 34 cases reported by Dr. Hench today. This sort of rheumatism "strikes fiercely and leaves shortly. Although it often strikes fiercely, it does not destroy the joint," Dr. Hench said in describing it.

The attacks usually last one to three days, rarely more than one week. Intervals between attacks vary from one or two days to one to six months. Favorite spots of attack were a finger joint, wrist, shoulder, knee, toe or elbow, though practically any joint is liable to attack.

Some patients had "hundreds" of attacks, "too many to remember." Others had as few as from two to ten per year. Patients have endured the disease as long as 25 years, the average length for the 34 patients being seven years. Dr. Hench has figured that 30 patients have had a total of at least 4,930 attacks.

The pain is generally a severe ache, but occasionally is so severe narcotic

drugs are needed to give relief. Disability was considerable among these patients and some were often forced to go to bed during an attack.

No cure for the disease has been discovered, though many kinds of treatment were tried. One patient "adopted a baby, quit worrying about herself, and was cured."

Three other patients got well, perhaps spontaneously, 12 are better, 7 are just the same, the disease going "merrily on," 3 are somewhat worse and one died of heart disease.

Science News Letter, June 22, 1940

Tendency Inherited

SUSCEPTIBILITY to rheumatic fever, estimated to afflict one out of every 100 children in the country, damaging their hearts, is apparently inherited, Dr. May G. Wilson, Dr. Ralph E. Wheeler and Dr. Morton D. Schweitzer, of New York, reported.

The disease has long been known to run in families but they did not find, in their study of the condition in 112 families, that it was passed back and forth from case to case in the family as a contagious disease would be.

In families where one parent had rheumatic fever, the attack rate among the children was double that for families where neither parent had the disease. The attack rate was four times as great in families where both parents were rheumatic.

These figures are inconsistent with the

theory that the disease is contagious and give further evidence that hereditary susceptibility is the reason why the disease runs in families.

Science News Letter, June 22, 1940

From Page 397

Where "Nerves" Originate

DON'T tell the woman with "nerves" to "snap out of it" or to "forget it". Her symptoms are real and just as distressing and frightening as they would be if a doctor injected into her veins a big dose of adrenalin or any other powerful drug. Recent discoveries of physiologists, Dr. Walter Alvarez, of the Mayo Clinic, told members of the American Medical Association, show that the symptoms complained of by the woman—or man for that matter—with nerves are due to erratic behavior of a "thermostatic center" in the brain.

This center is called the hypothalamus. Normally, it controls the involuntary nervous system and the glands of internal secretion. In turn, it is controlled by the thinking part of the brain. When this thermostat gets out of order, jitteriness, outbursts of anger, sleeplessness, and abnormal worrisomeness are likely to result. The reason is that "nervous storms" are going out along the involuntary nerves, at the ends of which are forged powerful chemical substances that have disturbing effects on most of the body. When the involuntary nervous system gets upset this way, it plays disconcerting tricks on the heart, blood vessels, digestive tract, kidneys and skin.

The thermostatic center can be upset by fatigue, insomnia and nervous strain, by disease and, in older persons, by little clots in the brain resulting from hardening of the arteries. As to the woman with nerves, Dr. Alvarez declared, "No one can blame her for being distressed and frightened and no well-informed person should even think of telling her to forget it or snap out of it."

Science News Letter, June 22, 1940

Stomach Ulcer Relief

A POWDER extracted from human body fluid which gave encouraging results in treatment of 60 stomach ulcer patients was on display at the meeting of the American Medical Association.

This promising new remedy for stomach ulcers was developed by Dr. David J. Sandweiss, Dr. M. H. F. Friedman, Dr. H. C. Saltzstein and Dr. A. A. Farbman,

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of Wayne University College of Medicine and Harper Hospital, Detroit.

The substance, still unidentified, not only cured experimental ulcers in dogs but actually prevented their development. The patients who have been treated with this new substance have not been followed long enough, nor have there been enough of them for the Detroit doctors to be sure they have a stomach ulcer cure, but they are encouraged to hope so.

The anti-stomach ulcer substance was found in the kidney excretions of normal healthy women but only negligible amounts were found in the excretions of ulcer patients. Whether the peptic ulcer patient has his ulcer because of deficiency of the substance is not now known.

The powder is given in the form of a liquid injected under the skin. When given in large doses, it checks the secretion of acid in the stomach. Only small doses, however, are needed for ulcer.

Science News Letter, June 22, 1940

POPULATION

More Casualties in 4 Weeks Than in 4 Months of Verdun

THE GERMAN conquest of Belgium and the northeast corner of France, and Allied resistance took more soldiers' lives and wounded more men in four weeks than the four months of bloody Verdun in 1916, the most conservative possible guess at total casualties indicates.

It is probable that at least 600,000 of the two to two and a half million men engaged were killed or wounded. Verdun cost 596,000 casualties, according to Capt. B. H. Liddell Hart, British World War I historian.

As at Verdun—where 315,000 Frenchmen and 281,000 Germans were put out of action, aside from prisoners taken by each side—the defending Allies probably suffered the greater losses. Perhaps 325,000 to 350,000 of the total killed or wounded were British, French or Belgian. The Allies and the Germans each claim killing and wounding half a million of the enemy—a million in all, which figures must be discounted. None of these figures include casualties among the millions of refugees who got in the different armies' way and whose killing and wounding by the scores of thousands was inevitable whether deliberate or not.

Wounded are supposed to outnumber the killed by as much as four to one, but statistics of the last great war certainly

do not bear this axiom out. The four years and three months of hostilities on three fronts — western, Italo-Austrian, and eastern — killed 8,538,315 and wounded 21,210,452, according to the U. S. War Department. This is a ratio of five to two. The ratio holds very nearly for each of the powers that lost most heavily during the conflict: Germany, 1,773,700 killed and 4,216,058 wounded; France, 1,357,800 and 4,266,000; British Empire, 908,371 and 2,090,212; and Italy, 650,000 and 947,000. The United States suffered 126,000 killed and 234,000 wounded. These figures include among the killed those who died of disease—in most cases as much war victims as those who died of shot or shell—but does not include a much larger number of missing, practically all of whom must be considered dead. They were the ones of whom not enough was left to identify.

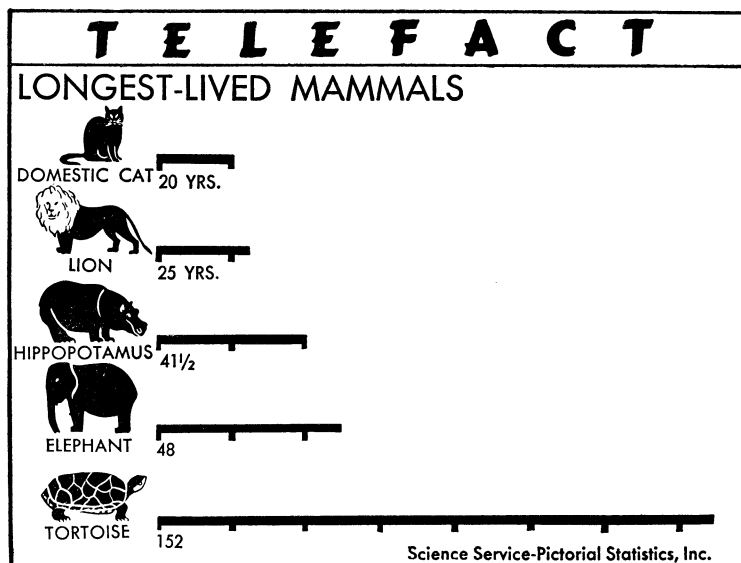
On the basis of these figures, deaths as high as 200,000 and wounded totaling 400,000 are not unreasonable.

One First World War offensive was even more costly than Verdun or the gigantic battle for Flanders, but it took longer—the four-and-a-half-month Allied offensive on the Somme. Capt. Hart estimates the cost of the bloodbath in which the Allies captured all of 120 square miles (a little more than one-third the

area of New York City) at a cost of 700,000 Germans, 400,000 British and 250,000 French casualties. Other educated guesses are still higher. It will be noted that the troops on the offensive, the Allies, lost fewer men. The Somme in 1916 as well as Verdun and Flanders seem colossal exceptions to the theory that offense takes more lives than defense.

The two to two and a half million men in the Flanders battle is also a conservative estimate.

Science News Letter, June 22, 1940



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