

MEDICINE

**Better Treatment
For Cirrhosis of Liver**

► BETTER treatment of cirrhosis of the liver may come from laboratory findings of the effect of a relatively new goiter remedy, thiouracil, it appears from a report by Dr. Paul Gyorgy of the University of Pennsylvania and Dr. Harry Goldblatt of Western Reserve University. (*Science*, Nov. 2.)

Cirrhosis in rats can be prevented by adding one-tenth of one percent of thiouracil to a diet that ordinarily produces cirrhosis in these animals, the scientists found.

The chemical's effect is achieved by its interference with production of the thyroid gland's hormone. This action relieves patients with the kind of goiter due to an over-active thyroid which produces too much hormone.

The thyroid, however, has wide influence on various processes in the body, and when it is slowed, these other processes are slowed down. As a result, it may slow the rate at which the body uses its supply of the amino acid, methionine. This sparing of methionine would help cirrhosis patients, the scientists point out, because too little methionine in proportion to the amount of another amino acid, cystine, is considered the leading dietary factor causing cirrhosis.

Methionine protects the liver not only from purely dietary cirrhosis but also from cirrhosis due to poisons such as carbon tetrachloride.

The application of the rat studies, the scientists state, would be to use thiouracil "as a supporting measure in the treatment of cirrhosis in combination with a diet rich in protein and methionine."

Possibility of damage from thiouracil, for it is a chemical that must be used with care, is offset in the case of cirrhosis by the great advantage of any possible improvement in this grave condition.

Science News Letter, November 10, 1945

PATHOLOGY

**Guinea Pigs Develop
Uninvited Fatal Infection**

► GUINEA PIGS, those meek little martyrs of science that obligingly develop "made-to-order" infections of human germs so that new drugs like penicillin and the sulfa compounds may be tried out, can also have fatal diseases of their own, unbidden and very definitely unwanted by the scientists. A highly fatal

infection of this kind, resembling human pneumonia, has been giving trouble in breeders' stocks in the Boston area, a group of Boston medical scientists report. (*Science*, Nov. 2.) Not only do many of the animals die, but other apparently healthy ones act as immune carriers of the fatal bacteria. Sulfadiazine appears to be fairly successful in saving the lives of infected guinea pigs, but does not clear up those that were functioning as carriers of the disease.

The investigation was made by Dr. F. Homburger, Dr. Clare Wilcox, Dr. Mildred W. Barnes and Dr. Maxwell Finland, representing the Thorndike Memorial Laboratory, Second and Fourth Medical Services (Harvard), Boston City Hospital, and the Department of Medicine of Harvard Medical College.

Science News Letter, November 10, 1945

GEOLOGY

**Oil Research Center
To Be Opened in Houston**

► A NEW oil exploration and production research center, to be devoted to studying new methods of finding oil and getting it out of the ground, will soon be built in Houston, officials of the Shell Oil Company announced.

The million-dollar research center is expected to be completed by spring. It will house the company's recently organized division of exploration and production research, an independent entity within the Shell organization.

The research program of the new laboratory will focus attention on augmenting America's petroleum resources by developing new and more efficient methods for discovering oil and for recovering it in quantities from the underground reservoirs in which it is found. The discovery of new reservoirs is becoming increasingly difficult and large quantities of oil in present reservoirs are not being brought to the surface by present production methods, oil experts agree.

Research in physics, chemistry and geology, as they relate to petroleum exploration and production, will be carried on at the laboratory. It will also serve as an instruction center for training exploration and production field men in new techniques and methods.

Director of the new division is Dr. Harold Gershinowitz, who for the last few years has been research director of the company's manufacturing department in New York.

Science News Letter, November 10, 1945

IN SCIENCE

ENTOMOLOGY-CHEMISTRY

**DD Found Effective
Against Wireworms**

► DD, a kind of chemical second cousin to DDT, is the newest weapon that chemistry has added to the arsenal of agriculture for the struggle against insect pests. This compound, which is dichloropropane dichloropropylene when spelled out in full, has been found effective in stopping the ravages of soil-dwelling wireworms, in large-scale field tests conducted by W. H. Lange, University of California entomologist.

The chemical is introduced into the soil with a special drill, about 400 pounds being used to the acre, from one to three weeks before the crop is planted. The fumigating effect of the DD is sufficient to get the wireworms under control, with subsequent great increases in crop yields.

Wireworms are the hard-shelled larvae of click-beetles. There are many species of them, and practically all are destructive pests, feeding on the roots and other underground parts of plants.

Science News Letter, November 10, 1945

PUBLIC HEALTH

**First Aid Textbook
To Aid Civilians**

► ADD TO your list of peacetime benefits from the war a completely new and improved book on first aid, the *American Red Cross First Aid Textbook* just off the press.

Between the gray, red-cross-embellished covers familiar to thousands, many of the medical lessons of the war are brought to civilians for their use in highway, home and industrial accidents which often rival war injuries in their danger to life and limb.

The scientists on various committees of the National Research Council which sponsored and guided much medical research during the war have cooperated with surgical, medical and educational experts on Red Cross staffs in making this book up-to-date both in scientific content and as a textbook.

Prevention of accidents is stressed as well as proper first aid to accident victims.

Science News Letter, November 10, 1945

CE FIELDS

CHEMISTRY

Synthetic Caffeine Produced Domestically

➤ **CAFFEINE**, that causes the stimulating effect in coffee, tea, soft drinks and certain medicines, will soon be in production synthetically in a vast plant to be constructed by the Monsanto Chemical Company in St. Louis. Domestic production of this synthetic caffeine will free the United States from dependency on foreign-produced natural sources.

Although scientists have long known how to duplicate the natural product's complicated molecular structure in the laboratory, caffeine until now has been derived almost exclusively from such sources as tea waste and surplus coffee, or indirectly from cocoa cake, a by-product of chocolate manufacture. The new plant will use a new process, details of which are not revealed, except that the synthetic material, simulating the process of nature, will be derived from nitrogen from the air and hydrogen from water.

Science News Letter, November 10, 1945

ZOOLOGY

Use of 1080 Restricted To Professionals

➤ **USE OF 1080**, the war-born super-rough-on-rats, is to be restricted to professional rodent-killers for the present at least, according to a recommendation by Dr. Ira N. Gabrielson, director of the U. S. Fish and Wildlife Service. The stuff is so poisonous to other animals, and even to human beings, that its general release for civilian use is not considered safe until after considerable further research has been done, giving a basis for precautions and regulations that will make its general distribution less risky.

The new rodenticide has been used with considerable success in cleaning up rat infestations around Army camps and in urban war centers, and also in reducing the numbers of ground squirrels and other wild rodents on rangelands in the West, where they not only destroy forage needed for livestock but also serve as potential reservoirs of bubonic plague through the presence in their fur of disease-carrying fleas.

As an example of the extreme poison-

ousness of 1080, Dr. Gabrielson mentioned one bait, in which one pound of it was distributed through two tons of grain. One-thirtieth of an ounce of this poisoned grain was enough to kill a ground squirrel—the single pound of 1080 was thus potentially able to wipe out more than 1,800,000 of the animals.

Chemically, 1080 is sodium fluoroacetate; the number is simply a convenience-designation.

Science News Letter, November 10, 1945

PHYSICS

Superfine Glass Fiber Linings for Clothes

➤ **SLEEPING** bags, mittens, hunting jackets and other cold-weather, out-door clothing may be interlined with down-like, superfine glass fibers similar to those used during the war for sound and heat insulation in the B-29's. These feather-soft fibers have an average diameter of only five one-hundred-thousandths of an inch.

Because the superfine glass fibers are inorganic, and contain no protein substance that can cause an allergy such as asthma, the Owens-Corning Fiberglas Corporation is exploring the possibility of using the fibers in pillows and mattresses. Bedding dust resulting from the disintegration of the organic materials usually used is considered the principal cause of distress to more than a million asthma victims.

Science News Letter, November 10, 1945

CHEMISTRY

Glass Bottles Improve Evaporated Milk

➤ **MARKETING** evaporated milk in glass bottles instead of the long-familiar tin cans becomes a possibility through the sterilizing machine on which patent 2,388,103 was granted to three Baltimore inventors, Dr. Randall Whitaker, Dr. Robert P. Myers and Robert E. Homberger, assignors to Sealtest, Inc. After the milk has been evaporated and filled into the bottles, the whole operation is conducted either in an atmosphere of an inert gas or under vacuum, in order to exclude flavor-spoiling oxygen. The bottles are spun rapidly in order to agitate the milk, while sterilization heating is carried on at a temperature between 280 and 300 degrees Fahrenheit for from three to five minutes. Superior color and flavor are claimed for evaporated milk bottled by this process.

Science News Letter, November 10, 1945

AERONAUTICS

400,000 Civil Airplanes Predicted for 1955

➤ **OVER 400,000** civil airplanes will be in use in the United States by 1955, and more than 900,000 jobs will be created by aviation.

These are predictions of the Civil Aeronautics Administration. These civil airplanes do not include commercial craft operating on regular schedules, but do include personal planes and aircraft for special jobs.

Of the 400,000 aircraft, a report states, 280,000 will be used for personal business and recreation; 40,000 by business concerns to speed up their sales and administration activities; and 80,000 by commercial aircraft services in crop-dusting, aerial photography and other non-scheduled operations.

A total of 901,300 jobs hinged around civil aviation by 1955 is predicted, a great increase over the 142,300 similar positions in 1939. Approximately 70% of these jobs will be in aircraft production and operation, the others in work derived from civil aviation.

Science News Letter, November 10, 1945

OPTICS

Polarizing Lenses Made of All-Glass

➤ **POLARIZED** light, that is, light in which all wave-fronts are parallel, has been produced for some time by passing ordinary light through filters containing minute crystals that have been brought into parallel alignment. Hitherto these filters have been made of plastic materials, which have to be protected against heat, scratching and other damage by sandwiching them between sheets of glass.

To overcome this production complexity, Harry H. Styll of Southbridge, Mass., has invented an all-glass polarizing lens. Into his glass mix he introduces a quantity of minute mineral crystals of suitable shape, usually crystals of tourmaline or peridot. Then while the glass is still plastic he subjects it to stretching, which brings the axes of the crystals into parallel, and hence polarizing, alignment. After hardening, the glass may be cut and ground into lenses in the ordinary manner.

Rights in Mr. Styll's patent, No. 2,387,308, have been assigned to the American Optical Company.

Science News Letter, November 10, 1945