

Decreasing the dose of diphtheria germs from one-half to three-tenths of a cubic centimeter but using one-tenth of a cubic centimeter of streptococci, so that the proportion of streptococci was relatively higher than in the first experiment,

killed five out of six mice in 18 hours.

Other experiments gave similar results showing that the two kinds of germs acted together to make the diphtheria infection much more malignant.

Science News Letter, May 20, 1944

MEDICINE

May Be Cause of Cancer

Evidence has been found in patients' excretions that gland disorder, particularly of the adrenals, may be responsible for cancer and leukemia also.

► PRODUCTION line trouble in the body's endocrine glands, particularly the adrenals, may cause both cancer and leukemia, cancer-like disease affecting the blood.

Fresh evidence for this comes from studies by Dr. Konrad Dobriner of Memorial Hospital and Col. C. P. Rhoads, director of the hospital who is now serving in the Army, and Dr. S. Lieberman, Dr. B. R. Hill and Dr. L. F. Fieser, of Harvard University. The studies were reported at the Atlantic City, N. J., meeting of the American Society for Clinical Investigation.

In the kidney excretions of patients with cancer these scientists have found chemical substances which are not found in the excretions from normal persons. They have also found marked differences in the amounts of certain hormone chemicals excreted by normal persons and by patients with cancer and leukemia. Instead of producing the chemicals they should be manufacturing, the glands in the cancer and leukemia patients are producing other, cancer-causing chemicals, the scientists think.

The glands involved may be the sex glands or the adrenal glands or both. Faulty function of the cortex of the adrenal glands is particularly suggested. This matches evidence against the same glands recently reported by Dr. James B. Murphy, of the Rockefeller Institute, who found he could prevent development of transplanted leukemia in rats by injections of adrenal cortical hormone.

Science News Letter, May 20, 1944

For Overactive Thyroids

► SUCCESSFUL results, which may turn out to be permanent cures, are being obtained with a new medical treatment for patients with goiters from overactive thyroid glands. The results

in 33 cases were reported by Dr. E. B. Astwood, of Harvard Medical School, at the meeting.

Thiouracil is the medicine that is getting these patients back to health, even causing the protruding eyes that are a common symptom in this ailment to return to normal, without operation to remove the overactive gland in the neck. First reports of use of this medicine suggested that the patients would have to take daily doses all their lives to keep their overactive thyroids under control. Now it appears that this may not be necessary.

In nine cases the daily doses of the medicine were discontinued after six to eight months. So far, two to eight months later, there has been no sign of a return of the disease.

Thiouracil treatment developed, paradoxically, from studies of substances that caused goiters. A great many such substances have been found in the past 40 years, but it was only three years ago that goiter-causing substances were discovered which did not have their action checked by extra doses of iodine. Iodine is a strategic material in the gland's manufacture of its hormone, thyroxin, which is rich in iodine.

The substances which could cause the gland to enlarge in spite of extra amounts of iodine, it was subsequently found, were not stimulating but checking its function of hormone production. The enlargement was compensatory in nature. Patients with the kind of goiter in which popping eyes, extreme nervousness and thinness are symptoms have glands which produce too much hormone.

Sulfaguanidine, rape seed, allylthiourea (which may be a component of rape seed) and phenylthiourea were the first of these anti-thyroid substances discovered. A search for more active ones, in which 100 chemicals were tested, led to



DOWN THE WAYS—The Liberty ship SS William E. Ritter starts on its way to help smash the axis.

thiouracil. No better substance has yet been found, though the search has continued.

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Stop Salt Loss

► SOLDIERS working and fighting in the tropics may not need to take salt tablets after one or two weeks when they have become acclimated, if they are eating an average diet, it appears from studies reported by Dr. Jerome W. Conn, of the University of Michigan Medical School. Dr. Conn's studies were done under contract with the Office of Scientific Research and Development.

Until they have become acclimatized, Dr. Conn emphasized, men doing hard work in the tropics do need extra salt. After acclimatization, they are adequately protected against salt depletion when they eat an average diet containing about one-half ounce (15 grams) of salt daily. They are even able to compensate for the sudden withdrawal of a large part of their average salt intake when such a situation is forced upon them, as might be the case if supplies were delayed.

The reason acclimatized men can get along without the salt supplements, which frequently have untoward effects, Dr. Conn said, is that the sweat glands are able under certain conditions to stop salt from leaving the body in the sweat. This mechanism is an adaptive function, independent of the phenomenon of acclimatization, and does not go into operation until the need for salt conservation is dire.

By virtue of this mechanism, Dr. Conn reported, men are able to continue efficiently to perform hard work in a tropical climate even when sweating out as much as approximately five to nine quarts of water daily with a total daily intake of salt as low as five grams, which is about one-third the average normal salt intake.

Men who lived day and night for 35 to 72 days in a tropical climate room with a temperature of 85 degrees Fahrenheit and 85% humidity furnished the evidence of salt-saving function of the sweat glands. While in this tropical climate room they worked on a bicycle ergometer for five hours a day.

When pushed by the physiological load of high sweat gland volume and

low available salt, the studies showed, the sweat glands can produce sweat containing one-fourth the amount of salt in the average sweat of a fully acclimatized man with plenty of salt available and one-tenth as much as is found in the sweat of the unacclimatized man.

Science News Letter, May 20, 1944

GENERAL SCIENCE

Widow of Dr. Ritter Christens Liberty Ship

► THE LIBERTY SHIP SS *William E. Ritter* was successfully launched at 10 a.m. on Wednesday, May 3, with Mrs. Mary Bennett Ritter, widow of Dr. Ritter, pronouncing the christening words as sponsor, and Mrs. S. J. Holmes, wife of a close friend and associate of Dr. Ritter at the University of California, serving as co-sponsor and shattering the champagne bottle on the vessel's bow.

The launching took place at the Permanente Metals Corporation Yard No. Two, at Richmond, Calif., only a few miles from Berkeley, where both the Ritters lived and served with distinction for many years, Dr. William E. Ritter as professor of zoology at the University

of California and Dr. Mary Bennett Ritter as University physician for women.

Flower girl at the ceremony represented both the constructing company and the university, for she was Mrs. Seth B. Benson, welder in Yard No. Two, who is the wife of a member of the zoology faculty in private life.

The principal speaker was Dr. Harry Beal Torrey, longtime associate of Dr. Ritter. Dr. Torrey briefly reviewed the long career and manifold activities of his old friend, and in particular his collaboration with the late E. W. Scripps in the founding of several scientific organizations, beginning with the Scripps Institution of Oceanography and culminating with Science Service.

Bidding the *William E. Ritter* Godspeed, Dr. Torrey said, "Where this ship goes he will go, in the hope of peace, willing to struggle to the last for freedom for all men, in the spirit of a brave, far-seeing naturalist."

Science News Letter, May 20, 1944

PUBLIC HEALTH

Some Headache Powders Cause Bromide Poisoning

► A WARNING against the danger of bromide intoxication, or poisoning, from headache powders taken to overcome the effects of war worries is issued by Dr. Roy R. Kracke and Dr. William R. Platt, of Emory University, Ga. (*Journal, American Medical Association, May 13*)

"There seems to be an increase in this type of intoxication caused, according to the Federal Trade Commission, by increased consumption of various agents designed to soothe the nerves of a population at war living in a scarcity of doctors," the two physicians state.

They report two cases of men picked up apparently drunk who subsequently were found to be suffering from bromidism. In each case the patient had been taking daily large numbers of a brand of headache powders which contain seven and one-half grains of potassium bromide each. One man had taken six to 10 of these powders daily for years, the other had been taking six packages daily for one week and on one day was seen to take 13 powders.

Pointing out that "increasing numbers of cases of bromide intoxication are to be expected with increasing self-medication, caused by the present depletion of civilian physicians," the doctors urge all physicians to become familiar with the symptoms of this poisoning.

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FOR FREEDOM'S SAKE—Present at the launching of the SS *William E. Ritter*, ship named after the well-known naturalist, were: (seated) Mrs. Mary Bennett Ritter, sponsor; (standing, left to right) Mrs. Seth B. Benson, flower-girl; Dr. Harry Beale Torrey, speaker; Mrs. Joseph Grinnell, matron of honor; The Reverend Horace Westwood; Mrs. Samuel J. Holmes, co-sponsor, and Dr. Samuel J. Holmes, triggerman.